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Fingrid in brief

- Fingrid is responsible for the sufficiency and functioning of the Finnish electricity transmission grid.
- The transmission grid is the high-voltage trunk network which covers the entire Finland. Major power plants, industrial plants and regional electricity distribution networks are connected to the grid.
- The transmission grid encompasses approx. 14,000 kilometres of 400, 220 and 110 kilovolt transmission lines plus more than 100 substations.
- Fingrid makes sure that Finland obtains electricity without disturbance. In the next few years, almost 3,000 kilometres of new transmission lines and about 30 substations will be constructed in Finland.
- The company was established on 29 November 1996.
- Operations started on 1 September 1997.
- Revenue 359 million euros.
- Balance sheet total 1,649 million euros.
- Owns 20 per cent of electricity exchange Nord Pool Spot AS.
- Number of personnel at the end of the year: 260 (245 in permanent employment).

Fingrid's mission

As the transmission system operator in Finland, Fingrid's mission is to:

- develop the power system
- transmit electricity reliably
- promote the functioning of the electricity market

Fingrid's values

- transparency
- impartiality
- efficiency
- responsibility

Fingrid's vision

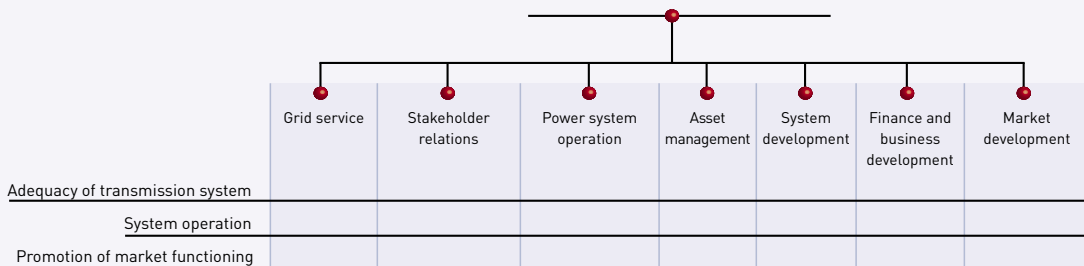
Fingrid's vision is to be the international forerunner in transmission system operation.

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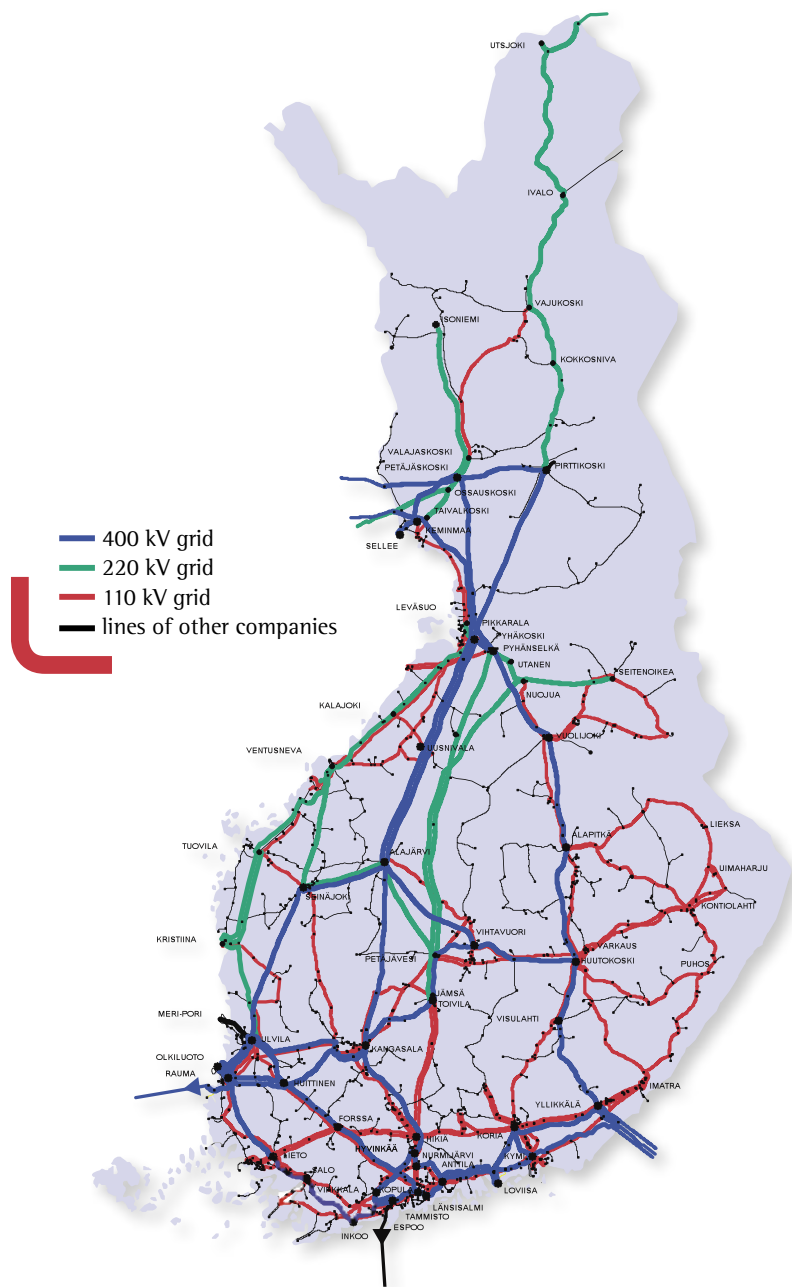
Fingrid Oyj

Jukka Ruusunen, President & CEO



Fingrid Oyj's power transmission grid

1 January 2010



Review by the CEO



For Fingrid, the year 2009 started with the 80th anniversary of the Finnish electricity transmission grid. The backbone of the Finnish power system was launched on 16 January 1929, when the 110 kilovolt line between Imatra in Eastern Finland and Turku in Western Finland, the first part of the subsequent nation-wide grid, was taken into use. This marked the beginning of the Finnish transmission grid, now one of the best and most efficient electricity transmission systems in the world.

The Finnish transmission grid was initially constructed by various industrial parties. The building of the grid went hand in hand with the industrialisation process of Finland. After decades of various construction phases, the ownership of the Finnish grid shifted to the nation-wide transmission system operator in 1997. At present, transmission system operator Fingrid owns the Finnish grid and all significant cross-border connections. There are approx. 14,000 kilometres of transmission lines and more than 100 substations.

The idea to transmit electricity over longer distances first emerged in Continental Europe at the end of the 19th century. Over time, the idea also adopted in Finland made grid builders and decision-makers understand the true significance of electrification for society. Electricity and its transmission have become an indispensable infrastructure. Finland is powered by electricity. The

pages of this annual report contain comments by people, who have had a crucial impact on the development of the Finnish grid, on the past, present and future of electricity transmission in Finland.

Fingrid celebrated the milestone of the Finnish transmission grid by carrying on its business. The company has a record-high number of ongoing construction and maintenance projects. In the next 10 years, Fingrid's input in the transmission grid and reserve power will total 1,600 million euros.

The capital expenditure programme covers the construction of 2,700 kilometres of transmission lines and 30 substations over the next 10 years. Upgrading the 220 kilovolt network in Western Finland to a voltage of 400 kilovolt will reduce the risk of internal transmission congestions within Finland and will also enable the connection of extensive new wind power capacity to the nation-wide grid. According to present plans, 300 megawatts of reserve power will be constructed for the management of disturbance situations.

New cross-border transmission connections to the neighbouring countries will also be built. The Fenno-Skan 2 link will increase the cross-border capacity between Finland and Sweden considerably and contribute to uniform area prices between these countries, hence increasing efficiency in the electricity market. The EstLink 2 connection between Finland and Estonia, in turn, will con-

nect the Nordic and Baltic electricity markets even better together. The schedule of this project is bound to the opening of the electricity market in the Baltic region.

The region of the Baltic Sea is one of the focal areas in the strategy of the European Union, and EstLink 2 will represent shared input by Finns and Estonians to develop the electricity market in the Baltic Sea region. In addition to the expansion of the electricity market, the integration of the Baltic countries to the Nordic market will have great significance for supply security in the Baltic countries.

A real break-through was attained in the co-operation between the European transmission system operators when their new organisation ENTSO-E (European Network of Transmission System Operators for Electricity) saw the light of day on 1 July 2009. In line with ENTSO-E, European co-operation now covers all the three main TSO duties: efficient system operation, promoting the electricity market, and development of a single European transmission system.

ENTSO-E works together with the Commission of the EU, electricity market regulators and market parties. The organisation is to promote the integration of the single market within the EU and to create security of supply and market rules pertaining to transmission grids. Progress towards the largest electricity market in the world continues.

From the Finnish perspective, regional co-operation within ENTSO-E provides an excellent forum to improve the transmission grids and electricity market in the entire area of the Baltic Sea. As part of the establishment of ENTSO-E, the Nordic TSOs consequently abolished their long-term organisation Nordel in June.

The European Union also adopted a decision whereby electricity producers and sellers cannot own electricity transmission companies after 3 March 2012. Of Fingrid's owners, Fortum Oyj and Pohjolan Voima Oy declared that they will study divesting their holding in Fingrid Oyj.

A significant change took place in climate and energy policy thinking in 2009. The European Union has set its own objectives for 2020, and that year has become the time horizon for long-term strategies in many respects. In 2009, the issues examined included the target of carbon-neutral electricity and district heat production. This shifted the time horizon in the long-term strategy to 2050.


The year 2020 is a good intermediate stage in this strategy, but it will take several decades to achieve a real change. The year 2050 was the time horizon in both the foresight report of the Government of Finland and in the energy vision adopted by the Finnish Energy Industries. Both visions arrived at the same positive outcome: it is actually possible to achieve carbon-neutral production

by 2050. The future trend is also very clear: a reduction in the carbon dioxide emissions means that the portion of electricity in the energy portfolio will increase.

From the aspect of the transmission system operator, a carbon-neutral future is very interesting. In the coming decades, we will see considerable changes both in electricity generation and consumption. Electricity continues to be transmitted from generation to consumption along transmission networks, but the new trends will impose additional requirements on the grids of the future. Supergrids, where electricity is transmitted over long distances, are a hot topic globally, as are smart grids, which utilise new technologies to balance generation and consumption.

The organisations which operate the grids – transmission system operators and distribution network operators – must be able to evolve in accordance with the requirements and to work in seamless co-operation so that our customers continue to obtain the best possible service. Finland has a good foundation for this co-operation.

Jukka Ruusonen
President & CEO



Fingrid's nation-wide grid is an integral part of the power system in Finland. Fingrid's performance has a direct impact on the functioning of Finnish society, in other words on the everyday life and welfare of all Finns. Fingrid's corporate social responsibility is characterised by the system responsibility based on the Electricity Market Act.

Power system operation

Electricity consumption in Finland in 2009 totalled 81.1 terawatt hours (87.2 terawatt hours in 2008), which was 7.0 per cent below that in the previous year. The economic recession decreased the need for electricity by industries in particular. A total of 62.8 terawatt hours (65.4 terawatt hours) of electricity was transmitted in Fingrid's grid, representing 77 per cent of the electricity consumption in Finland.

The annual peak in electricity consumption, 13,900 megawatts, was achieved at the end of the year on 17 December 2009 (13,763 megawatts in 2008 according to Finnish Energy Industries). However, because of the economic recession the peak consumption in 2009 was considerably below the all-time high peak consumption of 14,914 megawatts achieved in 2007. The lowest electricity consumption of 4,400 megawatts was attained at Midsummer. This was approx. 1,500 megawatts below the minimum consumption in the three previous years.

Electricity transmissions between Finland and Sweden mainly consisted of exports from Finland to Sweden with the exception of the early summer and autumn. The replacement of overhead ground wires on the cross-border lines in the north and the construction of the Fenno-Skan 2 link in the south restricted the transmission capacity made available to the electricity market for several weeks. A total of 2.7 terawatt hours (3.7 terawatt hours in 2008) of electricity was imported from Sweden to Finland, and 4.1 terawatt hours (4.2 terawatt hours) was exported from Finland to Sweden in 2009.

Electricity transmissions on the Estlink connection between Finland and Estonia consisted of imports from the Baltic countries to Finland with the exception of short export periods in the summer. The transmission grid in Estonia occasionally restricted the transmission capacity made available from Finland to Estonia. Fingrid took care of the operation of the Estlink connection together with Elering, the transmission system operator in Estonia. The volume of electricity imports to Finland on the Estlink connection was 1.8 terawatt hours (2.3 terawatt hours), and 0.1 terawatt hours of electricity was exported from Finland.

Electricity imports from Russia to Finland totalled 11.7 terawatt hours (10.9 terawatt hours) in 2009. The transmission capacity

was in use almost fully with the exception of a service interruption in August.

The dimensioning fault in the Finnish power system had to be raised temporarily from January to May from just under 900 megawatts to 1,300 megawatts. This was related to changes made at the Olkiluoto nuclear power plant so as to secure nuclear safety. In order to control the situation, the import capacity from Sweden was reduced temporarily until May by 100–300 megawatts. The dimensioning fault was restored to the level of 900 megawatts after modifications made at Olkiluoto during the annual service.

The number of disturbances in the nation-wide grid in 2009 was below the long-term average. However, the imputed disadvantage inflicted on society by disturbance outages in the grid in 2009 was slightly above the average in this decade. An extensive blackout affecting some 60,000 people took place in Northern Finland in mid-September. The blackout was triggered by a faulty protection relay at the Petäjäsoski substation. There was an extensive modernisation project in progress at the substation, which is why the substation was subject to an extraordinary switching situation. The maximum duration of the blackout was 45 minutes.

A transmission line tower of Fingrid's fell at Tammela in Southern Finland as a result of a failed cross guy bracket in July. The fault caused a power cut of several hours in the region of Kanta-Häme. The disturbance took place on the transmission line between Forssa and Hikiä, which belongs to the oldest part of the Finnish grid, the so-called "Iron Lady". Fingrid is renewing this aged transmission line running from Imatra to Turku.

A significant event in terms of the power system occurred when Finland was separated from the other Nordic countries into a frequency area of its own as a result of a cross-border line disturbance following

a thunder storm in August. However, the disturbance did not cause significant supply interruptions or disconnection of power plants. The previous time that the Finnish power system was separated from the other Nordic countries was in December 1983 as a result of a major disturbance which started in Hamra in Sweden.

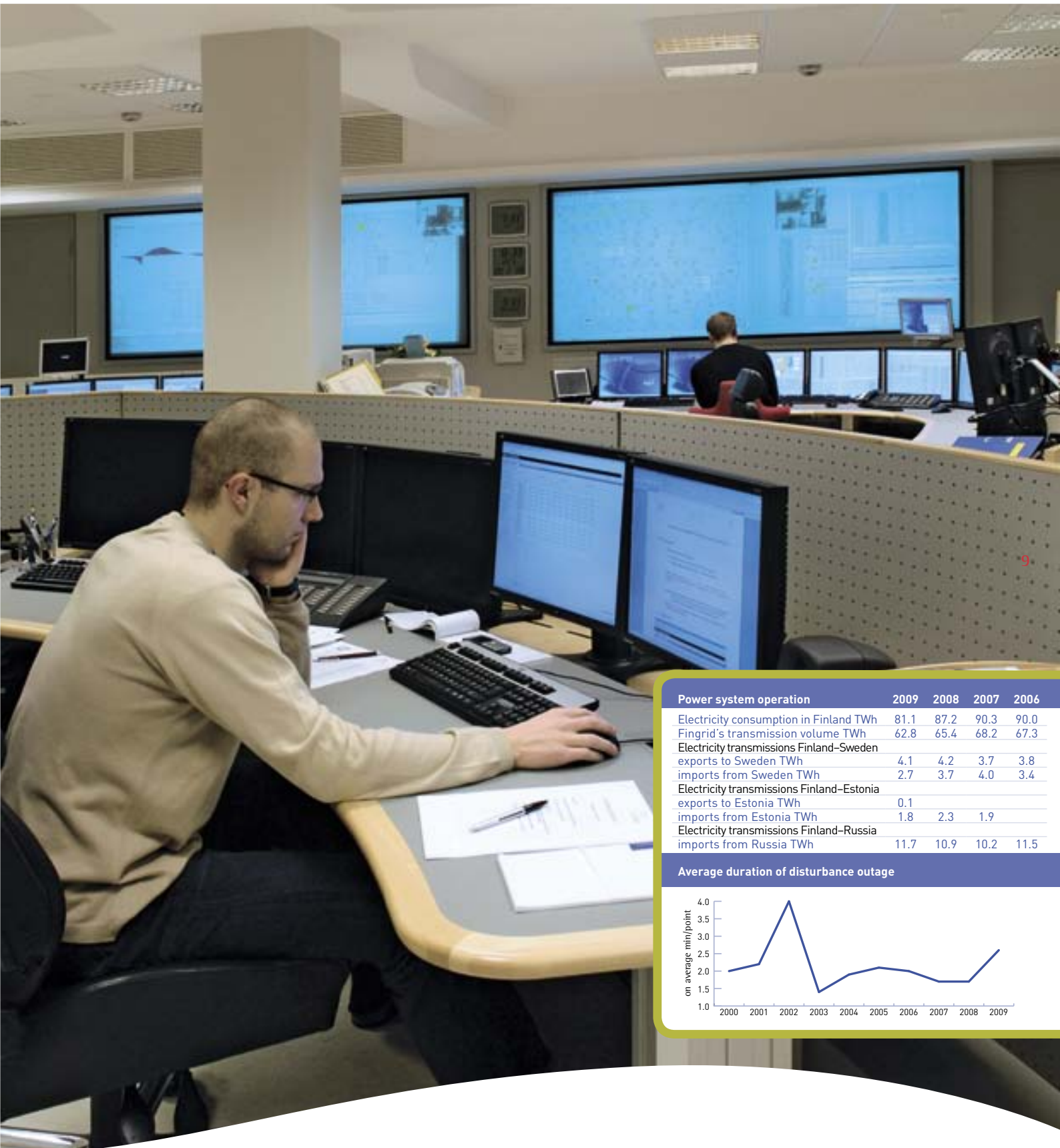
European co-operation in system operation was launched by the establishment of ENTSO-E, and this co-operation continued under ENTSO-E also on the conventional Nordic level. Preparatory work for European system operation rules was launched, and co-operation between the transmission systems in the Nordic countries and Continental Europe was also advanced.

Based on a request for quotations, Fingrid signed contracts on the continued maintaining of power reserve for the remaining period of the relevant act, 1 March 2009 to 28 February 2011. The second contract period of the power reserve arrangement covers the same power plants as the previous period: Mussalo 2 owned by Nokian Lämpövoima Oy, Vaskiluoto 3 owned by PVO-Huippuvoima Oy and Kristiina 1 owned by PVO-Lämpövoima Oy. The total capacity of the power plants is 600 MW. The power reserve was activated for the first time during the period of cold weather in December as a result of bids made in the electricity exchange.

The Nordic transmission system operators introduced a new inter-Nordic data system for transmission system operation in 2009. The new system supports the daily functions of power system control centres. This project is unique on a global scale and an indication of the concrete co-operation between the Nordic TSOs. The primary functions of the new system include management of frequency in the Nordic countries, maintaining the regulating power market, management of transmission capacities, and maintaining the reserves.

Fingrid's focal areas and challenges

- A reduction in the volume of adjustable power production capacity in the future will make it more challenging to maintain system security. The preparations for this include sufficient and versatile reserve capacity and enhanced electricity market mechanisms.
- Uncompromising occupational safety together with a well-controlled increase in the number of live work and its correct timing will minimise the disadvantage inflicted on the electricity market by planned outages required by grid construction and maintenance management.



Power system operation	2009	2008	2007	2006
Electricity consumption in Finland TWh	81.1	87.2	90.3	90.0
Fingrid's transmission volume TWh	62.8	65.4	68.2	67.3
Electricity transmissions Finland-Sweden				
exports to Sweden TWh	4.1	4.2	3.7	3.8
imports from Sweden TWh	2.7	3.7	4.0	3.4
Electricity transmissions Finland-Estonia				
exports to Estonia TWh	0.1			
imports from Estonia TWh	1.8	2.3	1.9	
Electricity transmissions Finland-Russia				
imports from Russia TWh	11.7	10.9	10.2	11.5

Average duration of disturbance outage

Year	Average duration (min/point)
2000	2.0
2001	2.2
2002	4.0
2003	1.5
2004	2.0
2005	2.1
2006	2.0
2007	1.8
2008	1.8
2009	2.6

"What comes to my mind first concerning the Finnish transmission grid is its reliability. The grid is reliable despite the fact that being a sparsely populated country, Finland has long lines and severe winter conditions."

Tapani Jokinen, Professor emeritus, Aalto University School of Science and Technology



Fingrid enhances the electricity market mechanisms together with the customers, electricity market parties and other transmission system operators, anticipating future transmission needs and devising market-focused procedures. The company aims to minimise transmission restrictions which disturb the market and to enable efficient functioning and transparency of the electricity market.

Promotion of electricity market

Congestions in the transmission grid in Southern Scandinavia complicated the access of Norwegian hydropower to the Nordic electricity market. The area prices of electricity often became segregated, although the price differences were not usually very great. There was a uniform spot price in the Nordic electricity market for only 25 per cent of the time. However, between Finland and Sweden there was a uniform price for 95 per cent of the time.

The price level in the spot market in 2009 was below that in 2008. The average system price was 35 euros per megawatt hour (45 €/MWh in 2008). The area price for Finland was close to this, i.e. 37 euros per megawatt hour (51 €/MWh).

Since early December, Nord Pool Spot has also quoted negative figures. During a negative price, an electricity seller has to pay so that it can sell, and correspondingly, an electricity buyer obtains money. This was the case in December in Jutland, where the spot price went as low as approx. -120 euros per megawatt hour. On the other hand, a significant peak price was experienced in December when the spot price in much of the market rose to approx. 1,400 euros per megawatt hour.

Progress was made in market integration in the Nordic countries and Continental Europe. Since November, the transmission capacity between Germany and Denmark has been distributed to the market using the principle of implicit auctioning. European Market Coupling Company (EMCC) administers the system together with the electricity exchanges. This procedure ensures that the transmission capacity is used as efficiently as possible.

The transparency of the electricity market was enhanced in 2009 by publishing additional information on the Elbas capacities and on balance service. In October, Fingrid published on its website the principles and criteria of determining the transmission capacity in the Finnish power system. These principles also describe how the transmission capacity made available to the electricity market is composed of.

At the request of the Ministry of Employment and the Economy, Fingrid examined the possibility of dividing Finland into two price or bidding areas for electricity. In the report published in November, Fingrid did not deem such division necessary, at least not at this point. However, managing transmission congestions within Finland will depend crucially on the location of new generation capacity and will call for more comprehensive counter trade than at present, and activity from electricity producers to participate in counter trade. In 2009, Fingrid used 0.7 million euros for counter trade (0.1 million euros in 2008).

Uniform principles concerning the activation of power reserves in the Elspot market were adopted in Sweden and Finland. The reserves come to play if no balance between demand and supply is reached with the available bids made at market terms. Power reserves were activated for the first time during the peak consumption in December.

ENTSO-E launched its work for preparing European market rules. In December, ENTSO-E accepted the inter-TSO compensation system for 2010. The system compensates to the TSOs those costs that are caused by electricity transmissions through countries. The compensation system has enabled the abolishment of cross-border fees from electricity transmissions between countries.

In October, 12 TSOs in Continental Europe and the Nordic countries reached an agreement on the harmonisation principles for the electricity market so as to support the progress towards the EU's single electricity market. Together with the electricity exchanges, the parties strive for a market coupling procedure where a single process is used for calculating the spot prices and allocating the transmission capacities for the entire area.

Eight EU governments in the Baltic Sea region signed a Memorandum of Understanding in mid-June, concerning the energy interconnections in the region. According to the Memorandum, the electricity market in the Baltic countries will be opened to competition and integrated in stages into the Nordic electricity market. The Estonian Government has already decided to open the Estonian wholesale market for electricity. The rules of the Estlink 1 cable, which is owned by power companies, were amended so that the Nordic electricity exchange can begin in Estonia in April 2010. The realisation of this plan will make it possible to construct the EstLink 2 cable owned by the Finnish and Estonian TSOs in an expedited schedule.

The goal has been to enhance electricity trade between Finland and Russia to become more market-focused. This development work has been decelerated by the different electricity market structures in the EU and Russia and by the different roles of the relevant players.

A new Nordic balance service model was introduced at the beginning of 2009 in Finland, Sweden and Denmark. This reform will harmonise the rules of balancing power trade in the Nordic countries. The new model was adopted in Norway in September. The new model required considerable changes to the practices and data systems of both Finnish electricity market parties and Fingrid.

In June, the Commission of the EU reprimanded all EU member states for neglect concerning the electricity market regulations. With Finland, the remarks concerned mainly authorities, and to some extent also Fingrid. The Finnish Government disputed the neglect in its reply. The remarks made by the Commission were irrelevant in many respects, and potential earlier shortcomings have already been corrected.

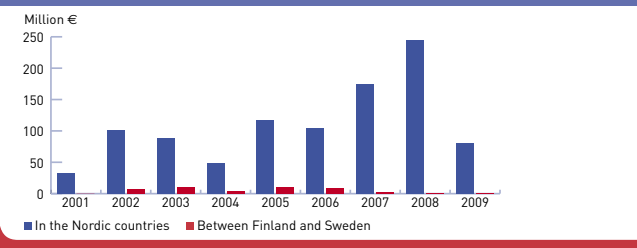
Fingrid's focal areas and challenges

- Grid planning is becoming an increasingly international process, cross-border transmission capacities between countries are growing, and the market is expanding. These factors will secure the availability of electric energy and the efficient functioning of the electricity market in the future.
- One future challenge is to combine reliable electricity supply, efficient electricity market and environmentally benign electricity generation.



Electricity market	2009	2008	2007	2006	2005
Nord Pool Spot system price, average €/MWh	35.02	44.74	27.93	48.59	29.33
Area price Finland, average €/MWh	36.98	51.02	30.01	48.57	30.53
Congestion income in the Nordic countries million €	79.5	244.1	173.6	104.0	117.0
Congestion income between Finland and Sweden million €	1.1	1.3	2.7	9.1	9.9
Congestion hours between Finland and Sweden %	4.6	2.5	4.9	6.8	9.3
Fingrid's share of the congestion income in the Nordic countries million €	4.9	23.2	22.6	11.9	15.4

Nordic congestion income and congestion income between Finland and Sweden



“For industries, the most crucial turning point in the development of the Finnish grid was the establishment of Fingrid. The grid is now used for promoting competition. This is the great change that came about in line with Fingrid.”

Magnus Buchert, M.Sc. (Tech.)



Fingrid maintains and develops the Finnish power system as part of a European infrastructure, and keeps all parts of the grid reliable. The devised procedures enable flexible and cost-efficient transmission system operation in changing circumstances. Fingrid's principles embrace issues such as high level of safety, environmental responsibility, good corporate governance, and transparency and impartiality. The company also requires ethically high standards from its service providers.

Grid development and maintenance

Fingrid's capital expenditure in 2009 totalled 136 million euros. There will also be significant capital expenditure in the coming years, because Fingrid is making capital investments totalling 1,600 million euros in the transmission grid and reserve power over the next 10 years.

Several significant capital investment decisions were made during 2009. Another 400 kilovolt transmission connection will be built between Ylikkälä and Huutokoski in Eastern Finland. A decision was also made to build a new reserve power plant of approx. 200 megawatts.

Eight major substations and approx. 270 kilometres of new transmission lines were completed for Fingrid in 2009. More new transmission facilities were commissioned in the autumn than ever before in Fingrid's history. A new 400 kilovolt connection was completed between Kemnmaa and Petäjaskoski in Northern Finland towards the end of the year. The Kangasala substation with the SVC (static var compensator) unit was commissioned in the spring. This brought new intelligent technology to the grid to improve the stability of the power system. Two compensation units were commissioned at the end of October to add to the transmission capacity of the present grid: the Asmunti series capacitor station in Ranua and the Tuomela series capacitor station in Yli-Olhava.

The 220 kilovolt transmission lines from Petäjaskoski in Rovaniemi to Valajaskoski and further to Isoniemi in Kittilä in Lapland were also completed in November. Also a new substation was constructed at Isoniemi. These projects are part of the reinforcement of the transmission grid in Lapland. The overall project will be completed in 2010. The need to strengthen the grid in Lapland stems from the rapid increase in electricity consumption in the region throughout the past decade. Increased electricity consumption was also the reason for the construction of the new 400/110 kilovolt Kopula transformer substation in Southern Finland.

Fingrid brought to conclusion a project which had lasted for several years, replacement of aluminium towers on 400 kilovolt lines, in 2009. A total of 1,300 aluminium towers were replaced by more durable steel towers over a distance of 750 kilometres. Three 110 kilovolt transmission lines were also renewed during the year, and a number of refurbishment and extension projects for transmission lines and substations were carried out.

In the spring, Fingrid launched the planning of a sizeable capital investment project together with the Estonian transmission system operator Elering: a transmission link of 650 megawatts, costing some 300 million euros, is being planned between Finland and Estonia. The 140-kilometre long link based on direct current technology is due to be ready in an expedited schedule in 2014 or even at the end of 2013. The completion time is influenced above all by the opening of the electricity market in the Baltic countries and by the potential investment subsidy granted by the European Union.

Planning for the main transmission grid focused on grid reinforcements required by additional nuclear power and wind power capacity, and on the third alternating current connection between Finland and Sweden. Four regional plans drawn up together with the customers were completed during 2009.

In February, the transmission system operators in the area of the Baltic Sea completed a shared transmission grid plan, which examined the linking of the Baltic countries to the electricity market in the Nordic countries

and Continental Europe. The results were utilised in the market integration plan for the Baltic region, launched by the EU. The plan suggests that in addition to the EstLink 2 transmission connection between Finland and Estonia, connections from the Baltic countries to Sweden and Poland should also be constructed.

The establishment of ENTSO-E stabilised grid planning within the Baltic Sea region into a continuous process involving nine TSO organisations. On a European level, the regional plans are integrated into a Ten Year Network Development Plan updated every second year. The first plan will be completed in summer 2010.

In addition to launching the procurement of a new reserve power plant for disturbance situations, major refurbishments were made at Fingrid's Vanaja and Vaskiluoto fast disturbance reserve power plants, for example in the automation and electrical systems and fuel piping. Approximately 9 million euros were used for the renovations and maintenance of Fingrid's gas turbine plants in 2009 (approx. 7 million euros in 2008).

The new three-year service contracts for maintenance management came into force at the beginning of 2009, and maintenance work has been carried out as planned. Twenty million euros (16 million euros in 2008) were spent on the maintenance management of the ageing grid. One major maintenance management project concerned the prevention of guy corrosion. This project will also continue in the coming years.

Fingrid's focal areas and challenges

- Our ongoing extensive capital investment programme is based on the long-term climate and energy strategy of Finland. We aim to create the facilities for the construction of the necessary new baseload power and renewable energy production and to safeguard the system security of the ageing grid.
- We arrange regular fault repair exercises so as to make preparations for failure situations.
- We participate actively in system planning and co-operation within the Baltic Sea region in order to connect the Baltic countries to the European electricity market.



"In view of the system security of the grid, the basic grid architecture is a major consideration. Another important issue is the selectivity of relay protection: in the event of a fault, only the damaged equipment is separated from the grid. And of course good knowledge of the grid and its transmission capacity is a necessity."

Lauri Mäkelä, M.Sc. (Tech.)



Fingrid endeavours to promote active and efficient interaction with the electricity market parties, authorities, landowners and other stakeholders. The customers' views and needs constitute the foundation of grid planning by Fingrid. Whenever line routes are being planned and in conjunction with transmission line maintenance work, Fingrid gives landowners, neighbours of the line and other concerned parties an opportunity to express their views, to discuss the project and to co-operate in issues related to the project plan and its execution.

Customers and stakeholders

The transmission system operator has a highly varied range of stakeholders, because its operations have an indirect impact on the life of all Finns. During 2009, there were close contacts not only with Fingrid's customers but also with the electricity market parties, authorities, landowners, research and educational establishments, and the media.

Fingrid was exposed to extensive media coverage in 2009 related to the company's ownership arrangements and consequently to a public debate on the ownership of vital national assets. Another topic discussed widely in public was the level of expropriation compensations paid for the right of use of transmission line areas. An expropriation committee independent of Fingrid decides on the magnitude of the compensations for expropriation. However, Fingrid has been active in improving the expropriation compensation procedure.

Fingrid arranged three theme events for its customers and other stakeholders in 2009. The Electricity Market Day in April examined the outlook and price areas of the European electricity market, the Grid Day in August focused on the history, grid investments and future outlook of the 80-year Finnish grid, and the System Security Day in November concentrated on the system security of the Finnish power system. Moreover, in its customer and stakeholder communications Fingrid introduced a new monthly newsletter delivered to the various stakeholders.

The technology forum discussed the changes in the operating environment and the impacts of these changes on the R&D needs of the industry. Landowners were met at the presentations of various projects and also at the Farmari agricultural fair in Kokkola. Fingrid was also a co-sponsor of one of the largest physical exercise events in Finland, the Jukolan viesti orienteering race on 13 to 14 June, serving as the host of one leg in the women's competition.

The customer committees – Operations Committee, Market Committee and Grid Committee – have established their position in compiling the views of customers and in intensifying interaction. Fingrid's Advisory Committee has served as a prime reference in developing the company's business.

A working group appointed by the Finnish Ministry of Employment and the Economy to study the feed-in tariff for renewable energy proposed in its final report in September that a market-based guaranteed price system be introduced in Finland for electricity generated by wind power and biogas. An enterprise owned by Fingrid would take care of administering the feed-in tariffs. However, the statements given of the proposal led to a new turn in the matter. The Ministry of Finance considered that funding the feed-in tariff by a fee levied directly from electricity users would hence be problematic and that Fingrid could not be responsible for administering the tax-like tariffs. The Ministry of Employment and the Economy together with the Ministry of Finance is now examining the way of funding the feed-in tariffs. The Government bill in the matter is due to be given to Parliament in the spring of 2010.

In November, Fingrid arranged a customer survey among its grid, balance service and cross-border transmission customers as well as electricity market parties concerning its services and performance. The feedback received was good; the grade for Fingrid's

overall performance was 8.7 on a scale from 4 to 10. The respondents thought that Fingrid's efforts are responsible. The company was rated quite highly in cost efficiency and impartiality. The respondents thought that there is still room for improvement in transparency.

The grid tariff was raised by 4.5 per cent in 2009 in accordance with the terms of the contract period of 2008–2011. A corresponding increase was also made to the level of the cross-border transmission fee for transmissions to and from Russia at the beginning of 2009. The grid tariff increases carried out by Fingrid are clearly below those in the other Nordic countries. The present grid contract period extends to the end of 2011. Preparations were started in 2009 concerning the structure of the new grid contract, and there were also discussions on how to outline the nation-wide grid.

Outside actual transmission system operation, Fingrid has continued to administer the power reserve system for electricity generation and the feed-in tariff for peat. The additional price included in the feed-in tariff for peat was not paid during the early months of the year due to the price ratios between peat and coal. Instead, the additional price was paid for peat power production in the latter part of the year. The reporting for the feed-in tariff for peat was detailed on Fingrid's website. The tariff is administered by Fingrid's subsidiary Finextra Oy (former name Fingrid Verkko Oy).

Fingrid's focal areas and challenges

- In terms of customer and stakeholder satisfaction, the key issues include well-working services, proper communications, good interaction models, and comprehensive supply of information to all stakeholders.
- One of the basic factors in our extensive capital investment programme is that the land use policy works. In this way, we can ensure our operating conditions also in the future.
- Our stakeholder spectrum expands as the electricity transmission business evolves. It is our duty to improve our service and interactive operating model to respond to increasingly versatile needs and wishes.



"Competition over the supply of electricity to the customers at an as inexpensive price as possible has kept Finns on their toes. And with an engineering background, I tend to say that we Finns have had very competent engineers to build the nation-wide grid. It is all founded on solid engineering expertise."

Kalervo Nurmimäki, former CEO of Imatran Voima Oyj



Fingrid actively supports the improvement of its personnel's professional expertise and co-operation skills. The corporate values – transparency, impartiality, efficiency and responsibility – create the foundation for good work motivation and atmosphere. Occupational welfare and safety are ensured by following jointly-agreed personnel and equality principles and the action plan for occupational protection, and by compiling feedback regularly. Long-term personnel planning is the basis for implementing the corporate strategy.

Personnel and expertise

The objective of Fingrid's personnel policy is to improve leadership, performance of supervisors, and expertise and procedures covering the entire workplace community. During the period under review, the organisation of personnel functions was made more comprehensive, and their visibility in the various parts of the organisation was enhanced. The foundation of motivated and satisfied personnel lies in good leadership, a transparent way of doing things, development of personal expertise, high-quality services which promote welfare at work, and regular monitoring and assessment.

The personnel aspect was engaged more firmly in the strategy work. The objective of the personnel plan of the company is to ensure the sufficiency of personnel and expertise in the future. The focal areas also include the efficient management and utilisation of business knowledge as well as leadership which backs up the strategy. Fingrid supports the individual development and expansion of expertise of its employees in the various sectors.

In addition to special training pertaining to transmission system operation, Fingrid continued training programmes which support the strategy on the various levels of leadership. Data systems and language training were provided for the entire workplace community so as to intensify the management of business knowledge and to sustain internationalisation. Moreover, the personnel had an opportunity to participate in individual training events and programmes. In 2009, Fingrid provided an average of 59 hours of training per person.

There were regular personnel events and personnel information sessions for the entire organisation in 2009. These were arranged as part of communications concerning the strategy and its follow-up and so as to

increase networking beyond the organisational boundaries. The company monitors the fulfilment of the strategy and develops its operations through participatory strategy work, performance reviews, indicators based on the strategy, and action plans.

The clarification of the leadership model continued in 2009 by means of a training programme intended for supervisors and by means of enhanced peer efforts.

It requires long-term efforts to secure the expertise in transmission system operation as the technologies and operating environment change and as the range of stakeholders expands. This calls for constant development, sharing of expertise, and interaction skills across the organisational boundaries from the entire organisation.

In order to respond to these challenges, a specific operating model was drawn up in 2009. Its objective is to boost strategic thinking and co-operation skills in expert work and to identify best practices. This "My strategy" training project, which covers the entire workplace community, will be launched at the beginning of 2010, providing a crucial continuum for long-term strategic personnel development.

As part of the annual plan for internal auditing, the personnel functions were audited in 2009, the objective being to

ensure that the personnel processes work and that they are purposeful, and to make sure that these processes contribute to the fulfilment of the business strategy.

In a workplace atmosphere survey conducted by the Finnish Institute of Occupational Health, Fingrid as an employer obtained a grade of 8.6 on a scale from 4 to 10. Overall, the results of the atmosphere survey were very good: experiences of workload and stress are going down, and correspondingly there are more experiences of work enjoyment. At the beginning of 2010, Fingrid will introduce a personnel index devised during 2009. This index has been derived from the personnel strategy objectives. The index intends to monitor job satisfaction further and to find, relying on the corporate strategy, issues that require development from the viewpoints of the entire organisation and various units.

The number of personnel in Fingrid remained at the same level as in 2008. At the end of 2009, Fingrid employed 260 people, 245 of whom were permanent employees. Fingrid's number of personnel corresponds well to the present scope of the company's business. The age distribution of personnel is fairly even, but shifting the expertise possessed by the retiring age classes to the younger generations must become a crucial component of personnel management in the coming years.

Fingrid's focal areas and challenges

- Working can be intensified and time and costs can be saved by utilising the latest information technologies. One successful reform has been the introduction of video conferencing.
- Long-term personnel development in accordance with the strategy will continue on the various levels of leadership in the form of "My strategy" training encompassing the entire workplace community.
- The objective in the prevention of occupational accidents is to ensure a fully safe working environment for each employee. In 2009, there were no absences caused by occupational accidents in Fingrid, which is extraordinary in view of the statistics concerning this decade.



"The company personnel were – and certainly still are – highly motivated. The organisation started with a clean slate. It did not carry the burden that easily accumulates in old organisations. It became evident fairly soon that people liked to come to work for Fingrid, and we were able to attract good people in this way."

Timo Toivonen, former President of Fingrid Oyj





Fingrid focuses on the development of technologies and procedures related to electricity transmission and maintains special expertise pertaining to transmission system operation in Finland. Development projects are used for improving the cost efficiency and system security of the power system and for enabling controlled introduction of new technologies. The development projects also contribute to securing the expertise and constant development of personnel working in the industry.

Research and development

In 2009 Fingrid had some 50 ongoing research and development projects, which constituted the company's R&D input of approx. 1.3 million euros. Moreover, the company sponsored R&D in the industry through a professorship in electricity transmission systems donated to the University of Technology, and commissioned several Master's theses.

An R&D plan shared by the European transmission system operators was drawn up within the newly-established ENTSO-E. European co-operation will provide a good platform to carry out comprehensive projects, which will also receive external funding. In Finland, Fingrid participated in the work of the Electricity Research Pool and control of projects funded by it, and in launching research programmes by CLEEN Oy, the strategic centre for science, technology and innovation in the energy and environmental industries. Electricity production which cannot be adjusted especially brings a need to control loads, and this offers opportunities to joint development projects with customers and research institutions.

The magnitude of disadvantage inflicted by outages on grid customers was studied in an R&D project. Disadvantage values were specified for the various consumption types, such as in the paper industry, chemical industry

and transport. The updated values will be used for example in grid planning and operation, internal monitoring, and in Fingrid's efficiency control.

With respect to system security management, Fingrid studied the reliability of telecommunications required by Fingrid's primary data systems and other functions in a power cut situation. This led to measures which can be used for securing the restoration of grid operation also during a longer power failure.

As far as the fast disturbance reserve is concerned, the combining of small reserve power plants into a larger entity controlled by Fingrid was studied. Based on the experiences gained from the pilot project, Fingrid is examining the application of the developed aggregation methods also for controlling electricity consumption.

In substation technology, the research projects included methods for monitoring moisture in transformers. To this end, analyzers were installed in transformers for comparing the various methods. The challenges and opportunities involved in the application of the substation bus standard IEC 61850 were also studied. The bus provides much information to support the maintenance of substation components.

On transmission lines, the focal research topic was corrosion in guy wire rods. Such corrosion has occurred in the support structures of transmission line towers. In addition to devising a measurement method for the degree of corrosion, corrosion-resistant guy foundations made of concrete were designed. Prototypes of these were made for pilot installations.

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Fingrid's focal areas and challenges

- The power system is becoming increasingly interactive and intelligent as there is more and more controllable generation and consumption also in distribution networks.
- An intelligent power system adds to the links between data systems and real-time data transfer, and also imposes new requirements on the expertise of personnel.
- Varying generation, more numerous interconnections between countries, and an expanding market area mean challenges for the management of system security and for the functioning of the electricity market.



“There was much input in research and development after the Second World War. There was also significant co-operation with the Finnish industries. We kept the engineering, construction and maintenance of transmission lines in our own hands; we were building the lines for ourselves.”

Jaakko J. Laine, M.Sc. (Tech.)



Fingrid mitigates the adverse land use and scenic impacts caused by the transmission grid through environmental planning as well as technical and scenic solutions. Fingrid makes sure that its equipment conforms to environmental requirements. Fingrid supports research concerning the useful applications and natural conditions of transmission line areas.

Environment

In 2009, environmental impact assessment (EIA) procedures were completed for the following 400 kilovolt transmission line projects: between Hikiä in Hausjärvi and Forssa as well as between Tahkoluoto (Pori), Ulvila and Kristiinankaupunki.

The EIA procedure launched in the autumn of 2008 for additional reserve power plant capacity was brought to a conclusion, and four locations were selected for further examination. Waterway and fishing industry surveys were carried out on the sea area for the EstLink 2 project between Finland and Estonia. The surveys on the land area for the project covered the nature and cultural heritage values on the area of the overhead direct current line between the terminal station of the submarine cable and the Anttila substation in Porvoo. These surveys were drawn up before the actual permit procedure for the project commences.

Related to the long-term development plan for the grid in Western Finland, the EIA procedure for a new 400 kilovolt transmission line between the Ventusneva substation in Kokkola and the Pyhänselkä substation in Muhos was launched. This transmission line project also makes preparations for connecting potential new baseload generation capacity and wind power capacity in the region to the nation-wide grid. The statement by the contact authority on the environmental impact assessment programme of the project was obtained towards the end of 2009.

Two background reports were drawn up for regional councils so that planned transmission line routes could be included in regional land use plans. Fingrid processed

some 230 statements concerning land use plans in 2009. The environmental permit processes for the Vaskiluoto, Kristiina, Tolkinen and Loviisa reserve power plants were completed by the end of the year. Evaluations conforming to the Antiquities Act were performed for four transmission line and substation projects.

About 50 areas were assessed in a survey concerning valuable bird areas and the risk of collision of birds with transmission lines. The assessment method developed in this work can be used in the future when planning new transmission line projects and bird markers for present lines. A six-year follow-up study concerning the kestrel was also completed in 2009. Moreover, Fingrid and ProAgria Pirkanmaa have continued the drawing up of a procedure based on management contracts for transmission line areas. In this procedure, usage and management plans have been prepared for two valuable nature areas located in a transmission line area in Nokia, and for sites with false heath fritillary butterfly populations in Kangasala.

On 16 January, 80 years had elapsed from the commissioning of the 110 kilovolt transmission line between Imatra in Eastern Finland and Turku on the west coast of Finland. This event can be regarded as the launch of transmission grid operation in Finland. Fingrid celebrated the 80th anni-

versary of the Finnish grid by publishing the book "Form and colour in the landscape – history of the Finnish landscape tower". The book with an abundance of photographs describes the 20-year history of landscape towers and also provides information on the work processes and technical details on the towers.

A Master's thesis was completed at the University of Jyväskylä in 2009 on the social impacts of a transmission line project from the viewpoint of landowners. The conclusion was that landowners were mostly satisfied with the execution of the transmission line project, but there is a need to improve communications and contacts further. The Tampere University of Technology drew up two reports for use by Fingrid's stakeholders, concerning research and topics on electric and magnetic fields from a medical point of view.

Fingrid published a map-based feedback and statement request service on its website, intended for the general public. By using the service, for example landowners and those living close to a transmission line can submit requests for action concerning an area indicated on a map, give feedback on Fingrid's transmission lines, or request a statement for a project requiring a permit in the vicinity of a transmission line.


Fingrid's focal areas and challenges

- Environmental aspects are an increasingly important factor in the planning and various stages of construction of transmission lines.
- Good interaction and co-operation with authorities, landowners and those living close to a transmission line promote the progress of projects and satisfaction towards the end result.



"The system security of the grid is becoming an increasingly important consideration; people are less tolerant of power cuts than before. People should understand that if we wish to have a reliable supply of electricity, the towers need to be there. The discussion on these matters is not always intellectually quite honest."

Liisa Haarla, Professor, Aalto University School of Science and Technology



Fingrid ensures a stable trend in the prices of its services by planning the corporate finances, risk management, financing and capital expenditure over a long time perspective. The key objective in financial control is to manage the costs of the business processes and to intensify performance.

Corporate finances

Fingrid's strategy is based on fulfilling the company's financial objectives.

These objectives are composed of cost efficiency, reasonable yield to the owners, and retaining a high credit rating. Not all Fingrid's financial objectives were attained in the year under review. Fingrid's pivotal strategic indicators, imposed on the company by the owners, measure the functioning of the electricity market, system security of the grid, and cost-efficiency of the company's operations. Eighty per cent of the objectives set on the strategic indicators were met in 2009.

Fingrid's operations are very capital-intensive. Fingrid aims at cost efficiency and predictability of the costs by using business solutions which support the business economy over a long time span. These include competitive tendering for projects related to the construction and maintenance of the grid, use of hedging instruments in the management of commodity and financing risks, and efficient use of the money and capital markets. The main income in transmission grid operation comes from the grid service and cross-border transmission service.

In 2009, the 7 per cent decrease in electricity consumption in Finland owing to the economic recession reduced Fingrid's grid revenue even though the grid tariffs were raised by 4.5 per cent at the beginning of 2009. The company is implementing its capital expenditure programme of approx. 1,600 million euros as planned. The capital expenditure programme is based on the national energy and climate strategy as well as on the projected location of electricity generation and consumption over a long term.

In its business, Fingrid is exposed to a number of risks, which it aims to limit in its strategy and business plans by using various means. Fingrid's foremost business risks comprise a major disturbance or

power shortage, incorrect or unanticipated capital expenditure projects, unfavourable trend in official regulation, drastic variations in market-based costs, and personnel risks. As part of its corporate social responsibility, Fingrid has identified the risks that have a major impact on society. These include a major disturbance or an extensive disturbance with a long duration, diminished confidence in the electricity market, postponement of cross-border line construction projects, delayed reinforcement programme for the trunk grid, and unexpected and long-term restrictions in transmission capacity.

Revenue of the Fingrid Group in 2009 was 359 million euros (382 million euros in 2008). The IFRS operating profit of the Group was 51 (68) million euros. The Group's profit for the year was 25 (28) million euros. The Group's balance sheet total in accordance with IFRS was 1,649 (1,562) million euros. The return on investment was 3.9 (5.8) per cent and the return on equity 5.7 (6.6) per cent. The equity ratio was 27.2 (26.7) per cent at the end of the review period.

The net financial costs in accordance with IFRS decreased considerably to 18 (31) million euros, including a positive change of 3 (-2) million euros in the fair value.

The financial assets at 31 December 2009 totalled 204 (206) million euros. The interest-bearing liabilities, including derivative liabilities, were 1,001 (933) million euros.

International rating agencies updated Fingrid's credit ratings in 2009. On 15 April

2009, Fitch Ratings affirmed Fingrid Oyj's long-term issuer default rating (IDR) of AA-, a short-term IDR of F-1+ and a senior unsecured debt rating of AA. Fitch Ratings assessed Fingrid's outlook to be negative. Standard & Poor's Rating Services (S&P) updated Fingrid's credit opinion on 17 July 2009. The long-term rating issued by Standard & Poor's is A+ and short-term rating A-1. S&P assessed Fingrid's outlook to be stable. Moody's Investors Service downgraded Fingrid's long-term rating from Aa3 to A1 on 9 October 2009. Fingrid's short-term rating remained at P-1. Moody's assessed Fingrid's outlook to be negative.

The Energy Market Authority supervises the reasonableness of the proceeds of network operators. The Energy Market Authority has confirmed that between 2005 and 2007, Fingrid's proceeds were approx. 100 million euros below the permitted level. According to the preliminary results of the Authority, Fingrid's proceeds in 2008 were approx. 64 million euros below the permitted amount. Before taxes, this represents approx. 40 per cent of the company's revenue of 220 million euros from the grid and cross-border transmission business.

Fingrid achieved excellent results in a benchmarking survey arranged by CEER (Council of European Energy Regulators), concerning the overall efficiency of transmission system operation. The survey published in 2009 involved 22 European TSOs from 19 countries. Fingrid and two other TSOs were found to be exceptionally efficient.

Fingrid's focal areas and challenges

- Improved financial control to accomplish efficient operations.
- Continued transparent interaction with investors and financiers.
- Turning the cash flow of the Group positive over a long time horizon despite the extensive capital expenditure programme of 1,600 million euros.



“When Fingrid’s operations were launched, it was set certain financial objectives, such as a reduction of 15 per cent in the prices. This target was achieved much quicker than anticipated. It was possible to achieve savings, which enabled the price reduction, especially in construction and maintenance work, where the approach of competitive tendering of projects worked very well. This model was successful largely because Fingrid itself had the strength to specify accurately what it wanted and because the service providers had confidence in the impartiality of the company.”

Timo Toivonen, former President of Fingrid Oyj

Board of Directors



● **Arto Lepistö**

Chairman
Deputy Director General, Head of the Energy Markets Group, Ministry of Employment and the Economy, Energy Department, born in 1952

Involved in the development of the energy market and related regulations in various duties. Participated in the work of various committees and task forces as their chairman and member, and served as Finland's representative in the organisations of the EU and IEA.

● **Timo Rajala**

President & CEO,
Pohjolan Voima Oy,
born in 1947

Chairman of the Board of Teollisuuden Voima Oyj. Chairman of the Board of Oy Alholmens Kraft Ab and Chairman or member of the Boards of the subsidiaries of Pohjolan Voima Oy. Member of the National Emergency Supply Council of the National Emergency Supply Agency, member of the Finnish Section of the International Chamber of Commerce (ICC), member of the Economic Policy Committee of the Central Chamber of Commerce of Finland, member of the Board of Savon Voima Oyj.

● **Timo Karttinen**

Executive Vice President,
Fortum Oyj,
Electricity Solutions
and Distribution,
born in 1965

Deputy Chairman of the Board of Finnish Energy Industries, member of the Supervisory Board of Gasum Oy, member of the Supervisory Board of AS Eesti Gaas, member of the Trade Policy Committee and Energy Committee of the Confederation of Finnish Industries EK.

● **Ari Koponen**

Vice President,
Fortum Sähkönsiirto Oy,
born in 1964

Responsible for Fortum's electricity distribution business in the Nordic countries and Estonia. Chairman of the Boards of Fortum Sähkönsiirto Oy, Fortum Espoo Distribution Oy, Fortum Distribution AB and Fortum Distribution AS. Chairman of the Supervisory Board of Fortum Elekter AS.



● **Ritva Nirkkonen**

Fund Raising Manager,
University of Jyväskylä,
special tasks,
born in 1946

Served in the present position since 1 January 2009. Between 1995 and 2008, served as the Business Director for the Jyväskylä region and as the Managing Director of Jykes Oy. Worked previously at the Ministry of Trade and Industry as Commercial Counsellor responsible for international expansion of enterprises. Honorary Consul of the Federal Republic of Germany in Central Finland, member of the Executive Board of Finnish Tourist Board, deputy member of the Board of Invest in Finland, member of the control group of the Ministry of Employment and the Economy for reducing the administrative burden of business enterprises, supervisor of the Jyväskylä office of Nordea.



● **Anja Silvennoinen**

Senior Vice President,
Energy Business Area,
UPM-Kymmene Oyj,
born in 1960

Served in the present position since 2004. Before UPM worked in several positions within the energy industry in Finland and abroad, in management consulting, and at the Ministry of Trade and Industry of Finland. Member of the Supervisory Board of Kemijoki Oy. Member of the National Board of Economic Defence, Energy Sector, and member of the National Emergency Supply Council established by the Government. Chairperson of the Energy Committees of the Confederation of Finnish Industries EK and the Finnish Forest Industries Federation, Vice Chairperson of CEPI Energy Committee. Member of the Board of Cargotec Oy.



● **Risto Autio**

Director, Alternatives,
Varma Mutual Pension
Insurance Company,
born in 1958

Served in the current position since 2005. Main responsibilities have included private equity investments (private equity funds, unlisted direct investments) of Varma since 2002. Before that worked for 15 years in Sampo Bank's corporate banking division including Corporate Finance, Structured Finance and Corporate Banking. Member of the Investor Committees or Advisory Boards of several international private equity funds, member of the Board of Leverator Oy and deputy member of the Board of Tornator Oy.



● **Tarmo Rantalankila**

Secretary of the Board
General Counsel,
Fingrid Oyj,
born in 1952

● **Deputy members of the Board**

Timo Ritonummi, Senior Engineer, Ministry of Employment and the Economy

Jussi Hintikka, Executive Vice President, Pohjolan Voima Oy

Juha Laaksonen, Chief Financial Officer, Fortum Oyj

Kari Koivuranta, Senior Adviser, Fortum Sähkönsiirto Oy

Pekka Kettunen, Senior Specialist, Prime Minister's Office, State ownership steering

Jukka Mikkonen, Director, Energy Finland, Stora Enso Oyj

Jorma Tammenaho, Senior Portfolio Manager, appointed by investor shareholders

Executive Management Group



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● SYSTEM DEVELOPMENT Jussi Jyrinsalo

Licentiate in Technology,
born in 1964

Served in the present position since 2005. Before that, worked at Fingrid as Technology Manager, Engineering Manager and Sales Manager, at IVO Voimansiirto Oy as Sales Manager, Project Manager and Design Engineer, at the Lappeenranta University of Technology as Assistant Professor, and at the Tampere University of Technology as deputy Senior Assistant and Researcher.

Positions of trust: Member of ENTSO-E's System Development Committee 2009–, Finnish representative in Cigre Study Committee B4 (HVDC and power electronics) 2002– and member of its strategy group 2005–.

● PRESIDENT & CEO Jukka Ruusunen

Doctor of Technology,
born in 1958

Served as President and CEO since 2007. Before that, worked in various duties at the Helsinki University of Technology and Helsinki School of Economics since 1982, and as advisor at Imatran Voima Oy and as Vice President for Business Development at Fortum Power and Heat Oy in 1996–2006.

Positions of trust: Vice President of ENTSO-E 2009–, member of the Board of Finnish Energy Industries 2007–, Visiting Professor at Aalto University School of Science and Technology 1995– and School of Economics 1996–.

● MARKET DEVELOPMENT Juha Kekkonen

M.Sc. (Tech.),
born in 1950

Served in the present position since 1997. Before that, worked at the Energy Department of the Finnish Ministry of Trade and Industry and at Finland's permanent representative office at the OECD 1975–1996.

Positions of trust: Vice Chairman of ENTSO-E Market Committee 2009–, Member of the Board of Nord Pool Spot AS 2002–.

● FINANCE AND BUSINESS DEVELOPMENT Tom Pippingsköld

M. Sc., MBA,
born in 1960

Served in the present position since 2001. Before that, worked at Fingrid as Financial Manager and Financial Director, at Postipankki Bank's investment bank as Investment Analyst and in project financing as Financial Manager 1990–1994, and at the European Bank for Reconstruction and Development (EBRD) in London as Principal Evaluation Officer 1994–1998.

Positions of trust: Deputy member of the Board of Nord Pool Spot AS 2007–.



● **ASSET MANAGEMENT**

Kari Kuusela
M.Sc. (Tech.),
born in 1955

Served in the present position since 1999. Before that, worked at Fingrid as Technical Director and Construction Manager, at Nokia Metalliteollisuus (Kaapeli) as Development Engineer 1981–1983, and at Imatran Voima Oy as Specialist, at IVO Transmission Engineering Oy as Chief Engineer and at IVO International Oy and IVO Voimansiirto Oy as Engineering Manager 1983–1997.

● **STAKEHOLDER RELATIONS**

Matti Tähtinen
B.Sc. (Tech.),
born in 1957

Served in the present position since 2007. Before that, worked at Fingrid in the development and management of customer and stakeholder processes, and at Imatran Voima Oy as Specialist and Project Manager in international operation control projects of power companies in 1981–1997.

Positions of trust: Secretary of Fingrid's Advisory Committee 1997–.

● **GRID SERVICE**

Pertti Kuronen
M.Sc. (Tech.),
born in 1953

Served in the present position since 2003. Before that, worked at Fingrid, IVO Voimansiirto Oy and Imatran Voima Oy in various grid operation and planning duties since 1978.

Positions of trust: Member of the Board of Porvoon Alueverkko Oy, member of the Network Committee of Finnish Energy Industries 2008–.

● **POWER SYSTEM OPERATION**

Reima Päivinen
M.Sc. (Tech.),
born in 1958

Served in the present position since 2005. Before that, worked at Fingrid, IVO Voimansiirto Oy and Imatran Voima Oy in various grid operation and maintenance duties since 1983.

Positions of trust: Member of ENTSO-E's System Operation Committee and Regional Group for System Operation in the Nordic countries 2009–, Chairman of Power and District Heat Pool 2009–, Chairman of Fingrid's Operation Committee 2008–.

Advisory Committee



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● **Karri Mäkelä**
Director, Operations,
Nord Pool Finland Oy

● **Mikko Rintamäki**
Vice President, Energy,
Outokumpu Oyj

● **Matti Tähtinen**
Senior Vice President,
Fingrid Oyj (Secretary)

● **Tuula Loikkanen**
Managing Director,
Verkko Korpela Oy

● **Markus Lehtonen**
Senior Vice President,
Development,
Helsinki Energy

● **Risto Vesala**
Senior Vice President,
Pohjolan Voima Oy

● **Jorma Korhonen**
Managing Director,
Pohjois-Karjalan Sähkö Oy



● **Elina Engman**
Vice President,
Energy,
Kemira Oyj Energia

● **Jukka Ruusunen**
President & CEO
Fingrid Oyj

● **Pertti Leppänen**
Managing Director,
Leppäkosken Sähkö Oy

● **Hannu Linna**
Managing Director,
Vaasan Sähkö Oy (Chairman)

● **Kalle Ahlstedt**
Vice President,
Corporate Strategy Development,
Fortum Oyj

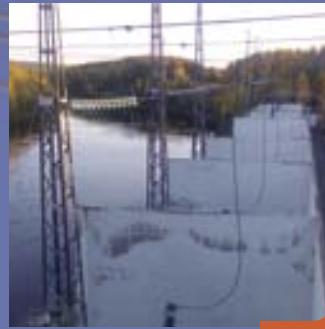
● **Pekka Tynkkynen**
Senior Vice President,
Portfolio Management,
UPM-Kymmene Oyj

● **Matti Rintanen**
Managing Director,
Pori Energia Oy

Events during the year



- Fingrid was involved in a number of wind power projects in 2009, issuing statements and drawing up network plans.



- A significant 400 kilovolt transmission connection between the Keminmaa and Petäjaskoski substations was completed in Northern Finland in December.



- A Static Var Compensator (SVC), which represents new intelligent technology, was commissioned at the Kangasala substation. The compensator primarily intends to improve the stability and hence the system security of the power system.



- In November, Fingrid together with transmission line contractors and energy companies arranged a large-scale exercise for the repair of transmission lines in Nokia. An imaginary ice storm situation with a resulting power cut in a large part of Southern Finland was used for testing the co-operation between the various parties.

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- To celebrate the 80th anniversary of the Finnish grid, Fingrid published the book "Form and colour in the landscape – history of the Finnish landscape tower".



- The seabed studies and the necessary field work for the environmental, nature, water ecology and fishing industry surveys related to the preliminary planning of the EstLink 2 direct current link were brought to conclusion in the summer.



- Many landowners and others interested in transmission lines visited Fingrid's stand at the Farmari 2009 agricultural fair in Kokkola. The annual Farmari fair is an important forum for Fingrid's stakeholder efforts.



- Fingrid arranged three seminars for its customers and partners in 2009. Their themes covered topical issues concerning the electricity market as well as grid maintenance and operation.



● Fingrid achieved excellent results in a benchmarking survey arranged by CEER (Council of European Energy Regulators), concerning the overall efficiency of transmission system operation.

● A major contract extending over several years, replacement of aluminium towers on 400 kilovolt lines, was completed in the spring. A total of 1,300 aluminium towers were replaced by steel towers over a distance of 750 kilometres.





