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**National report 2013 to the Agency for the Cooperation of Energy
Regulators and to the European Commission**

Finland

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1. Foreword

This national report is prepared by the Energy Market Authority to the Agency for the Cooperation of Energy Regulators and to the European Commission on the state of the Finnish electricity and natural gas markets in 2012 as required by Article 37(1)(e) of the Directive for the Internal Market in Electricity (2009/72/EC) and Article 41(1)(e) of the Directive for the Internal Market in Natural Gas (2009/73/EC). Although this is the second national report after the entry into force of the above-mentioned directives, the report continues the series of annual national reports published since 2004. The document covers the steps the Energy Market Authority has taken and the results obtained as regards each of the tasks listed in Article 37 of the Electricity Market Directive and Article 41 of Natural Gas Market Directive. It contains a description of the powers and tasks of the regulatory authority, an overview of the regulation and performance of electricity and natural gas sectors and an update of security of supply with regard to both gas and electricity.

The above-mentioned Directives should have been transposed into national legislation by March 3, 2011. However, this process has been delayed in Finland. Finally, in June 2013, the Finnish Parliament approved a legislation package which includes necessary amendments to electricity and natural gas market legislation in order to fulfil requirements of the 3rd energy market package. The new legislation will come into force in September 2013. Despite this delay the Finnish electricity and natural gas market legislation has already fulfilled most of the requirements set in the Directives.

As a part of the implementation process ownership structure of the Finnish electricity transmission system operator, Fingrid Oyj was changed in April 2011. Two large electricity generating companies, Fortum Oyj and Pohjolan Voima Oy sold their shares to the State of Finland and Ilmarinen Mutual Pension Insurance Company. After the acquisition, the State of Finland owns the majority of shares of Fingrid. Thus Fingrid fulfils unbundling requirements set in the Directive. However, the certification of Fingrid has been postponed until the new legislation will come into force.

Decrease in domestic electricity production in Finland continued in 2012. Due to the excellent Nordic hydro situation net imports of electricity reached a record level. The increased import volume and extensive use of Finnish hydropower particularly influenced production of combined heat and power (CHP) and separate production of condensing power, whose production volumes continued to decrease. In 2012, the Finnish electricity production decreased 3.8 per cent from the previous year.

Net imports of electricity accounted for 20.5 per cent of the total electricity consumption in 2012. Imports from Sweden almost tripled, but at the same time imports from Russia decreased by almost 60 per cent. A collapse in the import of electricity from Russia was caused by the change in the Russian market model introduced in autumn 2011. Since late 2011, Russia has included a capacity charge in the price of exported electricity. Due to the capacity charge and good hydro situation in the Nordics, electricity exported from Russia was last year occasionally more expensive than electricity in Finland. For the moment, exporting electricity to Russia is not technically possible. However, grid operator Fingrid and Russian parties are discussing the possibility to start exporting electricity to Russia in 2014.

Electricity consumption in Finland increased in 2012, particularly due to the especially cold weather in December. The nation's total electricity consumption was 85.2 TWh.

Total installed generation capacity in Finland was about 17,260 MW in the end of 2012. However, all installed capacity is not available during the peak load situation. The Energy Market Authority has estimated that before 2016 available domestic electricity production capacity will not be able to cover the need for capacity during winter consumption peak periods. The resulting capacity deficit must be covered by importing electricity from other countries.

The import capacity of electricity at the end of the year 2012 from neighbouring countries to Finland was about 4,650 MW. During the year 2012 no additional transmission capacity between Finland and other countries was commissioned.

The Capacity Reserve Act has assigned the Energy Market Authority with the obligation to take care of the procurement of the capacity reserves needed to ensure the balance between supply and demand. In 2012 the Energy Market Authority carried out a study in order to evaluate the necessary amount of capacity for strategic reserves.

The market prices of electricity decreased in the Nordic wholesale market in 2012 due to the good Nordic water situation. Low emission allowance prices also had a lowering effect on the price of electricity. The good Nordic hydro situation caused the Nord Pool Spot Elspot market system price to remain 34 per cent below the 2011 price level.

Long-term disturbances in the offshore cable connections between Finland and Sweden and the fact that more of the affordable hydropower than normal was offered in Sweden and Norway caused increased differentiation of wholesale prices between Finland and Sweden. Long-term disturbances of Fenno-Skan 2 in early 2012 and of Fenno-Skan 1 in late 2012 limited the transmission capacity available between Finland and Sweden for a large part of the year. Furthermore, the fact that clearly more affordable hydropower than before was available increased transmission capacity demands from Sweden to Finland. Due to these factors, regional prices in Finland and Sweden differentiated 53 per cent of time in 2012. In 2012 electricity bought from the Nord Pool Spot covered 62 per cent of the Finnish electricity consumption.

In January 2013, Finnish household consumers paid the same amount for their electricity than a year earlier. The lower wholesale electricity prices in 2012 were also reflected in the retail prices. The price of electrical energy continued to decrease until late summer 2012, but the price started to climb slightly in the autumn. The household energy prices paid decreased by an average of 2.7 per cent. The electricity distribution price for household consumers including taxes was 2.8 per cent higher at the beginning of 2013 than at the beginning of 2012.

Roll-out of smart meters continued and by the end of 2012 about two thirds of consumption points were already equipped with a smart meter. According to the Council of State Decree at least 80 per cent of customers per each DSO network area shall have remotely readable smart meter by the end of 2013.

The rate of supplier switching among electricity consumers remained at the previous year's level in 2012. In all 7.7 per cent of electricity consumers switched supplier during the year. The switching rate in Finland seems to have settled at the level of 7-8 per cent. The household customers used actively the Internet-based price comparison service provided by the Energy Market Authority.

Unlike the electricity market, the Finnish natural gas wholesale market does not face competition. All the natural gas needed is imported from Russia and there are no transmission connections to other EU countries. Thus Finland has a derogation from the Natural Gas Directive that allows it not to open its natural gas market. In June 2012, the Finnish Government's EU Cabinet Committee approved a strategic policy on the development of the gas network and the consumption of gas in Finland. The policy states that Finland must, in cooperation with Estonia, strive to include a LNG terminal project for the Gulf of Finland and the Baltic connector gas pipeline between Finland and Estonia to the Projects of Common Interest (PCI) list of the Energy Infrastructure Regulation. Inclusion in the PCI list would allow applying for EU subsidies for these projects.

In 2012, consumption of natural gas in Finland decreased by around 10.5 per cent year-on-year. The consumption of natural gas decreased because of its lower price competitiveness, particularly when compared to CHP, and the fact that industry required less natural gas due to the economic downswing. Low emission allowance prices also reduced the competitive ability of natural gas in relation to coal.

The Energy Market Authority carried out the regulatory and supervisory tasks of electricity and gas market, renewable energy operating subsidies and emissions trading - the specificity of the Finnish energy regulatory authority - with a staff of 56 permanent employees at the end of 2012. The efficient functioning of the authority is based on streamlined processes, dedicated people and an extensive use of tailor-made IT systems that the Authority has developed together with the service providers for all the major areas of regulation and supervision.

Riku Huttunen
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2. Main developments in the gas and electricity markets

2.1 Legal framework

2.1.1 Implementation of the 3rd package

The 3rd package on the liberalization of the Energy Markets and its implementation has implied certain needs for changes in the Finnish electricity and natural gas market legislation. These changes relate to the unbundling of the electricity TSO and the tasks and the independence of the national regulatory authority.

The 3rd package requires that electricity transmission network operators are separated from production and supply activities. The fact that two generating companies Fortum and Pohjolan Voima were shareholders of Fingrid required Finland to take steps to implement the new unbundling requirements. On April 2011 Pohjolan Voima Oy and Fortum Power and Heat Oy divested their holding in Fingrid to the State of Finland and Mutual Pension Insurance Company Ilmarinen. After the share transaction, the holding of the State of Finland in Fingrid has been approx. 53 per cent and that of Ilmarinen approx. 20 per cent. The other shareholders, which are mainly Finnish pension insurance and insurance companies, have a holding of approx. 27 per cent.

Both the amended electricity and gas directives introduce some general objectives as well as such duties and powers for the regulatory authority that currently are not included in the Finnish legislation. This requires the clarification of the roles and responsibilities of the Energy Market Authority vis-à-vis other authorities like the competition and consumer authorities and financial supervision authorities. The 3rd package also contains new monitoring duties related to markets and competition. So far, the Energy Market Authority or any other authority has not had an explicit and clear requirement to monitor the electricity and gas markets and to collect information on the functioning of the markets.

The 3rd package requires also some changes in the sanction regime of electricity and gas market legislation. The current regime with decisions boosted with conditional fines where needed, needs to undergo a change to enable the use of administrative fines.

Ministry of Employment and the Economy set up in November 2009 an ad-hoc working group to prepare a proposal for the implementation of the 3rd package into national legislation. The working group published its final report in September 2010. The Government bill on new legislation was delayed. The Government Bill was given to the Parliament in March 2013 and the Parliament approved the new legislation package in June 2013. The new legislation will come into force on 1 September 2013. The Commission announced in November 2012 to start infringement processes against State of Finland due to delays in the implementation of the electricity and natural gas market directives.

2.1.2 Development in related legislation

The Production Subsidy Act came into force in the beginning of 2011. The new system of production subsidies introduces a feed-in tariff scheme for wind power and biogas, a feed-in tariff scheme for small wood-fuelled CHP plants, a variable production subsidy for electricity generated using forest chip fuel, and a fixed production subsidy for hydropower. In this system the Energy Market Authority has responsibilities of planning, introduction and admin-

istration. The new duties of the Energy Market Authority include the approval of producers and verifiers for the production subsidy schemes, payment operation of production subsidies to producers, and supervision of producers and verifiers included in the scheme. In the Finnish system the production subsidies are financed by the state budget.

The Act of peak load reserves to ensure balance between supply and demand in electricity markets came in to effect in March 2011. According to the new legislation the Energy Market Authority is in charge of arranging an auction for the strategic reserves. The auctioning was carried out in May 2011 and the power plants selected as a result of the auction were commissioned to provide the reserve power services from October 2011 until June 2013. In 2012 the Energy Market Authority carried out a study in order to evaluate the necessary amount of capacity for strategic reserves in the coming next years.

2.2 Electricity market

2.2.1 Unbundling

Development in TSO unbundling and certification of TSO

The 3rd internal energy market directive package requires that electricity transmission network operators shall be ownership unbundled from production and supply activities. Therefore two generating companies, Fortum Power and Heat Oy and Pohjolan Voima Oy sold their Fingrid shares to the State of Finland and Ilmarinen Mutual Pension Insurance Company in April 2011.

Via voluntary deals Fingrid was transformed into a transmission network company factually unbundled from electricity production, operating in compliance with the Internal Electricity Market Directive. After the acquisition Fingrid is 53.1 per cent owned by the State of Finland, 19.9 per cent by Ilmarinen Mutual Pension Insurance Company and 27.5 per cent by other shareholders, which are mainly Finnish insurance companies.

As the implementation of the Directive 2009/72/EC into national Finnish legislation has been delayed the Energy Market Authority has not been able to officially start the certification of Fingrid. However, some unofficial steps have already been taken.

Development in DSO unbundling

According to the Electricity Market Act, electricity network operations must be legally unbundled from electricity trade operations and electricity generation if the annual quantity of electricity transmitted to the customers through the network operator's 0.4 kV distribution network has been 200 GWh or more during three consecutive calendar years. The arrangements were to be implemented no later than the beginning of 2007. Also some distribution system operators under this threshold value have legally unbundled network activities.

In July 2013 a total of 52 distribution system operators of 83 operators were legally unbundled in Finland.

2.2.2 Wholesale market

Development in market integration

The Finnish electricity wholesale market is part of the North European power market. Finland forms an integrated wholesale electricity market with Denmark, Norway, Sweden, Estonia (since 2010), Lithuania (since 2012) and Latvia (since June 2013). The Nordic market is connected also to the Central Western European electricity market, by the European Market Coupling company (EMCC) initiative.

Physical day-ahead and intra-day trading takes place in the Nordic power exchange Nord Pool Spot. The formulation of area prices and the allocation of cross-border capacity and the congestion management between Finland and the other Nordic countries are managed by implicit auctions (market splitting) in the day-ahead market of the Nordic power exchange. The price differentials emerge as a function of insufficient transfer capacity between areas.

Long-term disturbances in the offshore cable connections between Finland and Sweden and the fact that more of the affordable hydropower than normal was offered in Sweden and Norway caused increased differentiation of wholesale prices between Finland and Sweden. Long-term disturbances of Fenno-Skan 2 in early 2012 and of Fenno-Skan 1 in late 2012 limited the available transmission capacity between Finland and Sweden for a large part of the year. Furthermore, the fact that clearly more affordable hydropower than before was available increased transmission capacity demands from Sweden to Finland. Due to these factors, regional prices in Finland and Sweden differentiated 53 per cent of the time in 2012. In 2012 Finland and Estonia had same price 63 per cent of the time.

Finland has interconnections to Sweden, Norway, Russia and Estonia. In November 2011 a new DC cable between Finland and Sweden, Fenno-Skan2 was commissioned. The new cable increased the import/export transmission capacity between Finland and neighbouring countries with 800 MW up to 4,650 MW. An investment decision on a new DC cable between Finland and Estonia, Estlink2 was made in May 2010. According to the plans the new cable will be commissioned in the beginning of 2014.

Changes in the Russian market model introduced in autumn 2011 caused a collapse in the import of electricity from Russia. In 2012 imports from Russia decreased by almost 60 per cent. Since late 2011, Russia has included a special capacity charge in the price of exported electricity. Due to the capacity charge and good hydro situation in the Nordics, electricity exported from Russia was last year occasionally more expensive than electricity in Finland.

For the moment, exporting electricity to Russia is not technically possible. However, grid operator Fingrid and Russian parties are discussing the possibility to start exporting electricity to Russia in 2014.

Development in market concentration

In 2012, there were no significant changes in the structure of the Finnish electricity wholesale market and in the development of market concentration. The Finnish electricity generation sector is characterized by a large number of actors. The total number of companies producing electricity stayed at some 120 and the number of production plants was circa 550. The share of the three biggest generating companies of the total installed capacity is about 62 per cent.

Net imports of electricity reached a record level due to the excellent Nordic water situation. The increased import volume and extensive use of Finnish hydropower particularly influenced production of combined heat and power (CHP) and separate production of condensing power, whose production volumes continued to decrease.

In 2012, the Finnish electricity production decreased 3.8 per cent from previous year to 67.7 TWh. The good hydro situation also influenced Finnish hydropower production, which increased by 35 per cent. In 2012, Finnish hydropower accounted for 19.5 per cent of total energy consumption, while the rate for nuclear power was 25.9 per cent. The CHP rate continued to decrease by 10.6 per cent year-on-year. CHP accounted for 26.8 per cent of Finland's total electricity consumption. Wind power generation remained unchanged in 2012, accounting for a total of 0.6 per cent of the total electricity consumption in Finland.

Electricity consumption in Finland increased in 2012, particularly due to the especially cold weather in December. Temperature-adjusted electricity consumption remained almost unchanged, however. The nation's total electricity consumption was 85.2 TWh. The economic downswing resulted in a decrease in industrial electricity consumption. The reduction in industrial electricity consumption was -3.8 per cent year-on-year. Industry accounted for 45.9 per cent of total Finnish consumption.

Net imports of electricity accounted for 20.5 per cent of the total electricity consumption in 2012. Imports from Sweden almost tripled, but at the same time imports from Russia decreased by almost -60 per cent.

Allocation of capacity

Finland belongs to the Nordic electricity market and congestions across the borders are managed by implicit auctions in the day-ahead market in power exchange Nord Pool Spot. This fulfils the requirements set in the Congestion Management Guidelines annexed to the Regulation (EC) No 714/2009 (previously 1228/2003). Remaining transmission capacity after day-ahead allocation is set for intraday market and balancing.

Finland is considered as a single price area within Nordic market and congestions within Finland and after the day-ahead market closure are managed by countertrade.

Development of trading in power exchanges

The market prices of electricity decreased in the Nordic wholesale market in 2012 due to the good Nordic hydro situation. Low emission allowance prices also had a lowering effect on the price of electricity.

In 2012 traded volumes in the Nordic and Baltic day-ahead auction Elspot was 334.0 TWh (294.4 TWh in 2011). The traded volume corresponds to about 77 per cent of the total power demand in Nordic and Baltic consumption. The turnover in the intra-day market, Elbas was 3.2 TWh (2.7 TWh in 2011). The share of power bought through Nord Pool Spot was 62 per cent of the Finnish consumption in 2012 (57 per cent in 2011).

Development of wholesale prices

The good Nordic hydro situation caused the Nord Pool Spot Elspot market system price to remain 34 per cent below the 2011 price level. The average system price in 2012 was 31.20 EUR/MWh (47.05 EUR/MWh in 2011). Even though not as much affordable electricity could be transmitted to Finland from the other Nordic countries as was desired, the regional price in Finland decreased by 26 per cent year-on-year. In 2012 the average regional price in Finland was 36.64 EUR/MWh (49.30 EUR/MWh in 2011).

2.2.3 Retail market

Development in market concentration

In 2012, there were no major changes in the number of retail suppliers. To serve Finland's circa 3.3 million electricity customers, there are 74 retail suppliers of which 34 offered in 2012 their products nation-wide.

In the Finnish electricity retail market there are about 4 electricity retailers with a larger than 5 per cent share of market. However, the exact market shares of individual retailers are not available. The market share of the three largest suppliers in the retail market for small and medium-sized customers has been 35-40 per cent.

Only a few electricity retailers are ownership unbundled from electricity distribution activities. Many of the electricity retailers are part of companies involved also in the distribution business. There are 33 electricity retailers who have both the obligation to supply and who are legally unbundled from distribution system operators. In 2012 in the Finnish electricity retail markets were 7 independent suppliers without close connection to any DSO. One of them had an obligation to supply within one DSO area.

Development in supplier switching

In 2012, the number of customers that switched their supplier was about 236,000. The overall switching rate in 2011 was 7.8 per cent (7.7 per cent in 2011). In general, enterprises and households living in flats and row houses have been more active in switching than others.

Development of retail electricity prices

Electricity retail prices are not regulated in Finland.

The decreasing wholesale electricity prices in 2012 were also reflected in the retail prices. Prices of electrical energy continued to decrease until late summer 2012, but the prices started to climb slightly in the autumn. In 2012 the average price of electrical energy excluding taxes for a residential customer with 5,000 kWh/a consumption decreased by -2.7 per cent. For small houses with electric heating (consumption 18,000 kWh/a) the decrease was -2.2 per cent.

The electricity distribution price including tax was 2.8 per cent more expensive for household consumers – for electrically heated households 3.2 per cent – at the beginning of 2013 than at the beginning of 2012. The rise of distribution network charges is based on the increased network investments, required by aging electricity grid, the improvements in network supply and the roll-out of smart metering.

In 2012 the electricity bill for households with electrical heating increased by 0.2 per cent. For apartment house households without electric heating the total price of electricity in January 2013 was around the same as a year earlier.

Promotion of retail competition

To promote competition in the electricity retail market the Energy Market Authority has maintained since 2006 a web-based tariff calculator designated to facilitate price comparisons and supplier switching. The system is also developed to inform private consumers better about the origin of the electricity. All retail suppliers are obligated to maintain up-to-date information on their public electricity price offers on this website.

Retail market integration

Since 2005 Nordic energy regulators have been working to promote and facilitate a common end-user market for electricity in Finland, Denmark, Sweden and Norway. In October 2009 Nordic ministers for energy expressed their political support to the initiative to establish a common Nordic end user market. The Energy Market Authority has actively continued working towards that target during 2012.

2.2.4 Infrastructure

Development in transmission network investments

A new DC cable between Finland and Sweden, Fenno-Skan2 with capacity of 800 MW was commissioned in November 2011. After that there exists transmission capacity of 1,350 MW with DC cables and 1,500 MW with AC lines between Finland and Sweden. Moreover, Kraftnät Åland (TSO operating in Åland) has planned to build an interconnection between Åland and continental Finland in 2015 with capacity of 100 MW. At the present, the grid of Åland is only connected to Sweden, so the new interconnection will increase the transmission capacity between Finland and Sweden at the maximum by 80 MW.

A new interconnector EstLink 2 between Finland and Estonia is currently under construction. The capacity of EstLink 2 is 650 MW and it should be ready for commercial operation in the beginning of 2014. Estlink 2 cable will increase the total transmission capacity between Finland and Estonia to 1,000 MW.

Finland has a DC link for import from Russia to Finland. Its capacity is 1,400 MW. At present, the interconnections between Russia and Finland operate only in one direction – from Russia to Finland. However, there are plans to modify the connection to enable also transmission from Finland to Russia. The project is planned to be carried out in 2014.

Roll-out of smart meters

In March 2009 came into force a Degree of the Council of State which requires that by the end of 2013 at least 80 per cent of the consumption places per each DSO shall be equipped with a smart meter capable for registering hourly metering and remote reading. By the end of 2012 about two thirds of 3.1 million consumption places in Finland were already equipped with a smart meter.

2.2.5 Security of Supply

Development in competences of NRA for security of supply

The Capacity Reserve Act came in to effect in March 2011. According to the Capacity Reserve Act the peak load reserve capacity will be used as a strategic reserve to ensure that the balance between supply and demand is achieved only if the balance will not be achieved in commercial market.

The Capacity Reserve Act has increased the role of the Energy Market Authority. According to Capacity Reserve Act the Energy Market Authority evaluates and decides the required size of peak load reserve capacity arranges the auctioning process. The Energy Market Authority also supervises the profit of the peak load power plants.

Based on information obtained from surveys ordered in 2012, the Energy Market Authority decided in February 2013 to reduce the power plant capacity to be obtained as the strategic capacity reserve from the current 600 MW to 400 MW from the summer of 2013. In addition to power plants the consumption objects capable of demand response can also be included in the strategic reserves from December 2013. The Energy Market Authority decided to include a maximum of 40 MW of demand response capacity in the reserve capacity from December 2013. The Energy Market Authority organised in spring 2013 auctioning processes to purchase power plant and demand response capacity for the peak load reserves as old contracts ended in June 2013.

Development in generation investments

The most significant infrastructure project in Finland is the construction of nuclear power plant unit Olkiluoto 3. The completion of the building of this 1,600 MW unit has been delayed for several years. Originally the new unit should have been commissioned by the end of 2009, the present estimate being 2016.

In 2010 the Government made two decisions-in-principle in favour of additional construction of nuclear power. Teollisuuden Voima Oyj's and Fennovoima Oy's applications for constructing two new nuclear power plant units were both approved by the Government and also by the Parliament. These new nuclear power plants would be in operation in 2020's.

Development in supply/demand balance

According to the Energy Market Authority's estimates, Finnish electricity production capacity will not be able to cover the need for capacity during winter consumption peak periods at least until 2016. The resulting capacity deficit must be covered by importing electricity from other countries.

The Energy Market Authority has estimated that Finland had 13,300 MW of generation capacity available in winter season 2012 - 2013. The power reserves related to system disturbances in Finland were 1,240 MW. In the end of 2012, the installed nominal capacity of power plants was 17,260 MW.

The Energy Market Authority has estimated that the capacity need covered by electricity imports will be around 2,100 MW at its highest peaks during the winters of 2012–2015. The fu-

ture completion of the Olkiluoto 3 nuclear power plant will alleviate the situation, but the need for electricity imports is anticipated to continue after that as well.

About 2,000 MW of new power plant capacity is expected be completed in 2013 – 2015. At the same time, a few old power plants will be decommissioned.

In order to secure sufficient energy supply security, it is important to ensure that access to domestic electricity and electricity transmission connections from neighbouring countries are as reliable as possible and available in full during the winter months. At the end of 2012, the electricity transmission capacity from the other Nordic countries, Russia and Estonia to Finland was around 4,650 MW.

The highest measured consumption peak in 2012 was 14,467 MW, which was more than 500 MW less than the highest peak in 2011.

2.2.6 Regulation

Network regulation

In the field of electricity, the Energy Market Authority is responsible for regulating 83 distribution network operators, 12 regional network operators and one transmission system operator.

Since the end of 2004, Finland has applied the ex-ante regulation of network pricing as required by the current Electricity Directive. The first regulatory period conforming to the new regulation model commenced at the beginning of 2005 and expired at the end of 2007. The second regulatory period of price regulation in electricity network operation covered the years 2008 - 2011. The third regulatory period covers the years from 2012 to 2015.

In November 2011 the Energy Market Authority confirmed with its decisions the methods concerning the rate of return in electricity network operation to be followed during the third regulatory period in 2012 – 2015. There were no major changes in the basic structure of the regulatory methods. Instead, regulation remains based on the revenue cap model used during the preceding periods. Method details were developed with a view to achieving a regulatory model that is incentivizing more innovations and investments in the networks in order to ensure viability of the networks.

Due to heavy storms and long interruptions in Finland in December 2011 the Ministry of Employment and the Economy started to prepare legislation which will include more stringent rules related to network development and compensations for customers in case of long interruptions. The new legislation will come into force in September 2013 and it includes obligations for DSOs to plan and develop their network in order to avoid interruptions more than 36 hours in rural areas and 6 hours in urban areas by 2032. The new legislation will also increase standard compensations paid by DSOs to customers if they have faced long interruptions. The maximum compensation will be 200 per cent of annual network charges or 2,000 EUR.

2.3 Gas market

2.3.1 Unbundling

In 2012 there were no changes in the unbundling regime of natural gas operations.

Finland has availed itself of the possibility of an exemption allowed by the Natural Gas Market Directives and thus there is neither legal nor operational unbundling of natural gas transmission network operation. Furthermore, Finland has not applied legal and functional unbundling in distribution network operations because Member States are free to decide that the unbundling provisions are not applied to network operators with fewer than 100,000 customers. All Finnish gas distribution system operators fall below the limit set by the Directive. Thus there are no requirements for legal or ownership unbundling of natural gas transmission and distribution system operators. However, the accounting unbundling applies to all natural gas system operators.

The transmission system operator Gasum Oy is owned by Fortum Heat and Gas Oy (31 per cent), OAO Gazprom (25 per cent), State of Finland (24 per cent) and E.ON Ruhrgas (20 per cent). Approximately 80 per cent of the Finnish DSOs are wholly or mainly owned by municipalities. The rest 20 per cent of the DSOs are owned by industrial users of natural gas.

Gasum has proposed a LNG terminal on the coast of the Gulf of Finland and construction of a pipeline connection to Estonia. If these projects will materialize, the derogation enjoyed by the Finnish gas industry should be put under scrutiny.

2.3.2 Wholesale market

Development in market integration

The natural gas market in Finland is relatively isolated and small. Finland has natural gas pipeline connection only to the Russian Federation. There is only one importer and wholesale supplier – Gasum Oy – which also owns and operates the natural gas transmission network.

In June 2012, the Finnish Government's EU Cabinet Committee approved a strategic policy on the development of the gas network and the consumption of gas in Finland. The policy states that Finland must, in cooperation with Estonia, strive to include a LNG terminal project for the Gulf of Finland and the Baltic connector gas pipeline between Finland and Estonia to the Projects of Common Interest (PCI) list of the Commission's Energy Infrastructure Package. Inclusion in the PCI would allow applying for EU subsidies for these projects.

A pipeline between Finland and Estonia would allow integration of the Finnish and Baltic natural gas markets. Furthermore, an LNG terminal in the Gulf of Finland would provide Finland and the Baltic states with an alternative for the acquisition of natural gas from the current pipelines from Russia.

Development in market concentration

In 2012, consumption of natural gas in Finland decreased by around 10.5 per cent year-on-year. A total of 34.96 TWh of natural gas was consumed last year. The consumption of natural gas decreased because of its poorer competitive ability, particularly when compared to CHP, and the fact that industry required less natural gas due to the economic downswing. The low emission allowance prices also reduced the competitive ability of natural gas in relation to coal.

For the moment, natural gas is imported into Finland only from Russia. In the Finnish natural gas wholesale market there is only one supplier and in 2012 there were no changes in this situation. In addition to the natural gas imported from Russia, a total of 4.56 GWh of biogas was supplied into the natural gas transmission system.

Large users account for the bulk of natural gas consumption in Finland. Energy and power companies, which use the bulk of natural gas to co-generate heat and power, used ca. 55 per cent with industry consuming 45 per cent. The key industrial sectors were pulp and paper and chemical industries whose consumption corresponded to 40 per cent of Finland's total gas consumption. Natural gas accounts for approximately 10 per cent of Finland's total energy consumption.

The natural gas market is characterized by vertical integration. The wholesale supplier of natural gas – Gasum Oy – is the sole importer and operator of the transmission system. Furthermore, it is downward vertically integrated into retail supply and distribution network operation by owning one natural gas distribution system operator and retail supplier.

Development in natural gas prices

The wholesale supply of natural gas to the large Finnish end-users and retailers is based on cost based contracts between Gasum Oy and the customers. A majority of the customers buy natural gas from Gasum Oy based on a public tariff, which Gasum Oy renews at the intervals of 4 years. A small number of contracts have been concluded before the year 1992, when the new type of competition legislation came into force prohibiting the previously used non-public pricing methods as an example of abuse of a dominant position.

The natural gas energy charges rose by 1.6 per cent from January 2012 to January 2013 in wholesale trade. The price of natural gas increased because the price of oil remained high despite the economic downswing. The price of natural gas energy is index-linked to the price of heavy fuel oil and the price of imported coal as well as to the domestic energy index published by Statistics Finland. The natural gas transmission price exclusive of tax was increased by 2.4 per cent at the beginning of 2012.

On the Finnish natural gas market, only natural gas users with a consumption of more than 5 million cubic metres and with remote metering can trade in the secondary market with the gas that they have acquired for their own use or retail. Additionally, Gasum Oy offers short term products that are sold on the secondary market operated by Kaasupörssi Oy, which is a subsidiary of Gasum Oy. The total volume on the secondary market covered in 2012 about 2.0 per cent of natural gas consumption in Finland.

2.3.3 Retail market

Development in market concentration

In 2012 there were no major changes in the retail market structure. The retail supply of natural gas covers only about 5 per cent of the total consumption. In Finland there are only about 36,000 customers in the natural gas market. The largest customer segment (29,000 customers) consists of households who buy natural gas for cooking. However, the total natural gas consumption of this segment amounts to only 1 mcm (0.02 per cent of total consumption).

At the end of 2012 there were 23 natural gas DSOs. All of them are active also in retail supply. Many of the natural gas retailers in Finland are relatively small having only dozens of customers. The share of the top three retail suppliers is about 50 per cent of the total natural gas consumption in the retail level.

Development in supplier switching

As supplier switching in the Finnish natural gas retail market is not possible, all suppliers are in a monopoly situation within their network area.

2.3.4 Infrastructure

Gasum Oy, has planned to expand its natural gas transmission pipeline to the western part of Finland where there currently does not exist any gas pipeline. However, this project has been delayed due to the impact of the current energy taxation system on the competitiveness of different fuels.

Gasum Oy has also proposed a LNG terminal on the coast of the Gulf of Finland and construction of a pipeline connection to Estonia.

2.3.5 Security of Supply

In 2012 there were no interruptions in gas supply to Finland. A substantial part of the gas consumption can be substituted with alternative types of energy or by taking into use replacing fuels in case there is an interruption in the supply of gas. The corner stone of preparedness in the case of an interruption is stockpiling oil. This is partly done by the state through its stocks and additionally, the importer of gas and certain users of gas are obliged to stockpile replacing fuel.

2.3.6 Regulation

Network regulation

At the end of 2012, the Energy Market Authority was responsible for regulating 23 natural gas distribution network operators and one natural gas transmission network operator. Additionally, the Energy Market Authority supervised the wholesale and retail supply activities of the operators as well.

In 2012 the regulation of natural gas network operations continued in the established manner. It was the third year of the second 4-year regulatory period 2010 - 2013. According to the new legislation the second regulatory period will continue until the end of 2015.

Supervision of natural gas prices

As there is no gas-to-gas competition in the Finnish gas markets, all natural gas suppliers have an obligation to supply and according to the legislation their tariffs should be reasonable.

In May 2008 the Energy Market Authority gave a decision on whether the pricing of wholesale supply of natural gas had been reasonable. The decision dealt with the pricing during financial years 2006 and 2007. According to the decision the pricing of Gasum Oy's gas supply was not at the reasonable level during these years and Gasum Oy was ordered to change their pricing policy starting from financial year 2008. Gasum Oy appealed against the decision to

the Market Court, which gave its ruling on the case in May 2009. The Market Court dismissed the application for appeal by its ruling. Gasum Oy appealed against the ruling to the Supreme Administrative Court, the highest appellate instance. In December 2011 the Supreme Administrative Court overruled by its decision the appeal.

2.4 Consumer protection and dispute settlement in electricity and gas

In 2012 the Energy Market Authority received 105 new complaints related electricity network business and retail and made decisions on 115 complaints (some of them were received in 2011). In addition to these, the Energy Market Authority received one complaint related to natural gas markets and made decisions on two complaints which were received at the end of 2011.

There are no statistics about the number of other inquiries than complaints.

The complaints submitted fell into the following categories: connection charges, the network access charges, quality of supply, metering, inconsistencies in invoicing and general complaints regarding practices of the supplier.

3. The electricity market

3.1 Network regulation

3.1.1 Unbundling

TSO unbundling and certification

Fingrid was established in November 1996 by joining two previously existing transmission network operators. It started its operations in September 1997. Fingrid owns the Finnish main grid and all significant cross-border connections. At the setup of the company, Fingrid was 12 per cent owned by the State of Finland, 25 per cent by Fortum Power and Heat Oy, 25 per cent by Pohjolan Voima Oy and 38 per cent by insurance companies. Both Fortum Power and Heat Oy and Pohjolan Voima Oy are major Finnish electricity generators.

The 3rd internal energy market directive package requires that electricity transmission network operators shall be ownership unbundled from production and supply activities. The holdings of Fortum and Pohjolan Voima in Fingrid required that Finland took steps to implement this obligation. Fortum and Pohjolan Voima sold their Fingrid shares to the State of Finland and Ilmarinen Mutual Pension Insurance Company in April 2011.

Via voluntary deals Fingrid was transformed into a transmission network company factually unbundled from electricity production, operating in compliance with the Internal Electricity Market Directive. After the acquisition Fingrid is 53.1 per cent owned by the State of Finland, 19.9 per cent by Ilmarinen Mutual Pension Insurance Company and 27.5 per cent by other shareholders, which are mainly Finnish insurance companies. In consequence of changes in the ownership Fingrid transmission network company Fingrid operates in compliance with the Internal Electricity Market Directive.

The aim of Finnish state has been to secure the strategic interests and security of supply in the electricity system and transmission network by majority shareholding of Fingrid shares and holding a majority of votes in the annual general meeting

As the implementation of the Directive 2009/72/EC into national Finnish legislation has not been completed out the Energy Market Authority has not been able to officially start the certification process in 2011. However, some unofficial steps were already taken.

DSO unbundling

According to the Electricity Market Act, electricity network operations must be legally unbundled from electricity trade operations and electricity generation if the annual quantity of electricity transmitted to the customers through the network operator's 400 V distribution network has been 200 GWh or more during three consecutive calendar years. The arrangements were to be implemented no later than the beginning of 2007. Also some distribution system operators under this threshold value have voluntarily legally unbundled network activities from electricity supply and generation activities. When looking at the number of customers, the threshold value corresponds to about 20 000 customers. The threshold value is thus significantly lower than what the directive requires.

In July 2013 a total of 52 distribution system operators of 83 operators were legally unbundled in Finland.

The legally unbundled distribution system operators are not required to be structured any special legal form. The only limitation is that the separated companies cannot both be public utilities because then these companies would be part of the same legal entity.

Many of the distribution system operators are either municipal utilities or companies in which the majority of the shares are owned by municipalities. In Finland there are no requirements for ownership unbundling of the DSOs. Most of the legally unbundled distribution system operators still belong to same group of companies as electricity retailers and/or generators. In many cases the parent company of a legally unbundled distribution system operator is a generating or retailing company. On the other hand, some electricity retailers are owned by a group of distribution system operators. In most cases the legally unbundled distribution system operators belonging to a group of companies share their operational, managerial, and financial responsibilities. Part of the strategic and operational tasks of distribution system operators are done in collaboration with other parts of the concern or outsourced to them. Usually, the distribution system operator and the retailer have at least a common customer service.

The majority of the electricity system operators have the economic ownership of the assets. However, there are some electricity system operators who are operating with leased out network assets and thus they don't have the economic ownership of their network assets. At the end of 2012 there were 9 distribution system operators who were operating with a distribution network leased out from their parent company. In addition to these there are some other DSOs whose network assets are partially leased, like some substations.

Regardless of whether the electricity system operator has or doesn't have the economic ownership of the assets, it needs to fulfil the technical, economic and organisational preconditions for the electricity system license:

- The organisation of the applicant corresponds to the scope and nature of its system operations;
- The applicant has a sufficient staff in its service;
- The applicant has in its service an operating manager and, if the applicant carries out electrical works, a manager of electrical works, that meets the eligibility requirements laid down in or by virtue of the Electrical Safety Act (410/1996);
- The applicant has the economic conditions for profitable electricity system operations;
- The applicant has the right to decide on the resources needed for the operation, upkeep and development of an electricity system; and
- The grid operator to be placed under the systems responsibility has delegated the functions related to the national balance responsibility to its separate operational entity or a subsidiary wholly owned by it.

The fifth point is comparable to the Article 26(2)(c) in the Directive 2009/72/EC and thus relevant for all distribution system operators. The corresponding principle has been de facto applied in Finland established practise of granting an electricity system license since year 1995. Besides these requirements, any additional rules that would provide the electricity system operators with more financial independence are not required. There isn't for example any formal restriction preventing that cash flow (e.g. in the form of dividends or transactions) of electricity system operator can be used by the holdings.

The functional unbundling requirements are applied to legally unbundled distribution system operators with some limitations, with the exception of the requirement in the article 26(2)(c), which is applied to all distribution system operators (see above). The functional unbundling requirements are restricted to legally unbundled distribution system operators because the requirements are related to the legal organs of the company (the board of directors and the managing director) and are not therefore applicable to vertically integrated company. The transition period related to legal unbundling did not extend to functional unbundling requirements but in practice the distribution system operators needed to be first legally unbundled before the functional unbundling requirements could be applied.

The requirement for separate management for the electricity network company is limited to legally unbundled system operators with 50,000 customers or more and at the end of 2012 it covered 18 distribution system operators in Finland. According to Electricity Market Act a person managing a network operator engaged in a legally unbundled electricity network operation with 50,000 customers or more may not act as the managing director of a utility in charge of electricity generation or electricity supply or as a member of its board of directors or a corresponding organ, if the network operator and the utility are under the control of the same party. The threshold of 50,000 customers is lower than the directive requires.

The requirements for professional interests and compliance programmes are limited to legally unbundled electricity system operators with 100,000 customers or more and it covers 9 distribution system operators in Finland. The ministerial degree, which sets the detailed content of the requirements, entered into force at the January 1st, 2007. According to new legislation threshold will be lowered to 50,000 customers.

The accounting unbundling applies to the rest of electricity system operators, which are not required to be legally unbundled. The accounting unbundling is also required in the legally unbundled companies, which have other activities besides network business if these activities are not relatively small. As a relatively small activity has been considered business activities whose annual revenue is less than EUR 500,000 and less than 10 per cent of the company's total revenue. Accounting unbundling requirements are specified with the ministerial degree and the Energy Market Authority has issued updated version of the guidelines on the compilation of unbundled financial statements in June 2011. These guidelines are not legally binding but they show the procedure the Energy Market Authority considers fulfil the requirements of the legislation. Both the distribution system operators and the transmission system operator are under the obligation to publish unbundled accounts with certain formula. They shall publish the unbundled financial statements as a part of the statutory financial statement, annual report or corresponding other public document available to the stakeholders.

The unbundled income statements, balance sheets and any supplementary information of unbundled operations are audited as part of the statutory auditing. The Energy Market Authority has issued the guidelines in co-operation with chartered accountant on the auditing of unbundled financial statements in 2006. These non-binding guidelines aim to help the audit of unbundled financial statements in different electricity system operators and inform the auditors about the unbundling requirements.

The Energy Market Authority supervises that the network companies are fulfilling the unbundling requirements. The Authority has also powers to oblige the companies to correct mistakes or omissions. A conditional fine may be imposed to make decisions effective. As a final

mean the Energy Market Authority may also withdraw the electricity network licence from the company.

Even if there are legally unbundled distribution system operators, many of them still have the same corporate presentation with the electricity supply and generation activities. In most cases, for example, the customer service or web-pages are shared, but only a few distribution system operators have separate headquarters. The electricity transmission system operator doesn't have electricity supply or generation activities in the same corporation and thus has its own corporate presentation. The 3rd Internal energy market directive package sets obligations regarding communication and branding of the DSOs. There are no final decisions how these requirements will be implemented in the Finnish regulation as the implementation of directives into the Finnish legislation has been delayed until fall 2013.

3.1.2 Technical functioning

Balancing services

According to Article 37(6)(b), the provision of balancing services which shall be performed in the most economic manner possible and according to the Article 37(8), the regulatory authorities shall ensure that transmission and distribution system operators are granted appropriate incentive, over both the short and long term, to increase efficiencies, foster market integration and security of supply and support the related research activities. When monitoring compliance with and reviewing the past performance of network security and reliability rules and setting or approving standards and requirements for quality of service and supply or contributing thereto, Article 37(1)(h).

The transposition of the Directive 2009/72/EC into national Finnish legislation was not completed out by the end of 2012 and thus the balancing services and other services related to the system responsibility are governed by the Electricity Market Act. According to the Electricity Market Act, the Energy Market Authority approves the pricing methodology for balancing services provided by the TSO. During the first and second regulatory period (years 2005 – 2007 and 2008 - 2011) the Energy Market Authority executed joint supervision of both network and system operation (including balancing services) in the price regulation of the TSO. Furthermore, the Energy Market Authority approves terms and conditions of TSO's balancing services (i.e. standard balance agreement) when they are to be renewed. In November 2011 the Energy Market Authority approved terms and conditions for TSO balancing services from January 1, 2012 and these terms and conditions are valid until further notice.

Balancing is managed by market based methods in the synchronously connected Nordic countries (Finland, Sweden, Norway and Denmark). The Nordic countries have established common regulation power market in the year 2002 to handle balancing. Imbalances will be handled and settled according to common rules defined in System Operation Agreement between the Nordic TSOs. Balancing is managed within the Nordic control areas as one system consisting of all four Nordic TSOs. The balance management is based on the Nordel frequency requirements agreed on the System Operation Agreement. However, imbalances within a country are settled according to principles that vary from one country to another.

Figure 4 presents the balance management in the context of the Nordic electricity market model. Besides the regulation power market for actions during the specific operating hour,

Elbas-market can be used for the intra-day trading and revisions of nominations after the day-ahead spot market (Elsport) has closed.

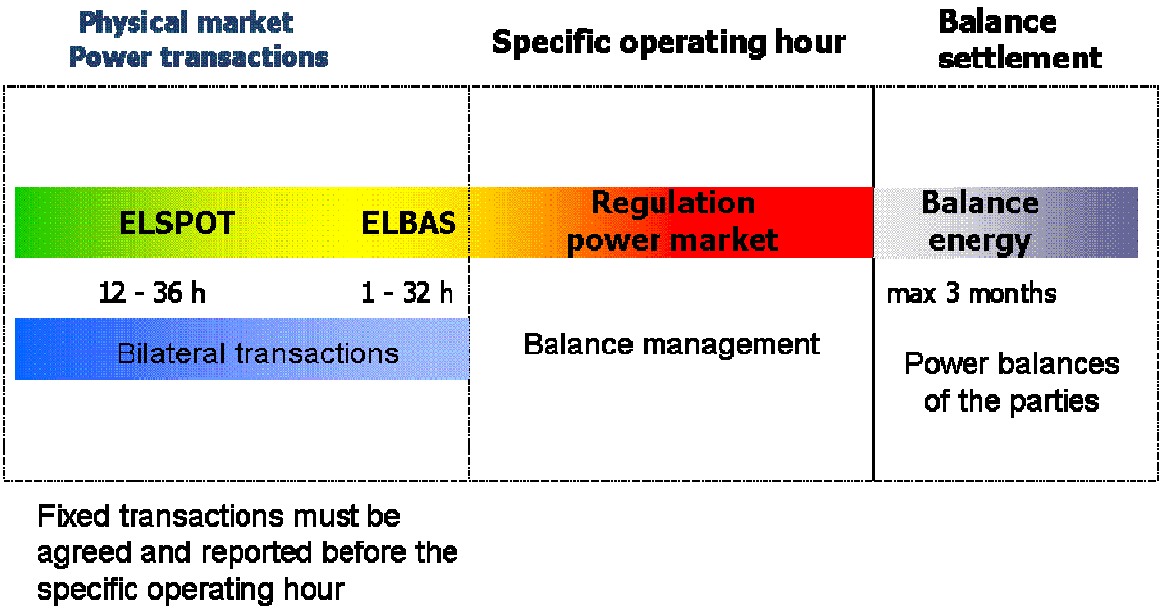


Figure 1. Balance management in the Nordic electricity market model (Source: Fingrid Oyj).

In the Nordic regulation power market all bids are collected in the joint Nordic merit order list and according to this list the production increases and decreases are carried out where they are most advantageous in the price order, however, taking into account congestions between control areas. This leads to the effective utilisation of the Nordic balancing resources.

The balance between production and consumption within a specific operating hour is created through the regulation market by the upward and downward regulation of production and consumption to handle physical imbalances taking into account the effects on congestions.

The price of the regulation power during the specified operating hour (the balancing interval 60 minutes) is determined on the basis of ordered up- or down-regulations. This implies that the price of the regulating power is known only after the end of the specific operating hour. It has been agreed that the price of up-regulation is the most expensive up-regulation bid ordered by the TSO during the specific operating hour. All those who have participated in the up-regulation during the specific operating hour receive the same compensation per MWh. Respectively the price of down-regulation is the cheapest down-regulation bid ordered by the TSO during the specific operating hour. All those who have participated in the down-regulation during the specific operating hour receive the same compensation per MWh. The average regulating power price for up-regulation in the year 2012 was 46 EUR/MWh and down-regulation was 32 EUR/MWh. The volumes traded in regulation market were for up-regulation 137 GWh and for down-regulation 169 GWh in Finland during the year 2012.

Requirements set by the TSO for Finnish bidders to act in the Nordic regulation power market are as follows:

- The minimum capacity of a single bid is 10 MW

- Full power should be delivered by the bidder in 10 minutes after the bid,
- The bid must include power (up/down regulated MW), price (EUR/MWh) and location (north/south of Finland)
- The bids are to be submitted electronically to TSO no later than 30 minutes before the beginning of the operation hour, bids can be given within “rolling window” where gate is closed 30 minutes before the specific operating hour and bids can be given from beginning of operating day until 30 minutes before the specific operating hour
- The bid applies to a whole hour and it can be activated immediately from the beginning of the hour or later during the hour
- There may exist several power plants behind one regulation bid

The balance service costs related to the national energy consumption were in Finland 57 EUR/GWh in year 2012 when costs of regulating and balancing power and costs of reserves are excluded. The total annual income for TSO from the balance fees in year 2012 was 21.6 million Euros. Fees are charged from every balance responsible party.

The TSO provides information on forecasts and values for the reserves before, during and after the operating hour; also regulation prices after operating hour. Most of this information is given only to the market participants and to Nord Pool. Publicly available information can be found on Fingrid’s website www.fingrid.fi and Nord Pool Spot’s website www.nordpoolspot.com.

The new balance agreement was implemented in Finland from the beginning of 2009. The purpose of balance settlement is in all Nordic countries to settle the imbalances that are the result of electricity deliveries between the parties in the electricity market. The system operators perform two types of balance settlement: one for production and one for consumption. In Finland production up to 1 MW is settled as consumption.

Balance power between two countries is priced and settled according to the Nordel System Operation Agreement. Since September 2002, bids from market participants with available regulating capacity are entered into a common price list in the common Nordic Operational Information System (NOIS). There is now a common regulation market and the system operation agreement results in a balance control and balance regulation of the interconnected power system that is much harmonised.

The balance settlement inside the countries is a settlement between the system operators and the balance responsible parties. This settlement is governed by national balance agreements. The balance agreements also describe how the balance responsible parties can participate in the regulation power market.

The Finnish, Norwegian and Swedish TSOs have decided to implement a harmonized balance settlement model at TSO level. The implementation includes harmonizing and integration of national grid and bidding area level balance settlement. Ultimately one common operational Settlement Responsible unit will be established. The expected go-live is in mid-2015.

Quality of supply

In the Finnish legislation the electricity system operators have various obligations:

- obligation to develop the electricity network;

- obligation to connect; and
- obligation to transmit electricity

In addition to the price, quality of supply is also important to electricity users. The regulation model for the second regulatory period encourages system operators also to improve the quality of electricity in two ways: by taking into account network investments in the capital base and by treating the losses caused to customers by interruptions as items comparable with costs.

In the economic regulation of network operators the losses caused to customers by an interruption in electricity supply are taken into account as an item comparable to costs, i.e. price tags are developed for different type of interruptions. The Energy Market Authority has not set specific targets for electricity quality improvement. The outturns required of system operators must be equal to the average outturns of previous years. However, the regulation model encourages system operators to improve the quality of electricity supply, because by having fewer and shorter interruptions compared to average level of previous years the system operator is allowed to have higher rate of return. Similarly, electricity quality impairment lowers the permitted rate of return for the system operator.

Table 1 shows interruptions in transmission and distribution networks during the years 2001-2012. The numbers include both planned and unplanned interruptions. In Finland storms and other circumstances caused by weather or animals have a remarkable influence on interruptions because about 90 per cent of MV distribution network are overhead lines. Thus annual variations in interruption times may be significant.

Table 1. Interruptions in transmission and distribution networks in 2001-2012.

	Interruptions minutes lost per customer per year										
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Transmission	5.54	2.12	2.10	2.02	2.10	1.50	1.55	2.7	5.0	6.9	1.3
Distribution	136	123	103	180	145	103	129	96	279	366	175

According to the Electricity Market Act the electricity network operators have to pay standard compensations to the customers if the interruption time is 12 hours or more. If the interruption time is at least 12 hours the standard compensation is 10 per cent of the customer's annual network access charges. The compensation increases stepwise with the interruption time. The maximum compensation is 100 per cent of the annual network charges when the interruption time has exceeded 5 days.

In late December 2011 there were two notable storms in Finland which caused also interruptions for many customers. These storms were out of ordinary storms because they occurred in the winter. In 2011, electricity distribution system operators paid fixed compensation payments because of long interruptions a total sum of EUR 47.6 million.

Due to the storms in late December 2011 fixed compensation level in 2012 was still at a considerably high level with EUR 9.2 million payments to 94,000 customers compared to other normal years 2009 (EUR 1.4 million) and 2008 (EUR 0.83 million).

Due to heavy storms and long interruptions in Finland in December 2011 the Ministry of Employment and the Economy started to prepare legislation which will include more stringent rules related to network development and compensations for customers in case of long interruptions. The new legislation will come into force in September 2013 and it will include obligations for DSOs to plan and develop their network in order to avoid interruptions more than 36 hours in rural areas and 6 hours in urban areas by 2032. The new legislation will also increase standard compensations paid by DSOs to customers if they have faced long interruptions. The maximum compensation will be 200 per cent of annual network charges or 2,000 EUR.

3.1.3 Network tariffs for connection and access

Regulation of network tariffs for connection and access

According to the Electricity Market Act, the network operators are able to set the actual network tariffs and charges by themselves. There is no ex-ante approval of tariffs or prices of network services by authorities. The network operators have to notice their customers about the changes in charges at least one month prior to entering into force.

The Energy Market Authority confirms ex-ante the methodology to be used in setting both transmission and distribution network tariffs and connection charges. The Energy Market Authority has to approve ex-ante also the terms and conditions of transmission and connection services before the network operators are able to apply them.

The methodology of setting transmission and distribution network tariffs is confirmed by the Energy Market Authority prior to each regulatory period. The length of regulatory periods is four years. The present regulatory period covers the years 2012 – 2015. The Energy Market Authority confirmed by its decisions the methods concerning the rate of return in electricity network operation to be followed in the third regulatory period for each network system operator in November 2011¹.

After the regulatory period has come to an end, the Energy Market Authority confirms the earnings of each network operator in its supervision decisions for the regulatory period, and will confirm the amount of any accrued earnings that exceed or fall short of reasonable earnings for the regulatory period. Where necessary, the supervision decisions include obligations to return to the customers any surplus profit for the completed regulatory period through lower network charges for the new regulatory period. The supervision decisions correspondingly confirm that the network operator may allow raise network charges for the new regulatory period, with the amount by which the earnings accruing to the network operator from the previous regulatory period fell below the reasonable earnings level. The process is in line with the Article 37(10). In 2012 the Energy Market Authority did not make supervision decisions regarding regulatory period of 2008 – 2011 as there were some complaints in methodology still open in the court.

According to the Section 38a of the Electricity Market Act, the methodology confirmed by the regulator may include the following items:

- method for the valuation of regulated asset base

¹ English translations of the methodology for assessing the reasonableness of the pricing of electricity distribution and transmission network services in 2012-2015 are available on the Energy Market Authority's website.

- method for determining approved rate of return on capital
- method for determining realised profit of network operations
- method for setting efficiency targets for network operations

The network will be included into the regulated asset base in the net present value instead of book value. Ever since the first regulatory period, the Energy Market Authority has encouraged system operators to make investments in the electricity network. In the regulation model, all investments in the network will annually be taken into account in the regulated asset base which is used to determine the reasonable rate of return. Thus the methodology provides incentives to transmission and distribution system operators to develop and to make necessary investments into their network in order to ensure viability of the networks as required by the Article 37(6)(a). The net present value of the network will be updated annually by taking into account depreciation and investments. Approved rate of return on capital is determined using a WACC-model (Weighted Average Cost of Capital) and will be updated annually.

The network operators have been encouraged to increase the efficiency of their operations and to maintain a high security of electricity supply. For the third regulatory period in 2012 - 2015 the Energy Market Authority set both the general efficiency target and the company-specific efficiency target for the DSOs. The company-specific efficiency targets are estimated on the benchmarking of DSOs by using semi-parametric StoNED-method (*Stochastic Nonsmooth Envelopment of Data*).

The network operators may appeal against the methodology confirmed by the Energy Market Authority to the Market Court and, furthermore, both the Energy Market Authority and the network operators are able to appeal against the decisions of the Market Court to the Supreme Administrative Court. A total of 54 distribution network operators submitted the appeals against the decision issued by the Energy Market Authority in May 2010 on rejecting to elevate a market risk premium in the middle of the second regulatory period. The Market Court turned down the appeals in December 2010. Two companies hence made an appeal to the Supreme Administrative Court. The case is still pending.

A total of 76 electricity network operators filed appeals with the Market Court in December 2011 against the methodology decisions for the third regulatory period (2012 – 2015) confirmed by the Energy Market Authority. The Market Court heard the case in autumn 2012. The Market Court turned down all but one of the claims in December 2012. The Energy Market Authority was obliged to impose a cap on maximum effect of outage costs in the efficiency incentive of regulatory methods. The Energy Market Authority gave new methodology decisions in summer of 2013. One network operator made an appeal to the Supreme Administrative Court concerning three of the claims that Market Court turned down. The case is still pending.

The Energy Market Authority has developed details of the methodology with a view to achieving a regulatory model that is incentivizing more innovations and investments in the networks in order to ensure viability of the networks as required by the Article 37(6)(a). In line with this a project - Roadmap 2020 - went ahead during the years 2009-2011. During this project a vision for network regulation in 2020 was prepared and the needed strategies and actions to develop network regulation of both distribution and transmission system operators were defined. The project Roadmap 2020 was concluded in November 2011.

The Electricity Market Act has detailed provisions related to network charges collected from electricity generation. Since February 2008 the connection fees for small-scale electricity generation (maximum 2 MVA) may not include the costs caused by strengthening the existing electricity network but only include the direct costs of connection.

The regulation also sets the maximum level of the network charges for the electricity generation connected to the distribution network. The annual network charges collected from an electricity generator may not exceed 0.07 cent/kWh.

According to the Electricity Market Act, at the request of the customer (either generator or load), the transmission and distribution system operators shall give him/her a comprehensive and sufficiently detailed estimate on the costs of connection. The Energy Market Authority has fixed in January 2011 by its decisions the methodology for pricing of grid connections in distribution networks. Distribution system operators should have followed this methodology in pricing of connection fees from May 2011.

3.1.4 Cross-border issues

Capacity allocation and congestion management

Finland is a part of synchronously operated Nordic power system. It has 400 kV and 220 kV AC interconnectors to Sweden and one 220 kV AC interconnector to Norway. Furthermore there exist two DC interconnectors between Finland and Sweden (Fenno-Skan 1 and Fenno-Skan 2). Finland has also interconnectors to Russia (back-to-back DC converter station at Vyborg and a 400 kV and two 110 kV AC interconnectors synchronised to Finnish power system) and Estonia (DC interconnector, Estlink 1).

Congestions across the borders between Finland and Sweden and between Finland and Norway are managed by implicit auctions (market splitting) in the day-ahead market (spot market) in power exchange Nord Pool Spot. Implicit auctions imply that market-based methods are applied in capacity allocation, and thus congestion management is wholly integrated to the functioning of the Nordic wholesale market. In the implicit action the energy and transmission capacity between various bidding areas is allocated in a single process to the parties of electricity trading. Capacity which may not have been used on the Elspot market is offered to the Elbas market, where trading finishes no later than one hour before the hour of operation. The Elspot capacities for the next day are announced before noon and the Elbas capacities in the afternoon. Finland is considered as a single bidding area within Nordic market and congestions within Finland and after spot market closure are managed by counter-trade.

There exist no priority transmission rights for cross-border trade from Finland to Sweden and from Finland to Norway and from Finland to Estonia or vice versa. For hedging against prices differences between area prices and the system price market actors may use Contracts for Differences (CfD) products.

The interconnection between Finland and Estonia has exemption according to the Article 17(1) of the Regulation 714/2009², where owners of the interconnection have had priority transmission rights until day-head market has been cleared. However, since the September 20,

² The exemption has been confirmed by the European Commission in 2005. The exemption is from regulated third part access, restrictions on the use of congestion revenues and tariff regulation until December 31, 2013.

2010 the full capacity of the Estlink cable has been available for the Nord Pool Spot Elspot market. The Finnish and Estonian TSOs have rented the full capacity from the cable owners and allocated it to Nord Pool Spot. As a rent the cable owners will receive the congestion rents from that interconnection.

Priority transmission rights are used to allocate capacity between Finland and Russia. Actors can buy rights in auctions arranged by TSO for one or more years. Fingrid makes 1,300 MW of transmission capacity from Russia available to the electricity market on its 400 kV connections from Russia. Fingrid has reserved a volume of 100 MW to be used as a power system reserve. Electricity can be imported from Russia by customers who have made an agreement on a fixed transmission right with Fingrid and an agreement on energy purchases with a Russian organisation responsible for electricity sales.

In August 2011 a new trading scheme, so-called direct exchange trade, was adopted in electricity trade from Russia to Finland. Direct exchange trade is a first step towards more market-focused procedures in electricity trade between Russia and Finland and at the same time between Russia and the EU. In this model an electricity market player engaged in direct exchange trade buys electricity in the electricity exchange in Russia and sells it directly to the Nord Pool Spot. The player can also trade the offered electricity not sold to the spot market in the secondary market, in other words in Nord Pool Spot's or the Russian intra-day market. So far, the volume of direct trading is limited to 100 MW, while in conventional bilateral trade it is 1,200 MW and trading is only available from Russia to Finland. The goal is develop trading so that it works in both directions between Finland and Russia.

Transmission capacities on interconnectors within Nordic power system are presented in Figure 2.

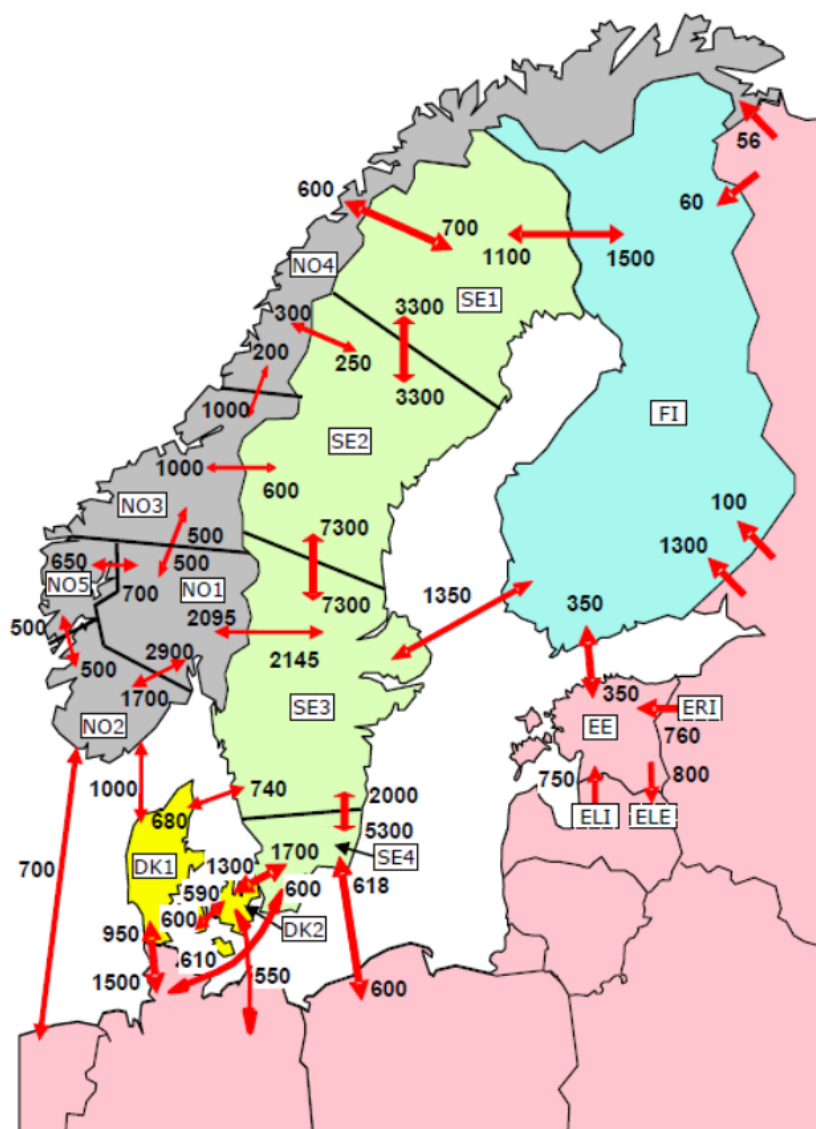


Figure 2. Transmission capacities on the interconnectors of the Nordic countries in 2012 (Source: ENTSO-E).

In implicit auctions (market splitting) price areas exist when there is not enough capacity between these areas and the price of electricity will vary between these areas depending on the amount of congestions. When no congestions exist prices are equal within the price areas. Figure 3 illustrates the share of congestion on the interconnectors of the Nordic countries in 2012 between the Nord Pool Spot price areas.

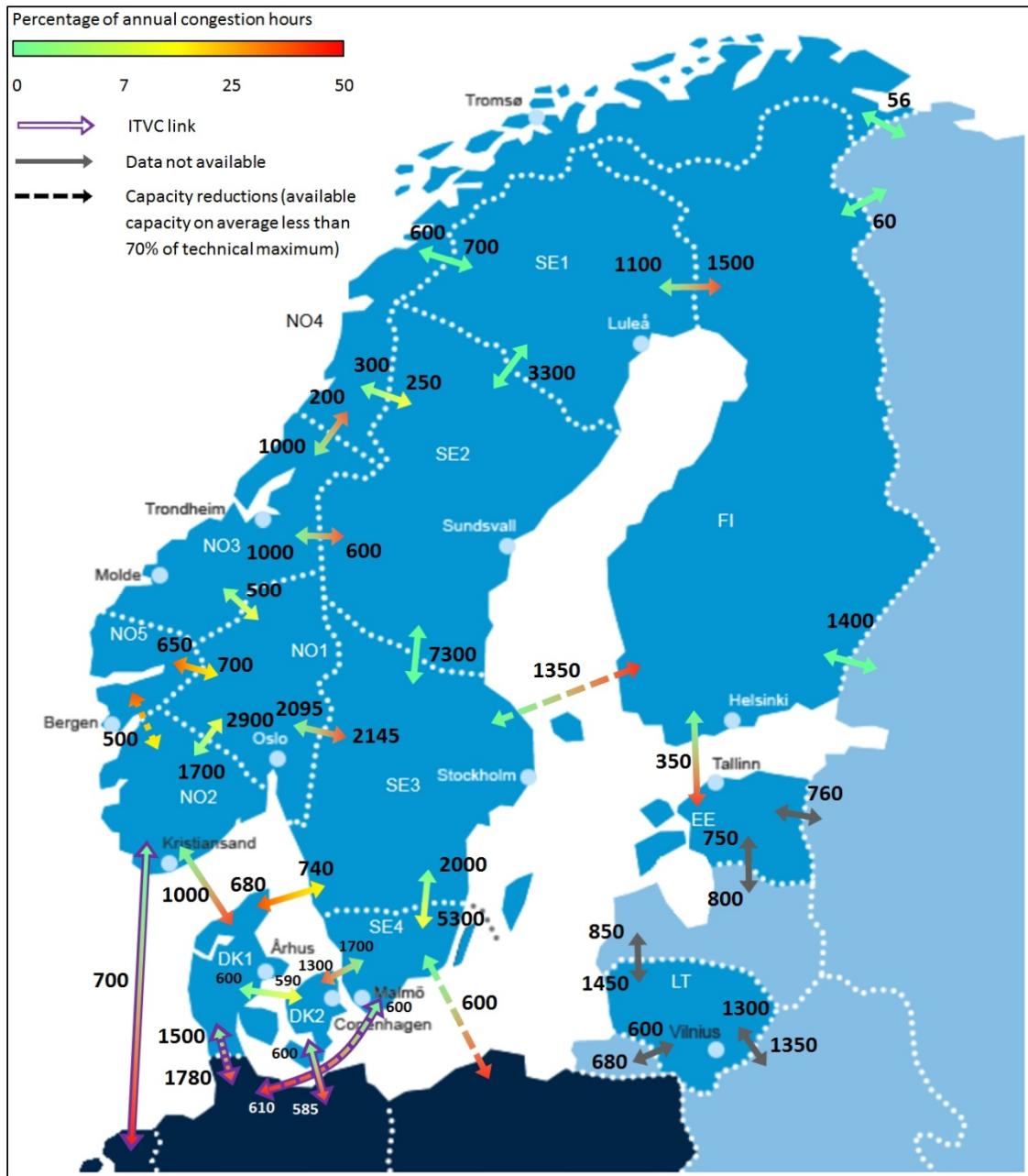


Figure 3 . Shares of congestion hours between neighbouring price areas and maximum transmission capacities in 2012 (Source: Energy Market Authority)

The Nordic market has traditionally been split into six price areas: Finland (Helsinki), Sweden (Stockholm), West Denmark (Jutland), East Denmark (Zealand), South Norway (Oslo) and North Norway (Tromsø). However, this was changed in 2010 as Norway was split into five price areas. Similarly in November 1, 2011 Sweden was split into four price areas. Figure 4 presents the percentage of hours during the year 2012 (January – October) when same day-ahead area price existed. In this picture the price areas are grouped for clarity.

In May 2010 the TSOs of Finland and Estonia declared the investment into Estlink2 cable, a DC link connecting the two countries. This cable is expected to be completed by 2014. As most of the hours there have been a difference between the Estonian and Finnish prices, the

construction of Estlink 2 with the capacity of 650 MW should substantially reduce this congestion.

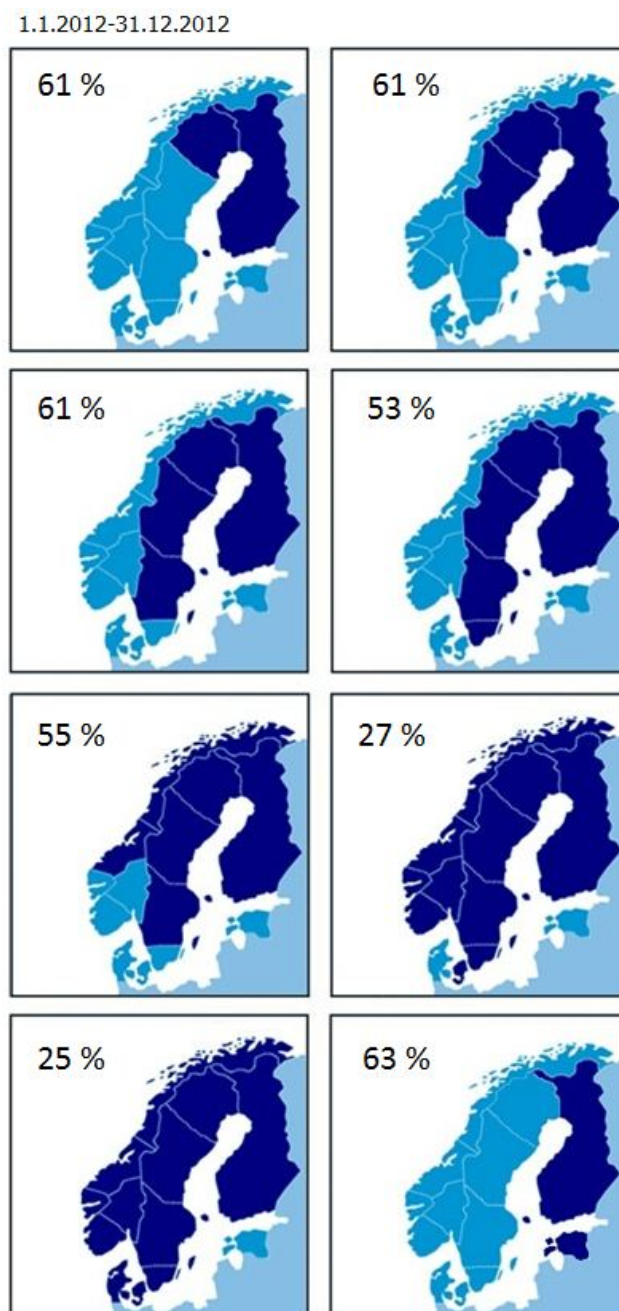


Figure 4. Time in per cent in year 2012 describing when the same day-ahead price has existed in the various price areas of the Nordic Market (Source: Fingrid Oyj).

Counter trade is used to relieve both national and inter-regional congestions during the daily network operation. Costs of counter trade are paid by the TSO. Table 2 shows the costs of the counter trade paid by the Finnish TSO during the years 2003 - 2012.

Table 2. Net costs of counter trade in Finland during the years 2003 - 2012 in million Euros.

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Costs	0,07	0,86	0,48	0,244	0,127	0,085	0,2	1,6	4,7

Source: Nordel, Fingrid Oyj.

Implementation of the Regulation 714/2009 and Congestion Management Guidelines

The Energy Market Authority acts as the regulatory authority to supervise the compliance with the Regulation 714/2009 in Finland (Section 38 of the Electricity Market Act). The supervisory powers of the Energy Market Authority are ex-post by their nature as stated in the Section 39 of the Electricity Market Act. Furthermore, according to the Section 38a of the said Act, the Energy Market Authority shall take the Regulation into account while issuing the confirmation decisions on the network pricing methodology to the network operators.

The Congestion Management Guidelines under the Regulation 714/2009 entered into force in March 2011. The Congestion Management Guidelines set up requirements for TSOs on managing congestions, co-ordination, transparency and use of congestion income. Furthermore, the Congestion Management Guidelines require that competent regulatory authorities oversee TSOs' actions. Obligations to market participants are also included in topics having relevance to congestion management.

Congestion management method applied to allocate all interconnector capacity in Nordic market, i.e. implicit auction, fulfils the requirements set in the congestion management guidelines. Remaining transmission capacity after day-ahead allocation is set for intra-day market and cross-border balancing.

Nordic TSOs publish information either on their own website (e.g. www.fingrid.fi) or Nord Pool Spot's website (www.nordpoolspot.com).

In year 2005 Nordic TSOs decided to use congestion income to five prioritised cross-section reinforcement investments in Nordic countries. In their recent agreement TSOs have agreed on criteria for sharing the congestion income in longer time perspective (until the end of 2011).

During the year 2012 congestion management income for the Finnish TSO totalled EUR 50.8 Million (In 2011 EUR 25.3 Million)³.

3.1.5 Compliance

According to the Finnish legislation the Energy Market Authority shall supervise that the provisions of the Electricity Market Act and any rules and regulations issued under it, as well as Regulation 714/2009 are complied with. However, the construction of cross-border power lines, and the import and export of electricity are supervised by the Ministry of Employment and the Economy.

As the transposition of the Directive 2009/72/EC into national legislation has been delayed in Finland, the Energy Market Authority has not been able to start officially the certification process of the Finnish transmission system operator, Fingrid Oyj. However, the Energy Market Authority and Fingrid have started the process unofficially by collecting necessary information in order to have a smooth process when the new legislation will come into force in autumn 2013. The Energy Market Authority has also had preliminary discussions with the Commission. As the Finnish transmission system operator, Fingrid Oyj, is ownership unbundled from other operations provisions in Article 37(3)(a)(b)(e) and Article 37(5) are not relevant for Finland.

³ Source NordPool Spot

The Energy Market Authority ensures compliance of electricity transmission and distribution system operators with their obligations under the Directive and other relevant Community legislation as required in Article 37(1)(b) by using mainly ex-post supervision. Investigation may start based on a request from any market actor or on the Energy Market Authority's own initiative. In 2012 any such investigation cases were not started.

According to the Electricity Market Act the official of the Energy Market Authority has the right to perform an inspection in the premises occupied by a body or an establishment carrying out the activities supervised in order to carry out the surveillance duty under the Electricity Market Act and to supervise the compliance of the confirming or obliging decisions made by the Energy Market Authority. However, an inspection may not be carried out in premises within the scope of domestic peace. A body or an establishment carrying out activities to be supervised shall, on demand, present the documents and files in its data systems to the official performing an inspection and provide access to the electrical apparatus and equipment that can have a meaning for the supervision of the compliance with the rules or regulations issued by virtue of the Electricity Market Act. The official performing the inspection has the right to take copies free of charge of the documents to be inspected as well printouts of the files in the data systems.

On the basis of the Electricity Market Act and the provisions under it, and also the Regulation 714/2009, the Energy Market Authority is empowered to oblige an electricity network operator or a retail supplier to correct his mistake or omission. The Energy Market Authority has powers to order in the obliging decision how the mistake or omission should be mended. The obliging decision may also include an order to refund customer of a fee incorrectly charged from him. The Authority may impose a conditional fine to make a decision effective. Thus the powers of the Energy Market Authority are compliant with the Article 37(4)(a)(b)(c)(e).

The present electricity market legislation does not include any provisions to power the Energy Market Authority to impose or propose a competent court to impose penalties or any administrative fines to network system operators or other electricity market actors for the non-compliance with their obligations pursuant to the Electricity Market Act or the Regulation as required in the Article 37(4)(d). However, with the new legislation this will be changed in autumn 2013 and the Energy Market Authority will receive also powers to propose the Market Court to impose penalty payments to network system operators or other electricity market actors in line with the Article 37(4)(d).

In 2012 there were no such cases where the Energy Market Authority should follow the binding decisions of the Agency or the Commission according to the Article 37(1)(d) or guidelines according to the Article 39.

3.2 Promoting Competition

The present electricity market legislation does not have explicit provisions on Articles 37(i)-(k) regarding monitoring the level of transparency, including of wholesale prices, and ensuring compliance of electricity undertakings with transparency obligations and monitoring the level and effectiveness of market opening and competition.

The market monitoring is however being done implicitly by the Energy Market Authority.

3.2.1 Wholesale market

Market structure and integration to Nordic wholesale market

Finland consumed about 85 TWh in 2012 (84 TWh in 2011), up about 1.1 per cent on the previous year. Finnish electricity production amounted to a total of 67.5 TWh in 2012, down about 4 per cent on the year before. Domestic cogeneration of heat and power covered 27 per cent of the consumption of electricity. Nuclear power covered 26 per cent of the demand and hydro power 19.5 per cent. Coal-based and other conventional condensing power generation amounted to about 6.7 per cent and wind power accounted for 0.6 per cent.

In 2012 the net imports of electricity from Russia, Estonia, Sweden and Norway increased by 26 per cent. Net imports covered about 20.5 per cent of total electricity consumption in 2012. Electricity import from Russia to Finland was 4.4 TWh and decreased by 6.4 TWh. Import from Sweden was 14.2 TWh and from Estonia 0.4 TWh. Electricity net imports from the Nordic market was about 12.5 TWh. The peak demand amounted to 14,467 MW in 2012⁴. Table 3 shows electricity net production, imports and exports in Finland in 2003 – 2012.

Table 3. Electricity net production, imports and exports (TWh) in Finland.

TWh		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
GROSS PRODUCTION		84,3	85,8	70,5	81,9	81,2	77,1	71,6	80,4	73,5	70,3
	Cons. in power plants	3,9	3,6	2,7	3,3	3,4	2,9	2,9	3,4	3	2,6
PRODUCTION		80,4	82,2	67,9	78,6	77,8	74,2	68,7	77	70,6	67,7
	Hydro power	9,5	14,9	13,6	11,3	14	16,9	12,6	12,8	12,3	16,6
	Wind power	0,1	0,1	0,2	0,1	0,2	0,2	0,2	0,3	0,5	0,5
	Nuclear power	21,8	21,8	22,3	22	22,5	22	22,5	21,9	22,2	22,1
	Conv.therm power	49	45,4	31,8	45,1	41,1	34,9	33,3	42	35,4	28,6
	Co-gen. CHP	28	28,2	26,1	27,6	26,8	26,7	24,2	28,5	25,9	22,8
	distr. heat	15,3	15,1	14,4	14,5	14,4	15,5	14,8	17,4	14,9	13,5
	industry	12,7	13	11,6	13,1	12,3	11,2	9,4	11,1	10,9	9,3
	Condensing etc.	21	17,2	5,7	17,5	14,4	8,2	9,1	13,5	9,6	5,7
	conv.	21	17,2	5,7	17,5	14,4	8,2	9,1	13,5	9,6	5,7
	GT etc.	0	0	0	0	0	0	0	0	0	0
IMPORTS	from	11,9	11,7	17,9	15,4	15,4	16,1	15,5	15,7	17,7	19,1
	Sweden	0,5	0,4	6,4	3,7	3,1	2,8	1,9	2	5,1	14,2
	Norway	0,1	0,1	0,2	0,2	0,2	0,2	0,1	0,1	0,1	0,08
	Russia	11,3	11,1	11,3	11,6	10,2	10,9	11,7	11,6	10,8	4,4
	Estonia					1,9	2,3	1,8	2	1,7	0,4
TOTAL SUPPLY		92,3	93,8	85,8	94	93,2	90,2	84,2	92,7	88,8	86,8
EXPORTS	to	7	6,8	0,9	3,8	2,9	3,3	3,4	5,2	3,8	1,6
	Sweden	6,9	6,6	0,8	3,7	2,7	3,3	3,2	4,8	3,2	0,03
	Norway	0,2	0,2	0,1	0,1	0,1	0	0,1	0,2	0,1	0,09
	Russia	0	0	0	0	0	0	0	0	0	0
	Estonia					0	0	0	0,2	0,5	1,5
GROSS CONSUMPTION		85,2	87	84,9	90,1	90,4	86,9	80,8	87,5	84,4	85,1
	Incl. Electric boilers	0,1	0,1	0,1	0,1	-	0,1	0,1	0,1	0	

Source: Adato Energia Oy, Statistics Finland, Nordel

⁴ Source Energiategollisuus ry

The Finnish electricity generation sector is characterized by a large number of actors. The total number companies producing electricity amounts to some 130 and the number of production plants is circa 550. The total installed capacity⁵ of the power stations at the end of 2012 was 16,617 MW consisting of conventional thermal power (10,600 MW), nuclear power (2,750 MW), hydro power (3,000 MW) and wind generation (226 MW).

In Finland there are six companies with at least 5 per cent share of installed capacity. The share of the three biggest companies of the total installed capacity is estimated to be in the range of 50-60 per cent.

Due to the Nordic electricity market integration, there is no separate Finnish wholesale electricity market any more. Finland together with Sweden, Norway, Denmark, Estonia (since 2010), Lithuania (since 2011) and Latvia (since June 2013) makes up a single Nordic electricity market. Electricity generation differs considerably among the Nordic countries. In Norway nearly all electricity generation is based on hydro power. Sweden and Finland produce electricity from hydro power, nuclear power and thermal power whereas in Denmark electricity generation is mainly based on conventional thermal power with an increasing amount of wind power. Figure 5 shows the marginal cost of production in the Nordic countries.

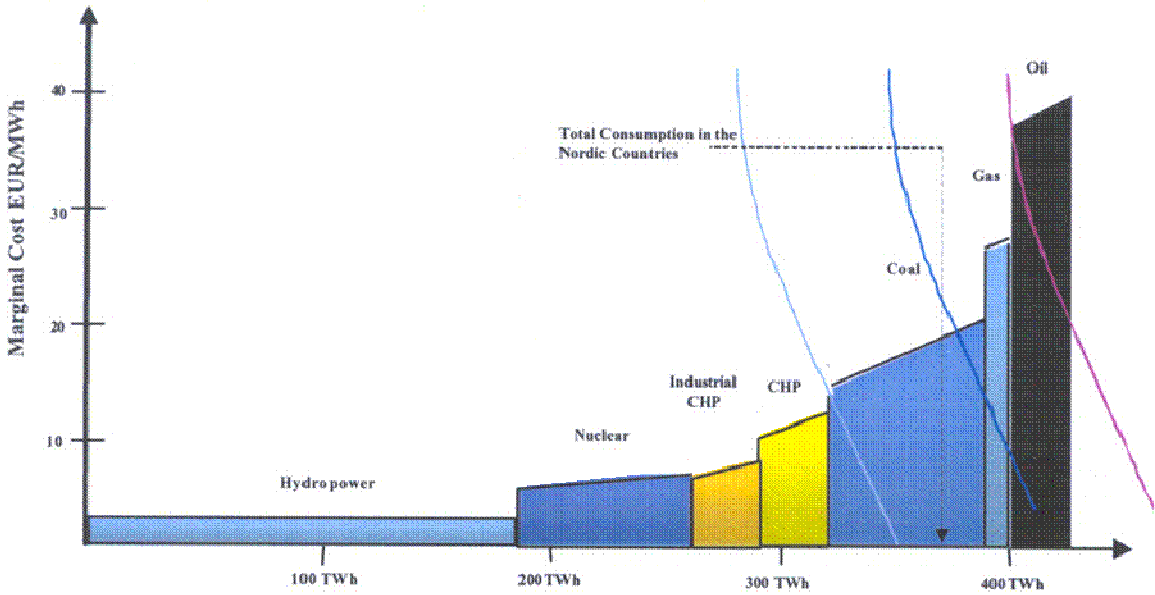


Figure 5. Marginal cost of production in the Nordic countries. (Source: Kesikallio, Lindholm: The Nordic Electric Power market. Ministry of Trade and Industry Finland report 11/2003).

The interconnections between the four Nordic countries are relatively strong although new cross-border transmission lines are needed and already planned or decided to decrease the amount of congestions and to improve the overall functioning of the market. In June 2004 the co-operation body of the Nordic TSOs – Nordel – published a Nordic investment plan drawn up with the intention to strengthen the Nordic transmission grid. The plan included the five prioritised cross section reinforcements within Nordic countries. As a first concrete step of fulfilling the plan, the Finnish and Swedish TSOs have built a new DC interconnector between Finland and Sweden (Fenno-Skan 2) which was commissioned in November 2011.

⁵ Source: Energy Market Authority’s power plant registry.

As regards the Nordic and Baltic countries, Finland is physically connected to Sweden, Norway and Estonia. At the end of 2012 transmission capacity from Finland to Sweden was 1,650 MW and the capacity from Sweden to Finland 2,050 MW respectively. The transmission capacity between Finland and Norway is 100 MW to both directions. Finland has a DC interconnector to Estonia with capacity of 350 MW. In addition to these, Finland has an interconnector capacity of 1,300 MW from Russia.

The total import capacity of the interconnectors between Finland and neighbouring countries is 4,650 MW. An extension of the Estlink cable to increase the capacity by 650 MW to a new total of 1,000 MW is under construction. The new link is expected to be commissioned early 2014.

The import capacity as a percentage of the total installed capacity is about 22 per cent. Taking into consideration only the interconnectors between Finland and Sweden and Norway the corresponding percentage amounts to about 10 per cent.

Monitoring the level of wholesale prices

In the Nordic electricity market electricity trading takes the form of bilateral trade – i.e. direct trading among the market actors – and trading via the power exchange. There is the Nordic electricity exchange Nord Pool Spot AS for the physical electricity trade and Nasdaq OMX for the financial electricity trade. Approximately 78 percent the electricity used in the Nordic market area is traded through power exchange whereas remaining 20 percent is traded via bilateral transactions or internal procurement.

In 2012, the volume of electricity traded in Nord Pool Spot AS amounted to 324 TWh (294 TWh in 2011). The market share of Nord Pool Spot AS from the consumption in the Nordic countries is 84 per cent (76 per cent in 2011). The market share of Nord Pool Spot AS is more than 50 per cent in all the Nordic countries, which can be considered as a sign of a truly integrated Nordic marketplace. Figure 6 presents the share of electricity bought from Nord Pool Spot AS in relation to the electricity consumption in Nordic countries (Finland, Sweden, Norway and Denmark) during the years 1997-2012.

The share of electricity bought from the power exchange in relation to the Finnish electricity consumption has increased considerably since Finland joined the Nordic power market area in June 1998. From the share of 5 per cent the share of electricity bought from the Nordic power exchange has increased to cover 62 per cent of the Finnish consumption in 2012.

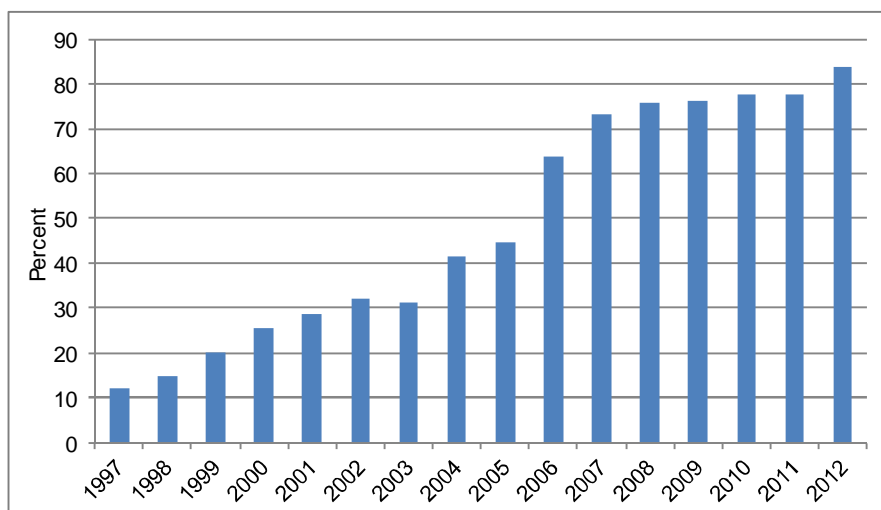


Figure 6. The percentage share of electricity bought from power exchange in relation to the electricity consumption in Nordic countries (Finland, Sweden, Norway and Denmark). (Source: Nord Pool Finland Oy)

The basis of the price formation in the Nordic power market is the spot market. Trade is organised as an implicit auction. The prices are determined by summarising all purchases into a purchase curve and all sales into a sales curve. Bids in the electricity spot market are given in the same way regardless of the player, and accordingly, a bid for the following day has to be given before noon every day indicating the amounts one wishes to purchase or sell at the relevant hour at different price levels. When the price has been determined for each operating hour, the sales and purchases of individual players are determined. In case there are no grid restrictions between the Nordic countries or internally in one of countries, the spot price is the common price for the whole Nordic market area.

The allocation of cross-border capacity and the management of congestions between Finland and the other Nordic countries and Estonia are managed by implicit auctions (market splitting) in the day-ahead market of the Nordic power exchange. The price differentials emerge as a function of insufficient transfer capacity over the national boundaries. In 2012, about 53 per cent of the time Finland and Sweden belonged to the same price area – a decrease of 21 points compared with the previous year. For 25 per cent of the time the day-ahead price in the whole Nordic market was the same.

In 2012 the average day-ahead area price for Finland in Nord Pool Spot was 36.64 EUR/MWh, down 25.7 per cent from the previous year. In 2011 the price was 49.3 EUR/MWh. The average day-ahead system price amounted to 31.2 EUR/MWh (in 2011 47.05 EUR/MWh). The overall price level of 2012 was lower as compared to previous year.

The TSO provides system services (ancillary services) in Finland. As far as the power reserves are concerned, the TSO's goal is to make sure that sufficient volume of reserves is maintained continuously in Finland in cost-efficient manner and in accordance with the system operation agreement signed between the Nordic transmission system operators.

The TSO produces only part of the system services (TSO owns and operates 1300 MW⁶ of gas turbine generation capacity used as fast disturbance reserve) and the maintenance of reserves is primarily arranged as a service purchased from electricity producers and reserve holders. Agreements of this kind exist specially in three first categories of system services.

The participation of electricity producers and others in the maintenance of the reserves as a service provider is fully voluntary. The TSO has established a “reserve bank” where companies owning controllable capacity can register their resources. The resource owners maintain the agreed and measured properties at their power plants in the agreed manner and receive the compensation from the TSO.

As far as the agreements concerning the maintenance of primary reserves (frequency controlled normal operation reserve and frequency controlled disturbance reserve) are concerned, the terms, contents and compensations specified in the agreements are identical for all service providers.

The agreements to provide instantaneous reactive power reserves have been established with all generators over 10 MVA when they are connected to the network and the terms, contents and compensations specified in the agreements are identical for all generators within a voltage level.

The load shedding serving as primary and secondary reserve (frequency control and fast disturbance reserve) have been agreed upon with companies in the pulp and paper, chemical, and metal industries. The agreements provide for a total power of around 1,000 MW and are in effect from 2005 to 2015.

Monitoring the level of transparency, including compliance with transparency obligations, and the level and effectiveness of market opening and competition

Transparency and market surveillance have been organised in two ways within the Nordic energy market. There are arrangements that are based on legislation and authority surveillance, and additionally, there are voluntary contract-based arrangements between the Nordic power exchange and the market actors.

The surveillance responsibility over the Nordic power exchange lies in Norway. As regards the spot market, Nord Pool Spot AS operates on the basis of a licence from the Norwegian energy regulator Norges vassdrag- og energidirektorat (NVE) and the market supervision is the responsibility of the Norwegian competition authority. The financial market is operated by Nasdaq OMX on the basis of a license from the Norwegian Financial Supervisory Authority.

The Forum of Nordic energy regulators (NordREG) has agreed to co-operate regarding the issues of the Nordic power exchange despite the fact that besides the Norwegian regulator NVE, the other Nordic Regulators have no legal mandate over the Nordic power exchange.

In 2011 NordREG and Nord Pool Spot agreed to found the Nord Pool Spot Regulatory Council to provide a forum for exchange of information and discussion on market development in the Nord Pool Spot market area. The objective of the Council is to extend the dialogue be-

⁶ Source Fingrid Oyj

tween Nord Pool Spot and the regulators in the region and also serve as a point for information from Nord Pool Spot to all relevant regulators.

As required by the Norwegian Stock Exchange Act and the related regulations on market surveillance, Nord Pool Spot has established its own market surveillance department. The department is responsible for monitoring trading activities and the conduct of participants both in the physical and the financial power market. The market surveillance is intended to ensure that the activities of the market actors are in line with the prevailing statutes and regulations as well as with the power exchange's own rules.⁷

All members in Nord Pool Spot have a contractual obligation to release information to Nord Pool Spot and general public on events which have a relevant effect to price formation in the Nord Pool Spot or in the financial market. Members have to report on any plans or changes of plans for maintenances or limitations of their production units. The same applies to any outage or failure concerning more than 100 MW, as soon as possible after the event has occurred.

Market participants have to report relevant information within 60 minutes to Nord Pool Spot. National information has to be reported to the TSOs as well. More information is available on Nord Pool Spot's website under Disclosure rules.

Nord Pool Spot has its insider trading rules for the spot and the financial market. Furthermore, Nord Pool Spot has rules for handling market sensitive information and guidelines for ethics in trading.

In June 2005, Nord Pool ASA (Nasdaq OMX acquired Nord Pool ASA in 2008) decided to introduce further measures to deter and penalise breaches of the trading rules at the power exchange – including the establishment of a disciplinary committee. The committee will contribute to ensure that safer and more appropriate reactions are applied against a market participant or participants involved in possible contraventions of the exchange rules.⁸

Furthermore, in Finland there are some national rules on disclosure of information. In the Electricity Market Act in Section 36 it is stated that: "A power plant operator shall notify the electricity market authority of a plan for constructing a power plant, of commissioning of a power plant and of long-term or permanent decommissioning of a power plant." Further provisions on the contents of the notification obligation and notification procedure are given by Government decree.

On the basis of Section 36a of the Electricity Market Act, the power plant operator is obliged to notify the Energy Market Authority of a planned maintenance outage of its power plant practising separate electricity generation, with an output of 100 MVA, which would take place between the 1st of December and the 28th of February. The notification shall be made at least six months before the planned starting date of the maintenance outage. The Energy Market Authority may order that the date of a maintenance outage of a power plant be rescheduled outside the period of the 1st of December and the 28th of February.

⁷ Source: Nord Pool ASA Annual Report 2004, p. 10.

⁸ Source: Nord Pool press release No. 12/05.07.05. Nord Pool establishes own disciplinary committee and increases violation charge. http://www.nordpool.com/information/press_releases/2006-003.html

The Section included in the Electricity Market Act concerning the notifications of planned maintenance outages has at least two objectives. Firstly, it is aimed at improving the knowledge on security of supply, and secondly, it is aimed at increasing the efficiency of the electricity price mechanism. Thus, the objective is to guarantee that the price of electricity is determined on the basis of supply and demand also in those situations when the supply of electricity is constrained – for instance due to low hydro reservoirs and/or increased demand – in the Nordic electricity market. The Section intends to make it more difficult to manipulate the market price and to enhance the possibilities to utilize the generation plants.

Competition supervision

The responsibility of supervising the electricity generation, wholesale supply and retail supply falls primarily to the Finnish Competition and Consumer Authority. The Electricity Market Act in Finland does not include any, or only a few, rules governing the generation and supply of electricity except supervision of retail supply under obligation to, the monitoring of security of supply and unbundling. On the basis of the Act on Competition Restrictions, the Finnish Competition and Consumer Authority has powers to investigate and give decisions on cases amounting to abuse of a dominant position.

The Finnish Competition and Consumer Authority works, among other industries, also in the electricity sector to promote healthy competition and to investigate antitrust and merger cases. In the Finnish Competition Act there are no special provisions related to the abuse of dominant position in the electricity market. The Finnish Competition and Consumer Authority's analysis is always case-specific and there are no universally applicable criteria which could be used in the decision making. The Finnish Competition and Consumer Authority's view is that energy sector cases should be assessed on equal standard with cases in other industries. Nor has the Finnish Competition and Consumer Authority gathered up any special information of the electricity markets.

There is a one special provision related to merger control on the electricity sector. The Market Court may, upon the proposal of the Finnish Competition and Consumer Authority, prohibit a concentration in the electricity market as a result of which the combined share of the transmission operations of the parties to the concentration and the entities or facilities in such a relation to them of the amount of electricity distributed at 400 V in the distribution grid exceeds 25 per cent on a national level. So far the Finnish Competition and Consumer Authority has not investigated a merger where this provision could have put into practise.

In the recent years the Finnish Competition and Consumer Authority has not investigated any significant cases considering abuse of dominant position except the Fortum acquiring E.ON Finland [COMP/M.3173](#) in the electricity sector.

The role of the Energy Market Authority in avoiding abuses and harmful dominance in electricity and gas market is based on maintaining equality and transparency in terms and pricing of transmission and distribution activity. The competitive sector of electricity sales is supposed to be self-conducting as long as the transmission and distribution work neutrally.

3.2.2 Retail market

Market structure

In 2012, there were 74 retail suppliers of which 44 offered their products nation-wide. Only a few electricity retailers are ownership unbundled from electricity network activities. Most of the legally unbundled electricity retailers still belong to same group of companies as a distribution system operator.

In Finland electricity retail supply does not require any license or registration at the Energy Market Authority. There are no regulated tariffs for retail supply that have to be approved by the Energy Market Authority or any other authorities.

However, according to the Section 21 of the Electricity Market Act an electricity retailer in a dominant position within the area of responsibility of a distribution system operator shall deliver electricity at reasonable prices to consumers and other users of electricity whose place of use is equipped with main fuses of 3x63 amperes at maximum or whose site of electricity use receives annually no more than 100,000 kWh of electricity (obligation to deliver). If an electricity retailer referred to above does not exist, the obligations of an electricity retailer in a dominant position shall be applied to an electricity retailer whose market share is the highest in the area of responsibility concerned (distribution network area). An electricity retailer in a dominant position shall have terms of retail sale and prices, and the criteria underlying these that are publicly available to the customers encompassed by the retailer's obligation to deliver. They shall not include any unreasonable conditions or limitations that would restrict competition within electricity trade. The Energy Market Authority may order the retailer referred to here to deliver electricity to the customers within the obligation to deliver.

The prices of electricity within the obligation to supply system do not have to be approved by the regulator before the supplier takes them into use. By virtue of the Electricity Market Act (Section 21) the Energy Market Authority may investigate either on the basis of a complaint or at its own initiative the pricing of electricity. In 2012 the Energy Market Authority did not made such investigations.

There are 67 electricity retailers having the obligation to supply within at least one distribution network area of responsibility.

The Energy Market Authority has estimated that about 4 electricity retailers have larger than 5 per cent share of retail market. However, the exact market shares of individual retailers are not available. The market share of the three largest companies in the retail market for small and medium-sized customers has been estimated as 35-40 per cent

During 2012 there were 6 electricity retailers in the Finnish electricity retail market without obligation to supply. These retailers are fully independent from the Finnish network companies.

Table 4. The largest companies in the electricity retail market (market shares according to energy sold to end users connected to the distribution network).

	Total retail consumption (TWh)	No. of companies with >5% retail market	Number of fully independent suppliers (1)	Market share of three largest retail companies (%)		
				large and very large industrial	small-medium industrial and business	very small business and household
2003	45.5	4	< 5	N/A	35-40	
2004	45.9	5	< 5	N/A	35-40	
2005	46.3	5	< 5	N/A	35-40	
2006	47.9	4	< 5	N/A	35-40	
2007	48.2	4	< 5	N/A	35-40	
2008	49.2	4	< 5	N/A	35-40	
2009	50.6	4	< 5	N/A	35-40	
2010	50.0	4	< 5	N/A	35-40	
2011	47.7	4	5	N/A	35-40	
2012	51.3	4	6	N/A	35-40	

Monitoring the level of prices, the level of transparency, the level and effectiveness of market opening and competition

The retail prices are not regulated in Finland. The electricity supplier must provide the Energy Market Authority information on prices which are applied when selling electricity to the customers whose main fuse is max 3x63 amperes or whose consumption is below 100,000 kWh. In line with the Articles 37(1)(i) and 37(1)(j) the price information is regularly analysed in order to aid market development and made publicly available in easily comparable form in the Energy Market Authority's price comparison web service (www.sahkonhinta.fi).

The price of electrical energy available to households on the basis of competitive tendering decreased in 2012 until late summer, but in the autumn the prices started to rise. At the end of the year prices were slightly below the level of the beginning of the year. The price of electrical energy under obligation of supply paid by household consumers decreased in 2012 by an average of 2.7 per cent and that paid by electrically heated households by 2.2 per cent. At the end of the year the prices were in an upward trend due to the normal seasonal variation and the decline of the hydropower situation in Norway and Sweden. In 2012, the electricity network charges exclusive of tax paid by households increased by 2.8% per centon average.

The estimated national average electricity prices during the second half of 2012 for three reference customer bands defined by Eurostat are shown in Table 5. Energy costs and supply margin for household customer at the table are based on public energy tariffs. Negotiated and actual energy prices might differ marginally from the ones presented here.

Table 5. Electricity prices (cent/kWh) for reference customer bands during period 1.7-31.12.2012.⁹

Euro/MWh	Band Dc	Band Ib	Band Ie
Network charges (excl. levies)	4.85	3.07	0.58
Levies included in network charges	-	-	-
Energy costs and supply margin	6.13	5.08	4.71
Non-recoverable taxes*	4.74	0.70	0.70
Total	15.72	8.85	5.99

*For households electricity tax and VAT, for industry electricity tax only

The Energy Market Authority monitors that all necessary information is available to all retail market participants and overlooks that retail market sellers follow the transparency requirements set by the Electricity Market Act. Monitored parameters include price level and spread and, switching rates. The Finnish Market Authority publishes statistics on electricity prices monthly and switching rates three times per year.

In collaboration with other NordREG members the Energy Market Authority also prepares annually a report on Nordic electricity markets, which compares the above mentioned parameters across the Nordic markets.

In line with the Articles 37(1)(k) and 37(1)(l) contractual issues are dealt with case-specifically in co-operation with the Consumer Agency and contractual freedom, compatible with Community law, is respected.

Since 2007 the Energy Market Authority has collected information on supplier switching from the distribution system operators. In 2012, the estimated number of customers that switched their supplier was about 236,000. The overall switching rate in 2012 was 7.7 per cent. The overall switching rate remained at the same level as in the previous year. Enterprises and households with moderate or high consumption have been more active in switching than other user groups, though the switching rate among these customer groups decreased in 2012. Table 6 shows the supplier switching rates in 2006 - 2012.

Table 6. The share of customers who have changed the supplier.

	Households and other permanent dwellings		Other customers		Total
	< 10000 kWh/a	>10000 kWh/a	Max 3x63 A	>3x63 A	
2006	3.1 %	7.7 %	3.8 %	7.7 %	4.2 %
2007	3.0 %	6.8 %	3.3 %	8.0 %	4.0 %
2008	3.4 %	5.6 %	2.8 %	6.2 %	4.4 %
2009	7.2 %	10.9 %	5.1 %	11.6 %	8.1 %
2010	8.0 %	10.5 %	4.8 %	12.6 %	7.6 %
2011	7.0 %	11.7 %	4.7 %	14.1 %	7,6 %
2012	7.0 %	9.5 %	7.0%	10.3 %	7.7%

⁹ Prices are based on the new methodology by Eurostat for collecting electricity prices from 2007 onwards. Prices are average of the 6 months. Definitions for reference customer bands are:

- Band Dc: household customers with annual consumption of 2 500-5 000 kWh/year,
- Band Ib: commercial customers with annual consumption of 20-500 MWh/year and
- Band Ie: commercial customers with annual consumption of 20-70 GWh/year.

The Energy Market Authority does not collect data on the shares of different types of customer contracts. However, the most typical contract for household customers is a contract made for an indefinite period that may be terminated with two weeks' notice. There are also fixed-term contracts with the most common duration being one or two years. If a fixed-term supply contract has been concluded outside the obligation to supply with a consumer for a period longer than two years, the consumer may terminate the contract after the period of two years in the same way as he may terminate a contract that is valid indefinitely.

In the national level the legal provisions on information exchange between the parties are set forth in the Decree, issued by the Ministry of Employment and the Economy in December 2008. It is supplemented by the branch organisation's recommendations. These rules set the framework for the information exchange during the supplier switching: what kind of information and in which timetable the new supplier and the DSO have to send to the other market actors and also what are the conditions for the present supplier to reject the supplier switching process. According to the decree, it is also required that the market actors shall ensure before taking into use that their information exchange systems are able to send and receive standard protocol messages.

According to the decree and recommendations the new supplier shall notify the network operator about the new contract. This notification shall be done at the earliest three months and at the latest 14 days before the contract enters into force. If metering changes are needed in the consumption site, a notification shall be available to a network operator at the latest 30 days before. However, the Energy Market Authority has not collected statistical information on actual time delays for switching.

Recommendations on supply prices, investigations and measures to promote effective competition

The Energy Market Authority has not given any direct recommendations on supply prices. However, the Energy Market Authority it publishes monthly statistics on retail and network prices in order to promote competition and public market analysis. In addition, according to Article 37(1)(o) all necessary information on supply prices is provided to the Finnish Competition Authority if needed.

The Energy Market Authority is granted the powers to impose necessary and proportionate measures to promote effective competition and to ensure the proper functioning of the energy market in the Chapter 9 of the Electricity Market Act. The objective of the Electricity Market Act is to ensure the prerequisites for the effective function of the electricity market and thereby ensure a sufficient supply of energy at reasonable prices and quality. The primary way to achieve the goal is to safeguard healthy and functioning competition in electricity production and sales as well as to obtain a fair and equal service in all network activities.

The Energy Market Authority also has the right to cooperate with the Finnish Competition Authority, the Financial Supervisory Authority and the Commission. According to Section 10 of the Administrative Procedure Act of Finland (434/2003) an authority shall provide the requested assistance, within its competence and as required by the nature of the matter, to another authority for taking care of an administrative matter; it should also otherwise promote inter-authority co-operation.

To promote effective competition in the electricity retail market the Energy Market Authority has maintained since 2006 a web-based tariff calculator designated to facilitate price comparisons and supplier switching. All retail suppliers are obligated to maintain up-to-date information on their public electricity price offers on this website. In 2012 the utilisation of the comparison system was roughly at the same level as during the previous year. An open interface was also implemented in order to support third party maintained comparison systems.

The primary way the customers use this service is by making searches. Especially after substantial price increases and when electricity market issues are the focus of media's attention, there occurs a peak in the number of searches. The system has also been developed to inform customers better about the origin of the electricity.

Since 2005 Nordic energy regulators have been working to promote and facilitate a common end-user market for electricity in Finland, Denmark, Sweden and Norway. The main objective for the end-user market integration is to minimize the regulatory and technical obstacles for the suppliers willing to operate in the various Nordic countries. The Energy Market Authority has actively continued working towards that target during 2012.

3.3 Security of supply

During the year 2012 Finland has not implemented any safeguard measures as mentioned in the Article 42.

3.3.1 Monitoring balance of supply and demand

The Energy Market Authority has a responsibility for monitoring the security of supply situation for electricity.

The Energy Market Authority maintains information on generation and interconnector capacity, while the Ministry of Employment and the Economy has the responsibility for preparing the estimates for the demand. In 2012 there were no changes in these competences.

Based on consumption estimates given by the Ministry of Employment and the Economy the peak load demand in the next winter season 2013 - 2014 would be 15,300 MW. Total demand for electricity in Finland in 2020 is estimated to be about 93 TWh. In year 2030 total demand for electricity is estimated to be about 102 TWh and peak load demand in winter 2029 - 2030 17,000 MW. Table 7 presents the short term estimation of peak load demand while Figure 7 presents the long term estimations of peak load demand and generation capacity balance during wintertime.

Table 7. Short term forecast for peak load demand. Source: Ministry of Employment and the Economy

Winter season	2013-2014	2014-2015	2015-2016
Estimated peak load, MW	15,300 MW	15,400 MW	15,500 MW

In the years 2013 - 2015, domestic electricity generation capacity will not be sufficient to cover the electricity consumption during peak consumption periods in a normal year. Dependency on imports will significantly decrease once the new nuclear power plant unit (Olkiluoto 3) has been completed. Originally the new unit should have been commissioned by the end of 2009, but the present estimate of commissioning the plant is 2015. In the years 2015 - 2016 the peak load balance is assumed to be neutral.

Figure 7 presents the long term forecast for peak load demand and generation capacity balance during wintertime for the years 2010-2030.

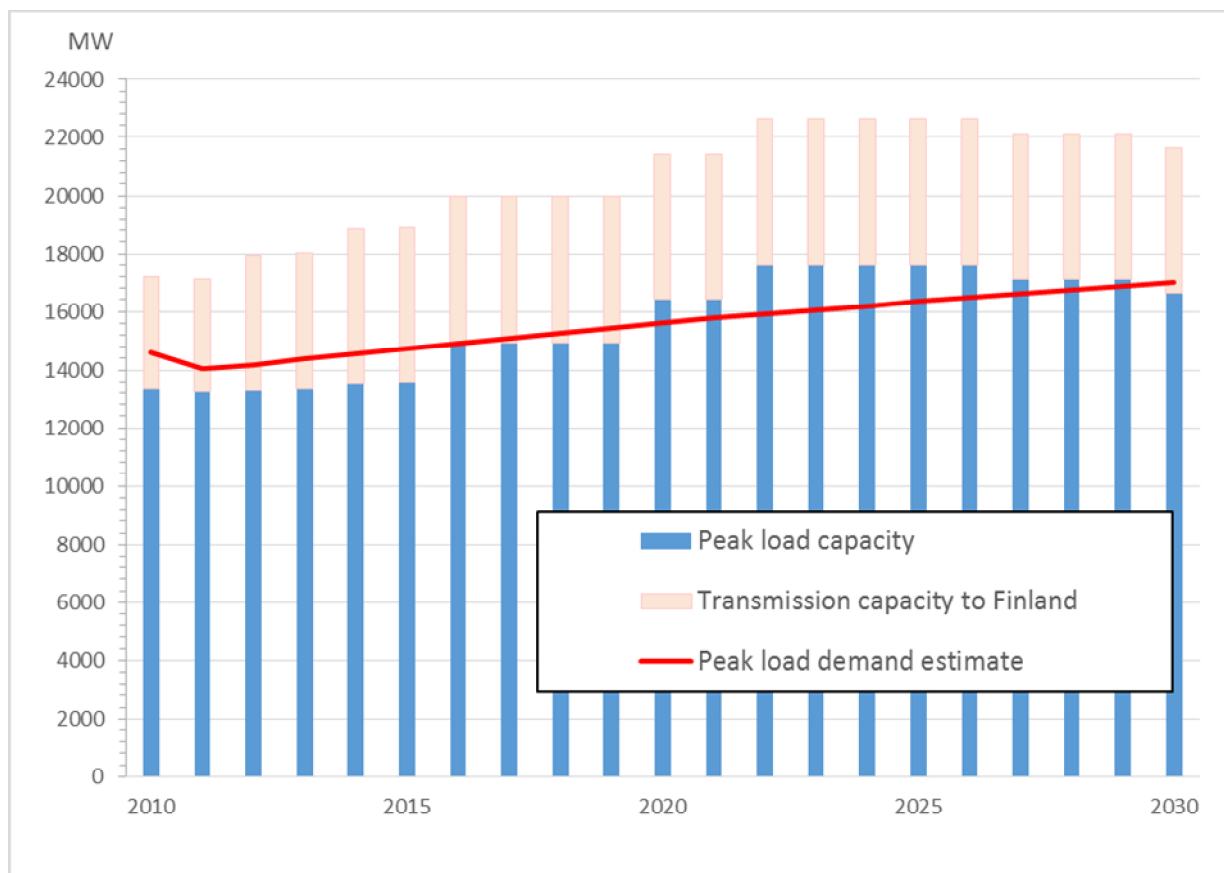


Figure 7. Long term forecast for peak load demand and generation capacity balance during wintertime for the years 2010-2030

3.3.2 Monitoring investment in generation capacities in relation to security of supply

The total available generation capacity during the winter season 2012 - 2013 was about 13,300 MW. The capacity included 600 MW of condensing power capacity that was not available for the Nordic spot market in 2012. This capacity was kept as a strategic reserve for peak loads.

Total installed generation capacity in Finland was about 17,260 MW in the end of 2012. Installed wind generation capacity was 287 MW at the same time. However, the available amount of wind generation in peak load period in winter is assumed to be negligible. Estimated available generation capacity in the winter season 2013 - 2014 is about 13,350 MW.

Table 8. Electricity Generation Capacities in Peak Load Period, MW

	Separate Electricity Generation			Gas turbines and engines	Combined Heat and Power		Capacity of power stations	Power system reserves
	Hydro power	Nuclear power	Condensing power		Industry	District heat		
2001	2,460	2,640	4,000	800	1,610	3,400	14,910	..
2002	2,480	2,640	3,990	800	1,780	3,420	15,110	..
2003	2,490	2,680	3,200	20	2,180	2,910	13,480	1,030
2004	2,500	2,680	3,200	20	2,200	2,900	13,500	1,080
2005	2,520	2,680	3,200	10	2,290	2,900	13,600	1,080
2006	2,550	2,680	3,200	10	2,290	2,920	13,650	1,060
2007	2,350	2,720	2,800	10	2,450	2,790	13,120	1,046
2008	2,350	2,700	2,650	-	2,450	3,150	13,300	1,180
2009	2,350	2,700	2,650	-	2,450	3,150	13,300	1,180
2010	2,550	2,700	2,200	-	2,300	3,350	13,100	1,180
2011	2,575	2,730	2,200	-	2,365	3,490	13,360	1,240
2012	2,595	2,750	2,045	-	2,370	3,490	13,155	1,240
2013	2,610	2,765	2,045	-	2,330	3,550	13,300	1,556

Generation fuel mix for energy from the year 2012 is presented in Figure 8. During the next year it is not expected to be any significant changes in fuel mix for power generation in Finland.

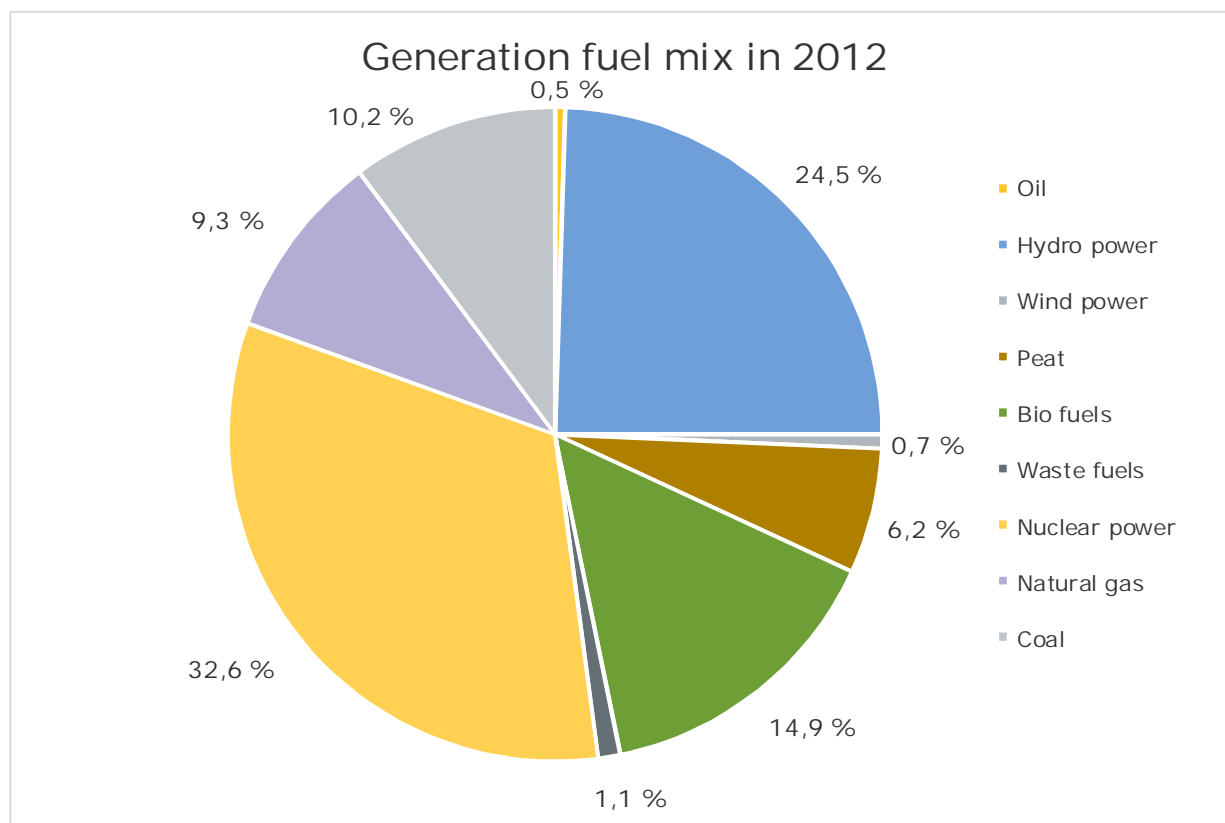


Figure 8. Generation fuel mix for energy (TWh) in 2012. Source: Finnish Energy Industries.

Electricity production capacities under planning or construction at the moment are presented in Table 9.

Wind power capacity is targeted to increase up to 2,500 MW by year 2020. Main reason for increase is Finland's new feed-in tariff system. Feed-in tariff is available for wind power, bio-gas and wood-driven power capacity. About 1,400 MW of condensing power capacity will reach age close to 45 years in 2020. It's assumed that capacity would be decommissioned in years 2016-2023.

Table 9. Forthcoming new generation capacity in 2013-2015

MW	Hydro	CHP		Nuclear power	Wind Power
		District heating	Industry		
2013	33	34	-	-	174
2014	23	82	-	-	110
2015	26	12	-	1600	

Monitoring investments in transmission lines

Fingrid is building the second DC interconnector, EstLink 2, between Estonia and Finland. The capacity of the transmission link is 650 MW and the costs of the project total approx. EUR 320 million. The submarine cable is built in co-operation with the Estonian transmission system operator Elering. The project received an investment subsidy of EUR 100 million from the European Union. At present, there is one 350 MW DC connection between Finland and Estonia. The new transmission link will increase the total electricity transmission capacity between the countries to approx. 1,000 MW. The new interconnector will also increase the supply security of electricity in the Baltic Sea region. The goal is that the new link will be brought to commercial operation at the beginning of 2014.

3.3.3 Measures to cover peak demand or shortfalls of suppliers

The Capacity Reserve Act

The Act on Peak Load Reserves to Ensure Balance Between Supply and Demand (so-called Capacity Reserve Act) came in to effect on March 1, 2011 and replaced the previous act. Peak load reserve is a strategic reserve and it's used to ensure that the balance between supply and demand is achieved if the balance has not been achieved in commercial market i.e. Nord Pool Spot. However, the peak load reserve plants aren't allowed to participate and bid on the commercial market. The Capacity Reserve Act has increased the role of the Energy Market Authority. According to the act the Energy Market Authority evaluates and decides the required size of the peak load reserves arranges the tendering process and makes the procurement decisions. The Energy Market Authority also supervises the profit of the peak load power plants.

During the peak load season, from December to end of February, peak load reserve power plants are in 12 hour readiness. Otherwise power plants are in one month readiness. The use of peak load reserve power plants is very rare, for example during the winters 2011-2012 and 2012-2013 peak load reserve power plants weren't used at all.

The power plants selected will receive fixed compensation for acting as a reserve. The Finnish TSO, Fingrid is responsible for making agreements with the selected power plants and Fingrid pays the compensations to the power plants. The peak load reserve system is funded by the fees collected from the Finnish electricity end-users. The Energy Market Authority has approved terms and conditions for the use of peak load reserves and the methodology for collecting payments from the electricity users to cover costs of this system in 2011. These terms and conditions were updated during the year 2013.

The tendering process of peak load reserve power plants was carried out by Energy Market Authority first time during the spring 2011. Three units were selected to comprise peak load reserve of total 600 MW for the period of from October 1, 2011 until June 30, 2013. During the years 2012-2013 the Energy Market Authority evaluated the total capacity of peak load reserves and decided to decrease the capacity. As a result of second tendering process two units were selected to the peak load reserve. These two units comprise reserve of total 365 MW for the next two year period from 1.7.2013 onwards. From 1.12.2013 onwards it is possible also for consumption reduction (demand response) to act as a peak load reserve capacity.

Responsibilities of TSO regarding security of supply and operational security

The transmission system operator Fingrid secures the system operation in Finland by delivering the following services:

- Maintenance of operational security
- Maintenance of frequency (by power reserves)
- Maintenance of voltage
- Data exchange to maintain operational security

Maintenance of operational security implies that power system is planned and operated in a way that the impacts of disturbances are minimised. Here the grid planning, transmission limits, disturbance management and reserves (frequency controlled and fast disturbance reserves, black start reserves) are considered.

The power system in Finland is planned in accordance with principles agreed jointly between Nordic TSOs in Nordic Grid Code¹⁰. The main planning principle is that the power system has to withstand any single fault (n-1 criteria). A dimensioning fault (worst possible fault) varies on the basis of the operational situation of the Finnish grid, but is often the tripping of the largest production unit or an extensive busbar fault.

Electricity transmission in the main grid are kept during real time operation within the predefined limits given by operational reliability calculations, which take into account potential faults and planned outages in the power system. The transmission limits are defined for each probable fault and network situation. Short-term congestion problems in the main grid are managed commercially through counter trade, and long-term congestions are managed by applying price areas or by investments in the grid.

The Nordic electricity grid is synchronously interconnected and the frequency is allowed to vary in normal state between 49.9 and 50.1 Hz. The frequency controlled normal operation reserve and frequency controlled disturbance reserve are power reserves which are activated automatically by frequency changes. Within the Nordic power system, it has been agreed that

¹⁰ Available on website www.entsoe.eu

countries maintain continuously a total frequency controlled normal operation reserve of 600 MW for frequency control in a normal state. Of this volume, Finland's share is presently 140 MW.

For disturbance management purposes, both power and transmission reserves are maintained in the Finnish power system. TSO is responsible for the maintenance of reserves that are needed in the Finnish power system. For this, TSO uses its own resources and also purchases reserve maintenance from other resource owners. Restoration of the power system from severe disturbance incidents is headed by TSO's Power System Control Centre.

The frequency controlled disturbance reserve begins to activate when frequency goes below 49.9 Hz, and the full reserve has been activated at a frequency of 49.5 Hz. The frequency controlled disturbance reserve used includes both active power reserves of power plants and load shedding. During a normal operational situation, the interconnected Nordic system is required to have approximately 1,000 MW of frequency controlled disturbance reserves, of which Finland's obligation is approximately 260 MW.

The fast disturbance reserve consists of active and reactive power reserves that can be activated manually within 15 minutes. After activating this reserve, the power system has been restored to such a state that it can withstand another potential disturbance. In the Nordic grid, each country must have a volume of fast disturbance reserve that equals the country's dimensioning fault. In Finland, this volume is normally 880 MW.

Table 10 presents summary of reserves for securing system operation in Finland. A new fast disturbance reserve plant of total 300 MW was completed in autumn 2012 in the city of Forssa. The need of fast disturbance reserves in Finland is increasing when new nuclear power plant Olkiluoto 3 (1600 MW) will be completed. Tripping of Olkiluoto 3 will be the biggest production unit and new dimensioning fault of the Finnish power grid.

Table 10. Summary of reserves for securing system operation 2012 in Finland (Source: Fingrid Oyj).

Type of reserve	Contractual capacity	Obligation
Frequency controlled normal operation reserve	- Power plants, 148 MW - Vyborg DC link, 100 MW - Estonia DC link, 50 MW	140 MW
Frequency controlled disturbance reserve	- Power plants, 607 MW - Load shedding, 40 MW	260 MW
Fast disturbance reserve	- Gas turbines, 1229 MW - Load shedding, 405 MW	880 MW

The voltages in the power system are maintained at a technically and commercially optimal level during both normal and disturbance situations. The objective of voltage level and reactive power adjustment is to prevent overvoltage and undervoltage, to achieve nominal voltages specified in agreements (110 kV network) and to minimise the grid losses. The voltage level in the Finnish transmission grid is adjusted by using reactors and capacitors. The voltage ratio between different voltage steps is controlled with on-load tap changers of transformers.

Instantaneous reactive power reserve is also needed in order to secure the technical functioning of the Finnish power system during the disturbances. The reactive power reserves of the main transmission grid are located in synchronised generators. Reactors and capacitors also

serve as reserves. Reactive power reserves are activated automatically when the voltage in the grid decreases as a result of a disturbance. Compensation is paid to power producers for reactive power reserves reserved in generators.

TSO takes care of data exchange required by the maintenance of operational reliability in the power system. TSO and parties connected to the grid supply each other with planning and measurement data needed in the maintenance of operational reliability. Such data includes production plans, generator power measurements, and status data on generator circuit breakers and connecting stations. If necessary, the amount of data exchanged and the technical details of data exchange are agreed upon between TSO and the other party through a separate data exchange agreement.

4. The gas market

The Finnish natural gas market has been under sector-specific regulatory supervision since the assertion of the Natural Gas Market Act in August 2000. The Natural Gas Market Act was amended at the beginning of the year 2005 to implement the Natural Gas Market Directive (2003/55/EC). The Natural Gas Market Act aims to improve the functioning of the natural gas market and to prepare the natural gas sector for the integrating European natural gas market. The Act provides large-scale consumers, buying at least 5 million cubic metres of natural gas per year, with the possibility of mutual secondary market trading in natural gas they have purchased from an importer operating in Finland. A separate market place, operated by Kaasupörssi Oy, has been established for trading gas on the secondary market.

The Finnish natural gas market is relatively isolated with a pipeline connection only to the importing country Russia. There is only one importer and wholesale supplier – Gasum Oy – which also owns and operates the natural gas transmission network and is the TSO.

Accordingly, Finland has availed itself of the possibility of a derogation allowed by the Natural Gas Market Directive. Following this, the natural gas market has not been opened in the manner specified in the directives. This exemption is effective as long as Finland does not have a direct connection to the natural gas network of any other EU Member State and as long as Finland has only one main natural gas supplier.

No major changes have taken place in the operating environment of the Finnish natural gas market in the recent years. In a European comparison, the Finnish natural gas market is highly exceptional.

There were 22 local natural gas distribution network operators at the end of the year 2012. As can be seen from the Figure 9, all the Finnish natural gas DSO's and the consumption sites of natural gas are situated in the southern part of the country along the main transmission pipeline.

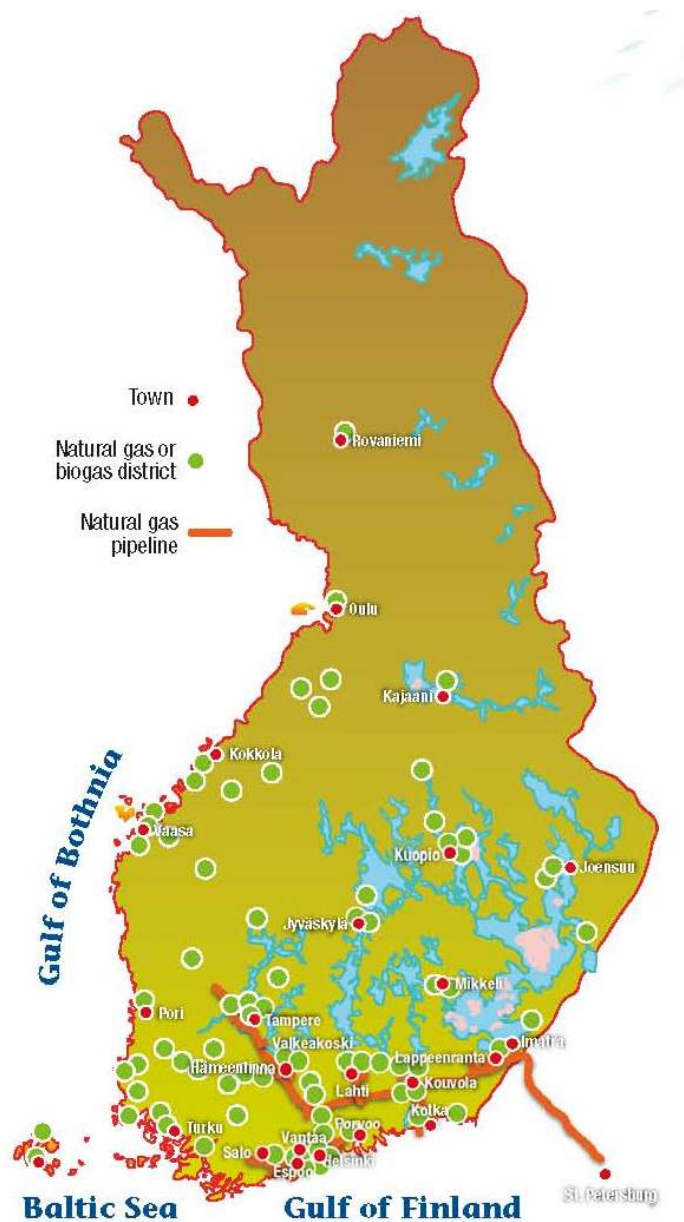


Figure 9. Map of natural gas network in Finland (source: Finnish Gas Association)

Due to the limited extent of the Finnish natural gas network the development of the Finnish natural gas market will require further extension of the pipeline system. There have been plans to extend the gas pipeline to the western coast of Finland but any decision has not been made. Increasing the volume of the gas market would be important in making additional import connections economically viable.

The Finnish gas TSO, Gasum has proposed to build up a LNG terminal on the coast of the Gulf of Finland and construction of a pipeline connection (Baltic connector) between Finland and Estonia. If these projects will materialize, the derogation enjoyed by the Finnish gas industry should be put under scrutiny.

4.1 Network regulation

4.1.1 Unbundling

Finland has availed itself of the possibility of an exemption allowed by the Natural Gas Market Directives and thus there is neither legal nor operational unbundling of natural gas transmission network operation. Furthermore, Finland has not applied legal and operative unbundling in distribution network operations because Member States are free to decide that the unbundling provisions are not applied to network operators with fewer than 100,000 customers. All Finnish distribution system operators fall below the limit set by the Directive.

As a result of this, the natural gas market in Finland is characterized by vertical integration. The only wholesale supplier of natural gas – Gasum Oy – is the sole importer and operator of the transmission system. Furthermore, it is downward vertically integrated into retail supply and distribution network operation by owning one natural gas distribution system operator and retail supplier. Gasum Oy is owned by Fortum Heat and Gas Oy (31 per cent), OAO Gazprom (25 per cent), State of Finland (24 per cent) and E.ON Ruhrgas (20 per cent). Gasum is

Approximately 80 per cent of the Finnish gas DSOs are wholly or mainly owned by municipalities. The rest 20 per cent of the DSOs are owned by industrial users of natural gas. In Finland the retail supply of natural gas is operated in all the DSOs within the same company as distribution. There is no natural gas production in Finland.

As Finland has derogation from the unbundling requirements of the Directive, the certification of the natural gas TSO has not been done in Finland.

The accounting unbundling applies to all natural gas system operators. The accounting unbundling is also required in the companies, which have other activities besides natural gas network business if these activities are not relatively small. As a relatively small activity has been considered business activities whose annual revenue is less than 10 per cent of total revenue of the company's natural gas supply operations.

Accounting unbundling requirements are specified with the ministerial degree and the Energy Market Authority has issued the guidelines on the compilation of unbundled financial statements in 2005. These guidelines are not legally binding but they show the procedure the Energy Market Authority considers fulfilling the requirements of the legislation. Both the distribution system operators and the transmission system operator are under the obligation to publish unbundled accounts with certain formula. They shall publish the unbundled financial statements as a part of the statutory financial statement.

The unbundled income statements, balance sheets and any supplementary information of separated operations are audited as part of the statutory auditing. The accounts are not subject of a separate audit and this audit is not addressed to the requirements of the regulator in any extent. Auditors are required to give their opinion in the auditor's report on whether the income statements and balance sheets and the supplementary information conform to Natural Gas Market Act and any rules and regulations related to it.

The Energy Market Authority has issued the guidelines in co-operation with chartered accountant on the auditing of unbundled financial statements in 2006. These non-binding guide-

lines aim to help the audit of unbundled financial statements in different electricity system operators and inform the auditors about the unbundling requirements.

The Energy Market Authority supervises that the network companies are fulfilling the unbundling requirements. The Authority has also powers to oblige the companies to correct mistakes or omissions. A conditional fine may be imposed to make decisions effective. As a final mean the Energy Market Authority may also withdraw the network license from the company.

4.1.2 Technical functioning

In the natural gas sector, there are 23 local distribution network operators and one transmission system operator.

On the basis of statistics in year 2012 delivered by the natural gas distribution system operators to the Energy Market Authority it can be concluded that interruptions of supply on the distribution level were minimal with total of 4 interruptions in distribution companies. In the Finnish natural gas transmission network there were no unplanned service interruptions during year 2012.

4.1.3 Network and LNG tariffs for connection and access

Regulation of network tariffs for connection and access

According to the Natural Gas Market Act, the network operators are able to set the actual network tariffs and charges by themselves. There is no ex-ante approval of tariffs or prices of network services by authorities.

The Energy Market Authority confirms ex-ante the methodology to be used in setting both transmission and distribution network tariffs and connection charges. The Energy Market Authority has to approve ex-ante also the terms and conditions of network and connection services before the network operators are able to implement them.

The methodology of setting gas transmission and distribution network tariffs is confirmed by the Energy Market Authority prior to each regulatory period. Prior to confirming the methodology the regulator publishes the guidelines on details of the methodology and organises public consultation on the guidelines with the stakeholders. After the regulatory period has ended the Energy Market Authority will validate the earnings of each network operator in its supervision decisions for the regulatory period, and will confirm the amount of any accrued earnings that exceed or fall short of reasonable earnings for the regulatory period. Where necessary, the supervision decisions will include an obligation to return to the customers any wind-fall profit for the completed regulatory period through pricing for the new regulatory period. The supervision decisions will correspondingly confirm that the network operator may allow in its pricing for the new regulatory period, for the amount by which the earnings accruing to the network operator from the previous regulatory period fell below the reasonable earnings level.

The network system operator may, during individual years within the regulatory period, gain earnings from its operations that are higher than the earnings considered reasonable in line with the confirmed methodology without intervention by the regulator. The pricing shall be reasonable when viewed over the regulatory period as a whole.

The length of regulatory periods is four years. In September 2009 the Energy Market Authority confirmed the methodology for the second regulatory period in 2010 – 2013. The Energy Market Authority validated the realized profits of network operations for 2006 – 2009 and gave a decision on reasonable pricing for the first regulatory period the fall of 2010.

According to Section 1a of Chapter 7 of the Natural Gas Market Act the methodology confirmed by the regulator may include the following items:

- method for the valuation of regulated asset value
- method for determining approved rate of return on capital
- method for determining realised profit of network operations
- method for setting efficiency targets for network operations

The confirmed methodology of setting network tariffs in 2010 – 2013 includes all items mentioned above, besides efficiency targets for distribution network operations.

The network will be included into the regulated asset value as the net present value instead of a book value. The net present value of network will be updated annually by taking into account depreciation and investments. The approved rate of return on capital is determined by using a WACC-model (Weighted Average Cost of Capital) and will be updated annually. The methodology provides incentives to the transmission and distribution system operators to develop their network as all network investments are included into regulated asset base. For natural gas TSO the confirmed methodology includes also incentives to maintain and improve its cost efficiency and security of supply level.

The Energy Market Authority collects annually from the network operators several kinds of data of network operations, like tariffs of network services, financial information and technical key figures. Annually collected technical key figures include i.e. information on quality of supply. The Energy Market Authority has also powers to ask additional information from the transmission and distribution system operators on network operations for the supervision purposes.

According to the natural gas market legislation, charges of transmission and distribution services shall be public. TSO and DSOs shall have public charges and terms and conditions for network services.

4.1.4 Cross-border issues

The Finnish natural gas transmission network is only connected to the Russian natural gas pipeline. In Finland there is only one natural gas wholesale company, Gasum Oy. The company imports natural gas and transmits it through its own transmission network to large-scale consumers and distribution companies. Gasum Oy is also the owner of the Finnish side of the natural gas interconnector between Finland and Russia.

Due to the fact that there is only one undertaking acting at the same time as an importer, a wholesale supplier and a transmission system operator, there is no need for specific management of interconnection capacity or congestion.

4.1.5 Compliance

According to the Finnish legislation the Energy Market Authority shall supervise that the natural gas transmission system operator, distribution system operators and suppliers are compliant with the provisions of the Natural Gas Market Act and any rules and regulations issued under it.

As according to the Article 49(1) Finland has a derogation from the Article 9 of the Directive 2009/73/EC there are no legal obligations for the certification of the Finnish natural gas transmission system operator, Gasum Oy. Therefore also provisions in Article 41(3) and Article 41(5) are not relevant for Finland.

The Energy Market Authority ensures compliance of natural gas transmission and distribution system operators with their obligations under the Directive and other relevant Community legislation as required in Article 41(1)(b) by using mainly ex-post supervision. Investigation may start based on a request from any market actor or on the Energy Market Authority's own initiative. In 2012 any such investigation cases were not started.

According to the Natural Gas Market Act the official of the Energy Market Authority has the right to perform an inspection in the premises occupied by a body or an establishment carrying out the activities supervised in order to carry out the surveillance duty under the Natural Gas Market Act and to supervise the compliance of the confirming or obliging decisions made by the Energy Market Authority. However, an inspection may not be carried out in premises within the scope of domestic peace. A body or an establishment carrying out activities to be supervised shall, on demand, present the documents and files in its data systems to the official performing an inspection and provide access to the electrical apparatus and equipment that can have a meaning for the supervision of the compliance with the rules or regulations issued by virtue of the Natural Gas Market Act. The official performing the inspection has the right to take copies free of charge of the documents to be inspected as well printouts of the files in the data systems.

On the basis of the Natural gas Market Act and the provisions under it, the Energy Market Authority is empowered to oblige a natural gas system operator or a retail supplier to correct his mistake or omission. The Energy Market Authority has powers to order in the obliging decision how the mistake or omission should be mended. The obliging decision may also include an order to refund customer a fee incorrectly charged from him. The Authority may also impose a conditional fine to make a decision effective. Thus the powers of the Energy Market Authority are compliant with the Article 41(4)(a)(b)(c)(e).

The present natural gas market legislation does not include any provisions to power the Energy Market Authority to impose or propose a competent court to impose penalties or any administrative fines to network system operators or other natural gas market actors for the non-compliance with their obligations pursuant to the Natural Gas Market Act or the Regulation as required in the Article 41(4)(d). However, with the new legislation this will be changed in autumn 2013 and the Energy Market Authority will receive also powers to propose the Market Court to impose penalty payments to network system operators or other natural gas market actors in line with the Article 41(4)(d).

In 2012 there were no such cases where the Energy Market Authority should follow the binding decisions of the Agency or the Commission according to the Article 41(1)(d) or guidelines according to the Article 43.

4.2 Promoting Competition

4.2.1 Wholesale market

In the year 2012, the size of the Finnish natural gas market was 3.5 Bcm (3.9 Bcm in 2011, at 0 °C), which was all imported from Russia. Only propane is produced indigenously as it is the only gas to be stocked in small amounts for immediate substitute for the possible lack of natural gas. The importing capacity is estimated to be about 9,500 MW, so the maximum transmission capacity is often at use in cold winter days. Maximum 24-hour use was 20.1 Million m³ on February 2th, 2012.

The Russian natural gas exporter Gazprom and Gasum Oy has entered into an agreement for Russian natural gas exports to Finland until the 31st of December 2025. The agreement marks a substantial increase in gas sales to Finland, with an annual level of 6 Bcm.

Wholesale price monitoring

Pricing of the energy sales of natural gas is based on the natural gas supply contract between Gasum and Gazprom's subsidiary company Gazprom Export. The supply contract is based on the special structure of Finland's natural gas market, which reflected in the fact that the price of natural gas follows not just changes in oil prices, but also fluctuations in the price of coal and domestic market energy prices.

The wholesale supply of natural gas to the large Finnish end-users and retailers is based on cost based contracts between Gasum Oy and the customers. A majority of the customers by natural gas from Gasum Oy based on a public tariff, which Gasum Oy renews at the intervals of 4 years. A small number of contracts have been concluded before the year 1992, when the new type of competition legislation came into force prohibiting the previously used non-public pricing methods as an example of abuse of a dominant position.

In 2012, the share of wholesale supply sold under public tariffs was about 75 per cent. The whole contract-based trading covers some 90 per cent of the wholesale market. Additionally, Gasum Oy offers short term products that are sold on the Kaasupörssi Oy. Since 2002 there has existed a secondary market operated by Kaasupörssi Oy, which is a subsidiary of Gasum Oy. Members in the secondary market represent all the major gas users in Finland.

Kaasupörssi Oy maintains the Gas Physical Forward (GPF) market which includes both the secondary market of gas and the market of additional gas purchased from Gasum for short-term needs. In 2012 the total volume in the GPF market was 2,636 GWh, about 8 per cent up from 2,445 GWh in 2011. Total number of transactions in the GPF market was 111,000 in 2012 (92,000 in 2011). The volume in the secondary market constitutes two per cent of the total Finnish natural gas market.

The natural gas energy charges rose by 1.6 per cent from January 2012 to January 2013 in wholesale trade. The price of natural gas increased because the price of oil remained high despite the economic downswing. The price of natural gas energy is index-linked to the price of

heavy fuel oil and the price of imported coal as well as to the domestic energy index published by Statistics Finland. The natural gas transmission price exclusive of tax was increased by 2.4 per cent at the beginning of 2012.

According to the Natural Gas Market Act the supplier in a dominant market position in a natural gas network shall supply natural gas at a reasonable price upon the request of a customer connected to the network, if the customer has no other economically competitive options to purchase natural gas through a natural gas network (obligation to supply). Because the Finnish gas market has not been fully opened to competition and there is only one importer/wholesaler, the obligation to supply applies to all gas suppliers. Therefore the customers in every customer category have the same right to purchase natural gas at a reasonable price.

As regards the supervision of natural gas wholesale or retail pricing, the powers of the Energy Market Authority are ex post by their nature. In May 2008 the Energy Market Authority gave a decision on whether the pricing of wholesale supply of natural gas had been reasonable. The decision given was based on the financial years 2006 and 2007. Due to the fact that the gas supply business is not capital intensive but resembles any other trading business, the Energy Market Authority opted for using the gas supply margin as the measure for assessing the reasonable level of pricing. EBIT-% (earnings before tax and interests %) was selected as an indicator of reasonable pricing and the reasonable level (2.5 per cent) was entered at by using benchmarking studies in the field. According to the decision the pricing of Gasum Oy's gas supply was not at the reasonable level during these years and Gasum Oy was ordered to change their pricing policy starting from financial year 2008.

Gasum Oy appealed against the decision to the Market Court. The Market Court dismissed the application for appeal by its ruling in May 2009. Gasum Oy appealed in 2009 against ruling to the Supreme Administrative Court which is the highest appellate instance. The Supreme Administrative Court gave a ruling in December 2012. In its decision also the Supreme Administrative Court overruled the appeal.

4.2.2 Retail market

The retail supply of natural gas covers only about 5 per cent of the total consumption. The share of the top three retail suppliers is about 50 per cent of the total volume.

The size of the natural gas retail market in Finland in relation to the total consumption of natural gas is small. The retail supply of natural gas covers only about 5 per cent of the total amount of natural gas used in Finland.

In Finland there are only about 36,000 customers in the natural gas market. Less than 150 customers - heavy industrial users as well as power and district heating plants - use more than 95 per cent of the total natural gas consumption in Finland. The largest customer segment (29,000 customers) consists of households who buy natural gas for cooking. However, the total natural gas consumption of this segment amounts to only 1 mcm (0.02 per cent of total consumption).

At the end of 2012 there were 23 natural gas retail suppliers. Many of the natural gas retailers in Finland are relatively small having only dozens of customers. The share of the top three retail suppliers is about 50 per cent of the total volume. In addition to the original domestic

retail suppliers, there are also retail suppliers owned by foreign-based companies. The market entrance of the foreign-based companies has occurred through acquisitions.

No new retail suppliers without any affiliate connection to either TSO or DSOs in Finland have entered the market since the introduction of natural gas markets. As regards vertical integration in the natural gas retail market, the wholesale supplier and TSO Gasum Oy is downward vertically integrated into natural gas retail supply and distribution network operation through its ownership in Gasum Paikallisjakelu Oy.

Retail price monitoring

As mentioned above the supplier in a dominant market position in a natural gas network shall supply natural gas at a reasonable price upon the request of a customer connected to the network, if the customer has no other economically competitive options to purchase natural gas through a natural gas network (obligation to supply). Since the Finnish gas market has not been fully opened to competition and there is only one importer/wholesaler, the obligation to supply applies to all gas suppliers practically in every case.

Estimated national average natural gas prices in December 2012 for one reference customer are shown in Table 11. In smaller reference customer groups there are only few customers within distribution companies leading into problems when representative prices are to be defined. These prices are defined from end-user prices within obligation to supply.

Table 11. Natural gas price for the reference customer in December 2012.¹¹

Cent/kWh	I4-1
Network charges (excl. levies)	0.95
Energy costs and supply margin	3.17
Taxes	0.90
Total (excluding VAT)	5.02

Monitoring the level of transparency, including compliance with transparency obligations, and the level and effectiveness of market opening and competition

The Natural Gas Directive allows to Finland a derogation from the obligation to liberalise its natural gas market, as long as Finland only has one main supplier of natural gas and is not connected to the European gas network. For that reason, supplier switching is not possible in the present situation.

Recommendations on supply prices, investigations and measures to promote effective competition

In 2012 the Energy Market Authority has not given any direct recommendations on supply prices. However, the Energy Market Authority publishes monthly statistics on prices in order to promote competition and public market analysis.

¹¹ Reference customer: annual consumption 150,000 MWh, 4,000 hours.

4.3 Security of supply

4.3.1 Monitoring balance of supply and demand

The Energy Market Authority has a responsibility for monitoring the security of supply of gas. The Energy Market Authority maintains information on transmission network capacity and availability, while the Ministry of Employment and the Economy has the responsibility for preparing the estimates for the demand. In 2012 there were no changes in these competences.

According to the amendments to the Natural Gas Market Act, the role of the regulator in security of supply issues is to monitor the balance between supply and demand in natural gas, the quality and maintenance of networks and measures to cover the peak demand and avoid the supply shortages. Energy Market Authority publishes a report on security of supply of gas every year.

All natural gas used in Finland is imported from Russia. There's no natural gas production in Finland. Small-scale biogas is produced and pumped to the gas transportation network in two different locations. In addition propane can be produced indigenously as it is the only gas to be stocked in small amounts by Gasum Oy for immediate substitute for the possible lack of natural gas. The importing capacity of Gasum Oy is estimated to be about 9,500 MW. In natural gas shortage situation market based mechanisms are used to reduce gas consumption at the first stage. The price of gas that exceeds gas users intended capacity is increased to reduce consumption. During winter 2012-2013 there was no need to increase the price of natural gas to reduce consumption.

There were no new transmission lines built during the 2012. New natural gas fired power plants weren't installed.

4.3.2 Expected future demand and available supplies as well as envisaged additional capacity

Taxation of natural gas increased substantially in the previous years. Increasing tax level has been weakening the competitiveness of natural gas and the usage of gas is expected to decrease.

Currently there are no specific plans to expand natural gas transmission pipelines. However, there is a long term plan to expand the gas network to the western part of Finland, mainly to the cities of Turku and Naantali. Length of pipeline extension would be about 200 km.

The TSO has executed together with Gazprom, Eesti Gaas and Latvijas Gaze a project to examine the feasibility of constructing a pipeline to link Finnish, Estonian and Latvian natural gas networks. This new pipeline, Balticconnector, would enable that the Latvian natural gas storage facilities could be used to improve reliability in natural gas transmission to Finland. Balticconnector feasibility study was a priority project of the Trans-European Energy Networks and it was partly funded by EU from the TEN-E program. The final report of Balticconnector study project was completed in February 2011. The study ascertained that it is indeed possible to lay an offshore pipeline between Finland and Estonia. Balticconnector has been presented as a Project of Common Interest (PCI).

In addition there's two other projects presented as a Project of Common Interest. TSO, Gasum is planning to build a new large scale liquefied natural gas (LNG) terminal to Inkoo or Porvoo. This terminal could provide even 25-50 per cent of total gas consumption in Finland.

In addition, a consortium of Nordic industrial companies is planning a LNG terminal into Tornio. This terminal would serve local industry as Tornio isn't connected to natural gas transmission grid. However, no investment decisions have been made yet.

Gasum Oy has opened a new liquefied natural gas (LNG) production plant in June 2010 in Porvoo. LNG production capacity of the plant is about 20,000 tons per year. There is also 2,000 m³ LNG storage for produced LNG. This LNG can be gasified back to natural gas transmission network.

4.3.3 Measures to cover peak demand or shortfalls of suppliers

In natural gas shortage situation market based mechanisms are used to reduce gas consumption at the first stage. The price of gas that exceeds gas users guaranteed capacity is increased to reduce consumption. This kind of market based mechanism is typically used 0-2 times during the winter time. If shortage situation continues TSO is allowed to cut down consumption of non-gas dependent customers.

If shortage situation still continues, substitute fuels (HFO, LFO, coal, peat, wood and LPG), a special propane air mixing unit of 350 MW and movable LNG-regasification plant of 75 MW can be used. If the natural gas supply is prevented over an extended period the obligatory storages can be used too. The National Emergency Supply Agency controls for use of obligatory storages in Finland. Total volume of stockpile fuels and obligatory storages must be at least equal to cover normal consumption of imported fuels for five months.

5. Consumer protection and dispute settlement in electricity and gas

5.1 Consumer protection

5.1.1 Electricity

Compliance with Annex 1

According to the Article 37(1)(n) of the Directive 2009/72/EC the national regulatory authority shall help to ensure, together with other relevant authorities, that the consumer protection measures, including those set out in annex 1 are effective and in force. Annex 1 lists number of consumer protection measures that should be guaranteed in consumer relations. Legislation changes required by the Directive 2009/72/EC have been approved by the Finnish parliament in June 2013. The law comes into force in September 2013. Most of the requirements of the Directive had already been met in the current legislation.

In the Electricity Market Act the rules concerning the contract information are mentioned in the paragraph 25 c and comparing the current legislation to the requirements listed in annex 1 the current legislation fulfills most of the requirements stated in the annex 1 section 1(a). Only the subsection points 5, 6 and 8 of annex 1 section a) causes changes to the current legislation. Also the paragraph 27 c needs some modification when it comes to the terminology.

In the current Electricity Market Act the rules concerning changing contractual terms are mentioned in the paragraph 26. The paragraph fulfills requirements set in the annex 1 section 1(b). In the current legislation there aren't rules concerning different payment methods.

According to paragraph 15 a in the current Electricity Market Act, the distribution system operator may not charge a customer for the change of supplier unless the time elapsed from the previous change of supplier is less than 12 months. In that case the distribution system operator may charge only for the cost of extra meter reading if the customer will not read the meter by himself/herself. Instead of reading the meter, the distribution system may also estimate the meter values during the change of supplier. However, many distribution system operators do not charge the cost of extra meter reading even if the time elapsed from the previous change of supplier is less than 12 months. The Energy Market Authority has given a decision in 2012 where the Energy Market Authority denied the DSO to charge for the meter reading when the customer had a remotely read meter. The possibility for DSOs to charge for the extra meter during supplier switching will be removed when the new legislation will come into force in September 2013.

In the current Electricity Market Act there are no specific rules concerning requirements mentioned in Annex 1 section 1(f) because general clause in the paragraph 1 in the chapter 2 of the Finnish Consumer Protection Act can also be used for handling consumer complaints in electricity related issues.

There isn't equivalent paragraph to the requirement of Annex 1 section 1(h) in the current Electricity Market Act itself. However, the paragraph 8 in the chapter 6 of the Degree of the Council of State concerning measurement and balance settlement (66/2009) corresponds this section of Annex 1.

Ensuring access to consumption data

Article 37(1)(p) states that the national regulatory authority shall ensure access to customer consumption data, the provision, for optional use, of an easily understandable harmonized format at national level for consumption data, and prompt access for all customers to such data under point (h) of Annex 1.

The paragraph 8 in chapter 6 of the Degree of the Council of State concerning measurement and balance settlement (66/2009) states that customer has right to his own consumption data free of charge. Information must be released to the customer at the same time when it is given or ready to be given to the supplier. This corresponds to the requirements of section (h) of the Annex 1 of the directive.

5.1.2 Gas

Compliance with annex 1

Article 41(1)(o) states that the national regulatory authority shall help to ensure, together with other relevant authorities, that the consumer protection measures, including those set out in Annex I, are effective and enforced.

Annex 1 lists number of consumer protection measures that should be guaranteed in consumer relations. Legislation changes required by the Directive 2009/73/EC have just been approved by the Finnish parliament. The law comes into force in September 2013. Most of the requirements of the Directive have already been met in current legislation.

In the current Natural Gas Market Act the rules concerning the contract information are in paragraph 7 under chapter 4 and comparing the current legislation to the annex 1 requirements the current law fulfills most of the requirements stated in the annex 1 section 1(a). Only the subsection points 5, 6 and 8 of annex 1 section (a) causes changes to the current legislation. The paragraph 6 in chapter 4 of the Natural Gas Market act states that the rules in paragraph 27 c of the Finnish Electricity Market Act also apply to the natural gas market. As already stated before, the paragraph 27 c needs some modification when it comes to the terminology.

In the Natural Gas Market Act the rules concerning the changing the terms of contract are in paragraph 7 under chapter 4. The paragraph fulfills requirements set in the annex 1 section 1(b).

In the current Natural Gas Market Act there are no specific rules concerning requirements mentioned in Annex 1 section 1(f) because the Finnish consumer protection acts general clause in paragraph 1 under the chapter 2 can also be used for handling consumer complaints in electricity related issues. The disputes between consumers and entrepreneurs may be solved in the Consumer Disputes Board, which is an impartial body of experts for solving disputes between the parties. The Consumer Disputes Board does not charge any fees handling disputes. The Board's written decision is a recommendation and the parties are not obliged to follow it. A dispute handled by the Board can always be taken to a court of law. The Consumer Ombudsman may bring the class action, for instance, against a network operator or gas supplier and act as the representative of the class in a general court of law.

There isn't equivalent paragraph to the requirement of Annex 1 section 1(h) in the current legislation at the moment.

Ensuring access to consumption data

Article 41(1)(q) of the directive 2009/73/EC states that the national regulatory authority shall ensure access to customer consumption data, the provision for optional use, of an easily understandable harmonized format at national level for consumption data and prompt access for all customers to such data under point (h) of Annex I.

The current Natural Gas Market Act does not include corresponding provisions about customers' access to the consumption data.

5.2 Dispute settlement

5.2.1 Electricity

The Energy Market Authority monitors the transmission system operator, distribution system operators and suppliers overall compliance with the electricity market legislation. However, the Energy Market Authority does not have power for dispute settlements between consumers and energy companies in the individual cases. The paragraph 39a of the Electricity Market Act states that complaints against transmission or distribution system operator must be handled within two months after receipt of the complaint. According to paragraph 52 of the Electricity Market Act the regulatory authority's decisions shall have binding effect unless and until overruled on appeal. Paragraph 42 gives to the Energy Market Authority the power to get relevant information from the market participants and conduct inspections on their grounds in order to get relevant information for monitoring purposes.

In Finland the disputes between consumers and entrepreneurs in the individual cases may be solved in the Consumer Disputes Board, which is an impartial body of experts for solving disputes between the parties. The Consumer Disputes Board does not charge any fees for handling disputes. The Board's written decision is a recommendation and the parties are not obliged to follow it. A dispute handled by the Board can always be taken to a court of law.

The Consumer Ombudsman may bring the class action, for instance, against a network operator or electricity supplier and act as the representative of the class in a general court of law.

5.2.2 Gas

The Energy Market Authority monitors the natural gas transmission system operator, distribution system operators and suppliers overall compliance with the natural gas market legislation. However, the Energy Market Authority does not have power for dispute settlements between consumers and energy companies in the individual cases, like related to following terms and conditions. The paragraph 2a under chapter 7 of the Natural Gas Market Act states that complaints against natural gas transmission or distribution system operator must be handled within two months after receipt of the complaint. According to paragraph 4a under chapter 8 of the Electricity Market Act the regulatory authority's decisions shall have binding effect unless and until overruled on appeal. Paragraph 5 under chapter 7 gives to the Energy Market Authority the power to get relevant information from the market participants and conduct inspections on their grounds in order to get relevant information for monitoring purposes.

In Finland the disputes between consumers and entrepreneurs in the individual cases may be solved in the Consumer Disputes Board, which is an impartial body of experts for solving disputes between the parties. The Consumer Disputes Board does not charge any fees for handling disputes. The Board's written decision is a recommendation and the parties are not obliged to follow it. A dispute handled by the Board can always be taken to a court of law.

The Consumer Ombudsman may bring the class action, for instance, against a network operator or electricity supplier and act as the representative of the class in a general court of law.

5.2.3 Complaints

In 2012 the Energy Market Authority received 105 new complaints related electricity network business and retail and made decisions on 115 complaints (some of them were received in 2011). In addition to these, the Energy Market Authority received one complaint related to natural gas markets and made decisions on two complaints which were received at the end of 2011.

There are no statistics about the number of other inquiries than complaints.

Most often the complaints submitted have fallen into the following categories:

- Complaints regarding the connection charges
- Complaints regarding the network charges
- Complaints regarding quality of supply
- Complaints regarding metering
- Complaints regarding inconsistencies in invoicing
- General complaints regarding practices of the supplier

The Energy Market Authority has the primary jurisdiction over the four first categories: complaints regarding the connection charges, network charge, quality of supply and metering.

Complaints regarding connection charges, quality of supply and metering, as a rule are analysed individually by the Energy Market Authority and the legally binding resolution is submitted both to the customer and to the network operator involved. However, the Energy Market Authority has confirmed methods for determining the connection charges and the network operators shall follow those methods.

Complaints regarding the network charges are handled in conjunction with the regulation of the network charges within the regulatory period. The Energy Market Authority has given regulation on the content of electricity and natural gas bills. If the complaint is regarding to the correctness of the bill, the Energy Market Authority is not the competent authority to deal with the issue. In such cases, the customer has to take legal action at the civil court or as a consumer make a complaint to the Consumer Disputes Board.

Regarding suppliers the Energy Market Authority mainly deals with complaints related to terms and conditions of retail sale, specific contractual issues and information exchange during the supplier switching. Complaints regarding the marketing practices of the suppliers and other consumer protection issues are dealt with by the Finnish Competition and Consumer Authority.

Some of the complaints sent to the Energy Market Authority were disputes between consumers and DSOs or suppliers and therefore these cases did not fall into powers of the Energy Market Authority.

The average processing time of complaints related to network business was 2.11 months. The average processing time of complaints related to retail was 1.41 months.