SVENSKA KRAFTNÄT

Annual report for 2015

Message from the General Director

> Focus - Power issue <

The power issue has been focused on in 2015. The issue was raised by Svenska kraftnät already at our annual customer and stakeholder day in March of 2014. For the event, we compiled facts about electricity production, consumption, domestic transfer capacity and capacity of links abroad. Based on these, a panel then discussed how Sweden, more than a decade later in 2025, would deal with the closure of the reactors Oskarshamn 1, Ringhals 1 and Ringhals 2.

In September the same year, I spoke at the SvD Summit energy conference and condemned the conditions for investments in new Swedish nuclear power on purely commercial grounds. I also pointed out that power companies had already found it difficult to recoup their large investments in capacity increases and made the forecast that "it may very well be that the two reactors will shut down in the near future."

One year later, my speculations unfortunately came true when the owners decided to close all the reactors prematurely which began operating in the 1970s - Oskarshamn 1 and 2, and Ringhals 1 and 2. Oskarshamn 1 already closes next year, Oskarshamn 2 is shut down and will not be restarted. The two blocks at Ringhals will be closed in 2019 and 2020 respectively. How should this situation thus be overcome?

The past winter has shown how powerful the Nordic electricity market is. Price mechanisms have worked well and generated energy flows which have efficiently handled imbalances within and between the Nordic countries. At the same time, it is obviously not unproblematic to decommission 2850 MW electricity production in southern Sweden, which is already a deficit area to start with.

In hindsight, the starting position is good since we have a very strong energy balance. Since 2012, Sweden has exported significant amounts of electricity, with a new export record of net 22.6 TWh during 2015. It helps but does not guarantee that there is enough electricity, especially on a cold winter day when there's no wind.

Svenska kraftnät's assessment

The closure of the four reactors commissioned in the 1970s will inevitably reduce our margins, increasing import dependence during winter and make our power system more vulnerable. Svenska kraftnät's assessment is that Sweden will be able to handle the situation.

Our really great challenge will instead arise when the six reactors commissioned in the 1980s are phased out. According to previous planning, this should be done in the 2040s, but no guarantees are given, and Vattenfall has publicly warned that it may be forced to reschedule due to low electricity prices and high taxes.

Svenska kraftnät's overall assessment is that - provided we get the time needed – it is possible to manage the phasing out of nuclear power by expansion of transmission capacity, increasing demand flexibility and adding new storage technologies. But we are also clear with our assessment that an injection of new electricity production will also be required, which is also possible to plan, in other words which is not weather-dependent.

The problem is that today's electricity market cannot deliver the electricity production needed which is possible to plan. Significant subsidies have accelerated the expansion of renewable electricity production and thereby contributed to lower production costs, particularly for wind power. But now we subsidise new electricity production regarding an already large electricity surplus and thereby push electricity prices to levels so that no new electricity production can be built without subsidies. It also depends on how committed an operation is.

This condition not only affects the potential electricity production which is possible to plan, but also the weather-dependent electricity production. Wind power begins to compete with itself on the market. When the wind blows, the revenue pays for the investments, but even when the wind blows, the electricity price will be so extremely low that it can no longer generate these revenues. Today, subsidies do not benefit the electricity market, they disrupt it.

How this situation is to be resolved can be said to be the focus of the Energy Commission's task at hand. Svenska kraftnät contributes to the work with the expertise we possess.

The systemic challenges

Svenska kraftnät highlights in particular the systemic challenges that others do not have reason to consider as much. A rapidly increasing proportion of highly volatile electricity exposes the electricity system to considerable strain. We have described some of these in a report which we submitted to the government in December.

The challenges in particular have to do with the kinetic energy in the system (the inertia mass) decreasing, making it more difficult to maintain stability when there is any disruption. It also becomes difficult to maintain voltage and frequency stability, which is not only important for operational safety, but also for e.g. the electricity-intensive process industry.

A major Swedish competitive advantage and condition to regulate wind power's fluctuations is our good access to hydropower. The control ability is based on large amounts of water being possible to move into the northern reservoirs, but this is threatened by new environmental regulations and unwise implementation of EU's water directive.

The numerous small hydropower plants in southern Sweden are also important in this regard. They are well-located geographically, and although Svenska kraftnät does not control their production, it contributes via regulation by reducing the "residual amounts" that Svenska kraftnät's control room has to handle.

Market reforms

Reforms will be needed on today's Nordic energy-only-market in the long term if we are to tackle the challenges we face. In one way or another, we need to put a price tag on the capacity and/or flexibility the system needs. We also need to provide the electricity market's stakeholders with stronger financial incentives to behave in a way that benefits the system as a whole.

Many of these issues will be tackled by the EU within the framework of the energy union. But the work also involves risks for the Nordic synchronisation area.

In Europe, the system operators are often private, commercially run companies. The EU admittedly looks on with admiration regarding the well-functioning Nordic electricity market, but has difficulty with understanding both our government accountability and our management model.

It could lead to European regulations based on continental conditions - conditions that lead us backwards rather than forwards. The European grid codes now implemented are too detailed and force us to frequently change the good pattern of cooperation that has developed within the Nordic synchronisation area for 20 years.

The baltics

Upon this document's establishment, transmission tests on the new NordBalt link between Sweden and Lithuania were being performed. That which came to be NordBalt was the first major case I came in contact with when I took over as General Director of Svenska kraftnät in the spring of 2008. The SwedLit study had then just ended, but nobody really wanted to go ahead with the project. It was felt that other links were better and more profitable to invest in.

I had a different perspective, and following discussions with our Lithuanian colleagues, and also with the then Latvian Prime Minister Ivars Godmanis, we found a common ground forward. The EU then came in to support the project.

When I leave Svenska kraftnät in one year, our substantial contributions to the Baltic Sea region's electricity market and the Baltics' security of supply are things that I will be especially proud of.

Closing statement

The financial results in 2015 were significantly higher than budgeted. Overall, the public utility reports a surplus of 1,121 million SEK, representing a 10.7 % return. Also in all other respects, Svenska kraftnät fulfilled the requirements and reached the targets of set by the government.

Stockholm, February 2016

MIKAEL ODENBERG

Innehåll

This is Svenska kraftnät

Responsible so that Sweden never stops

The state public utility Svenska kraftnät manages and develops the national grid for electricity. Sweden's national grid covers 15,000 km of power lines for 400 kV and 220 kV, 160 transformers and switching stations as well as 16 foreign links.

Svenska kraftnät has system responsibility for electricity, which involves overall responsibility for seeing to it that Swedish electricity supply is reliable and that the input and output of electricity is always in balance. Svenska kraftnät is also the power preparedness authority and the supervising authority for dam safety in the country.

In Sundbyberg there is the national control room, where employees monitor and control the national grid around the clock. Svenska kraftnät also has offices in Sundsvall, Halmstad and an operations centre in Sollefteå. At the end of 2015, there were 565 permanent employees, most of whom worked at the head office in Sundbyberg. In addition, the utility employs several hundred people as consultants and at construction sites around the country.

It is the parliament that sets the framework for Svenska kraftnät's investments. In instructions and a regulatory letter, the government states objectives, reporting requirements and financial conditions for the utility. Operations are financed largely by fees which regional grids, large electricity producers and balance providers pay to Svenska kraftnät.

An important role in climate policy

Svenska kraftnät promotes an open Swedish, Nordic and European electricity market. The utility develops the national grid and electricity market to meet society's needs for a safe, environmentally-friendly and cost-effective electricity supply. Svenska kraftnät thus plays an important role in climate policy.

Svenska kraftnät's role in the electricity market

Svenska kraftnät's grid customers are large electricity production plants and regional grids that are connected to the national grid. In order to maintain the balance between the input and output of electricity, Svenska kraftnät performs forecasts for consump-

tion as a basis for production planning. The utility bases forecasts on information from the balance providers.

The 30 balance provider companies shall, under contract with Svenska kraftnät, ensure to plan in balance. Electricity producers and electricity suppliers are examples of balance provider companies. An electricity supplier may itself be a balance provider or transfer the responsibility to another company. Electricity network companies send readings to Svenska kraftnät which then calculates how well the balance providers have balanced input and output of electricity.

Electricity's path from production to consumption

The electricity market consists of two parts - the physical transfer of electricity and electricity trade. The physical part sees electricity transported from power stations to consumers via the electricity network (national grid, regional grids and local grids). The national grid is a natural monopoly that is under the Energy Supervisory Authority.

Electricity trading means that producers sell electricity - often through the electricity exchange - to electricity suppliers who in turn sell it to electricity users. This business takes place in the open competition between operators. Electricity consumers then pay partly for the electricity they consume and partly for the electricity transmitted on the grids.

The marketplace for trading electricity is the Nordic power exchange Nord Pool[1] which, among other things, has a spot market for (physical) trading of electricity per hour for delivery the next day. Nord Pool Spot is owned by national grid companies in the Nordic and Baltic countries and has its head office in Oslo. Nasdaq OMX has a futures market (financial trading) for long-term trading where actors can secure their electricity price for several years. Most trading per hour takes place on the spot market, while a smaller part is done directly between electricity producers and electricity suppliers. Producers and traders can also agree to long-term bilateral agreements, usually with the help of brokers.

The electricity market is also affected by system operators in other countries. Svenska kraftnät works closely with system operators in Norway, Finland and Denmark to power the electricity system effectively. International cooperation is developed contin-

[1] The name was changed in January 2016, formerly called Nord Pool Spot.

uously with a gradual and more distinct regional and European focus. The European national grid operators collaborate in the organisation ENTSO-E[2].

Illustration: Electricity's path

Vision, goals and values

"A leading role for secure and sustainable electricity supply"

This is Svenska kraftnät's vision. The utility has the ambition to play a leading role in the electricity sector - whether it is to create high reliability, a better-functioning electricity market, or to increase connectivity of wind power and other renewable electricity. Svenska kraftnät must have a reliable and secure national grid and works towards environmentally-friendly and sustainable solutions for Sweden's electricity supply.

Svenska kraftnät's long-term goals

Svenska kraftnät works towards four long-term goals:

- We ensure that the electricity system is robust and operated safely and efficiently, even upon external changes.
- We develop an efficient national grid for the benefit of the electricity market.
- We are efficient, proactive and work as one Svenska kraftnät.
- We are one of Sweden's most attractive employers.

Svenska kraftnät's core values

Svenska kraftnät's values reflect the values that the utility strives to stand for. Svenska kraftnät's four core values are

- development
- responsibility
- efficiency
- clarity

[2] European Network of Transmission System Operators for Electricity (ENTSO-E).

Year in review

Continued steps for integrated electricity markets

January - February

Svenska kraftnät presents investment and financial plan for the years 2016-2018. It includes investments totalling 11,500 million SEK during the three-year period.

March

At the public utility's annual customer and stakeholder meeting, infrastructure and state challenges in new investment projects were discussed. Those invited are representatives of government, industry and other stakeholders.

Svenska kraftnät's questions the ambitious increase in the electricity certificate system in the utility's consultation response to the government. It is established against the background of the systemic challenges that a further increased share of weather-dependent electricity generation brings.

April

The SouthWest Link's northern part was commissioned. There is an AC line of 400 kV between Östansjö and Barkeryd to facilitate the connection of renewable energy production and increase transmission capacity southwards.

Svenska kraftnät launches a new website with a virtual "control room" among other things.

The public utility's General Director Mikael Odenberg states that owners' notice of the early closure of nuclear reactors in Oskarshamn and Ringhals is not surprising, but underlines the importance of the Energy Commission's future work.

May

Svenska kraftnät undertakes, by regulation of a grid strengthening loan, the government's task to facilitate the connection of renewable electricity generation through lending a maximum of 700 million SEK to grid owners who invest in grid strengthening.

As a result of low availability of nuclear power, Svenska kraftnät warns about a strained operational status with high demand and high electricity prices as a result. Nuclear power's decommissioning affects the national grid's transmission capacity negatively.

June

Svenska kraftnät submits the annual power balance report to the government. The report includes a sub-report of the past winter's power balance and a forecast for the future. The winter's highest consumption was relatively low at 23,000 MW and the operational reliability was good.

Svenska kraftnät undertakes the government's task to develop and operate a power trading centric information model on the Swedish electricity market. This service hub will lead to a simplified exchange of information between the electricity market actors.

July

Bo Netz is appointed by the government as the new Chairman of the public utility's Board. New members appointed are Charlotte Bergqvist and Mikael Berglund.

August

According to the Power Reserve Act, Svenska kraftnät procures a 340 MW reduction in consumption demand in addition to the 660 MW production procured during 2014. The total power reserve amounts to 1,000 MW.

Svenska kraftnät's comments on the report "Capacity Adequacy in the Nordic Electricity Market[3]" and underlines the need for a level of reliability.

Svenska kraftnät supports the proposal to extend the validity of the Power Reserve Act by five years to 2025. The utility stresses in its reply that it deems it unwise to allow a phasing out of the power reserves to coincide with the 2,850 MW being lost in southern Sweden.

September - October

The Board sets the national grid tariffs for 2016. The decision brings a slight decrease due to the low electricity prices. In the long term, the public utility deems that the tariffs will need to be increased.

The Board decides on investments in a new substations for connecting a further stage in the wind farm at Markbygden in northern Sweden. It will allow the connection of an additional 1,300 MW of wind power. It also decides to invest in new control system facilities for the Konti-Skan 1 and 2 links between Sweden and Denmark.

[3] By Thema Consulting Group.

November

Svenska kraftnät's General Director and the CEO of the German national grid operator 50Hertz sign an agreement on continued cooperation on a new link, Hansa PowerBridge, between southern Sweden and northeastern Germany.

Alstom, a supplier of converter stations in The SouthWest Link's southern part, announces again that they cannot meet their deliveries and that the commissioning of The SouthWest Link's DC link is further delayed.

Svenska kraftnät arranges an Emergency Course in 2015, a joint exercise for the control rooms of the Nordic national grid operators.

The Board decides on the investment in a new IT system, LARM, jointly with Statnett's balance service.

Svenska kraftnät and the Energy Inspectorate have a preliminary dialogue meeting regarding a services hub with stakeholders.

After a referral to about 60 instances, Svenska kraftnät's Board establishes the Grid Development Plan 2016 - 2025, a ten-year plan for the utility's investments in the Swedish national grid. The ten-year plan is also Sweden's contribution to ENTSO's TYNDP[4] and the intention is that it should be updated every two years.

December

After collaboration with the Swedish Energy Agency and the Energy Inspectorate, Svenska kraftnät submits the report "Adapting the electricity system with a large amount of renewable electricity production" to the government. The report highlights the systemic challenges posed by the ongoing transformation of the electricity system and its consequences.

NordBalt - the new DC link between Sweden and Lithuania - will be opened in Vilnius. At the opening ceremony, among others, General Director Mikael Odenberg and Energy Minister Ibrahim Baylan are present.

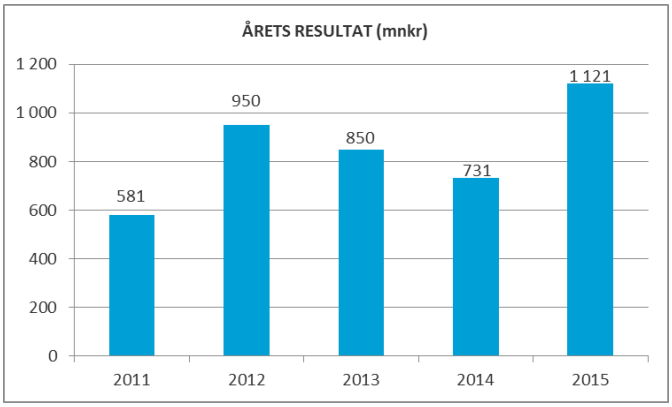
[4] Ten Year Grid Development Plan

Financial overview 2015

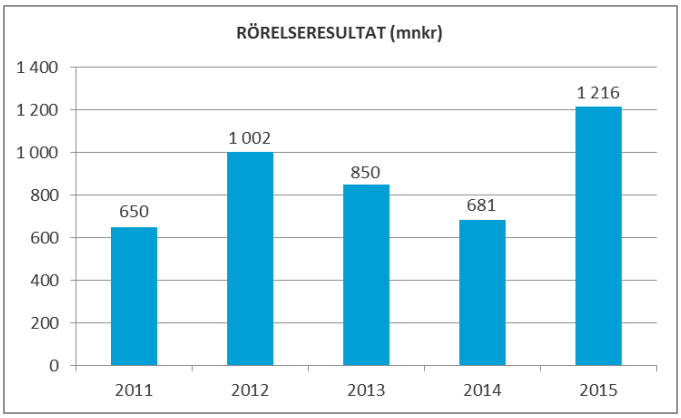
Short overview - 2015

Operations during the year		2015	2014
Input energy on the national grid	TWh	117.8	116.6
Output energy on the national grid	TWh	114.6	113.6
Operational reliability			
Disruptions on the national grid	Quantity	167	205
Disruptions with power outages	Quantity	7	22
Non-delivered energy (NDE)	MWh	9.3	10.6
Non-delivered power (NDP)	MW	31.0	84.3
Financial facts, group			
Group's operating income	million SEK	8,769	9,319
Group's result	million SEK	1,121	731
Return on adjusted equity	%	10.7	7.2
Debt ratio	%	66.8	83.1
Investments	million SEK	2,455	4,353
Balance sheet total	million SEK	23,641	22,338
Employee information			
Permanent employees	Quantity	565	530

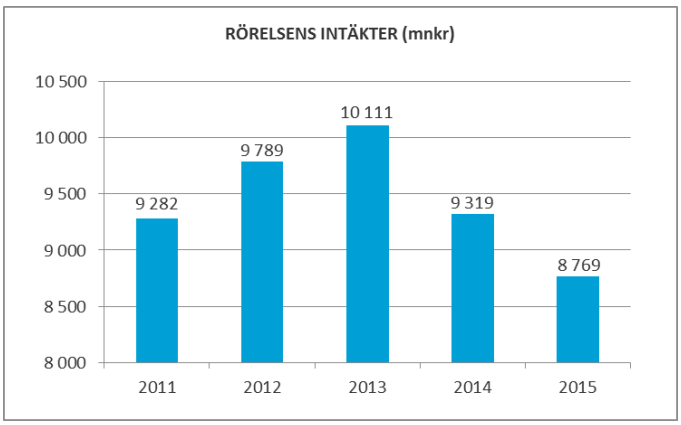
Net income of the year (msek)



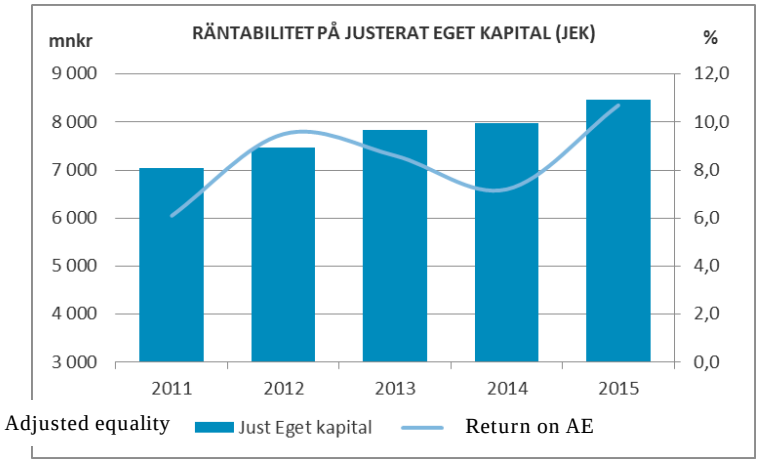
Operating revenue (msek)



Operating income (msek)

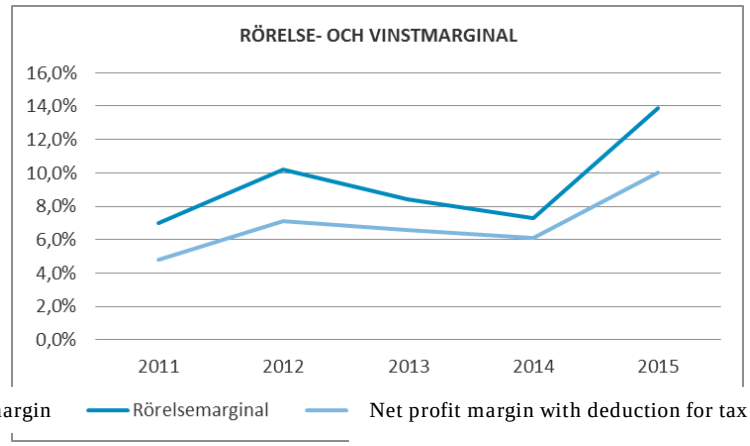


Return on Adjusted equality (%)



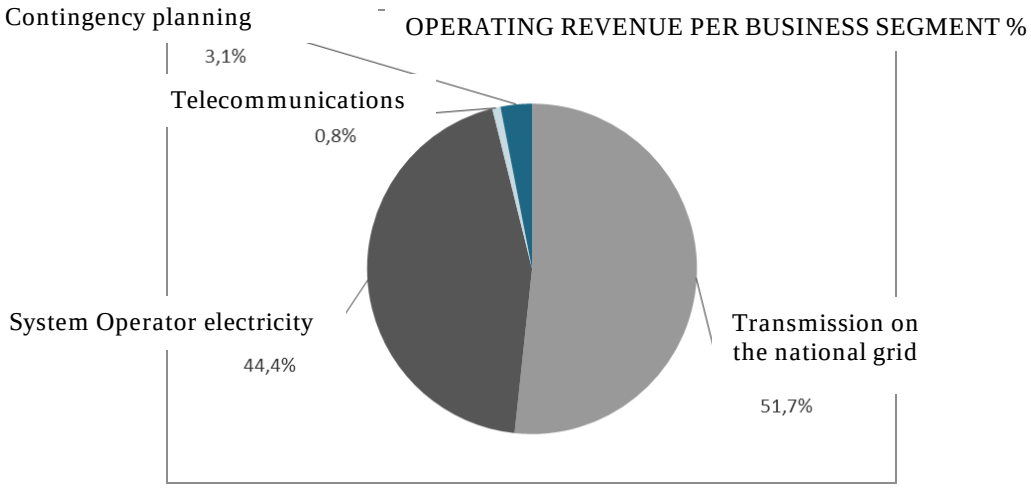
Adjusted equality

Operating- and profit margin (%)



Operating margin

Net profit margin with deduction for tax



Major challenges for the power system

Svenska kraftnät's system responsibility means that the utility controls and monitors the factors that are important for the power system's ability at any moment to maintain both frequency, such as voltage, and transmission capacity. It primarily involves seeing to it that the requirements for active and reactive power balance are met, but there are more factors that affect the power system's ability to maintain transmission capability and reliability. The power system's overall amount of inertia mass is one of these factors.

The Swedish and Nordic power systems are undergoing major changes. The power production possible to plan is being replaced more and more by industries that are dependent on the weather, which makes it more difficult to regulate voltage and it makes the system more difficult to balance. At the same time, the amount of mechanical inertia mass is reduced, which makes the system more sensitive to disruptions.

These changes affect the power system's functions and design. The changes also make the system responsibility role more challenging. Without action, the development leads to impaired robustness in the form of deteriorating supply security, which is not acceptable when society's dependence on electricity is constantly increasing. The utility expects that electricity and the electricity system will have a growing role when the energy system is reset.

To make the right decisions and take the right actions requires both a basic understanding of how these changes affect the electricity system, and a thorough review of the requirements and objectives of reliability and supply security. The electricity system has historically been stable and reliable, but it does not mean that the conditions and requirements that previously applied are sufficient when the system changes.

Svenska kraftnät is therefore working intensively to identify and quantify the measures that need to be implemented to deal with the changes that the conversion of the electricity system involves. It includes both internal work and work on a Nordic level, together with the Nordic system operators. These ongoing projects will answer questions in areas such as balance-regulation conditions, inertia mass, frequency, quality and voltage regulation. There is also ongoing work which will make it easier to monitor and control the dynamics of the electricity system.

The major challenges the electricity system is facing was also one of the reasons Svenska kraftnät undertook the government's task in 2015 to account for how the electricity system needs to be adapted with a large share of renewable electricity production.

New challenges in the power system when inertia mass reduces

A balanced power system

Svenska kraftnät is responsible for maintaining the balance in the power system and ensuring a stable supply to the local and regional grids. The balance may be broken by such short circuits and grid connections that cause fluctuations and disruptions in the system. The size of the inertia mass in the power system is a factor that affects its ability to withstand such disruptions.

Natural inertia makes the national grid operation-safe

Inertia mass is a natural inertia in the electricity system. It works similar to a rotating shaft which has a weight at each end. The heavier the weights are, the harder it will be to disrupt or stop the rotation of the shaft. National grid power lines constitute the shaft and connect the power plants, which serve as the weights.

Less inertia mass in the new production facilities of electricity

Today's electricity system is adapted to nuclear power and hydropower. These power effects have great inertia mass, because they have large generators and turbines. The electricity system is constantly evolving and new energy sources are being connected to the national grid, for example, wind and solar power. In addition, more foreign links

are being connected using direct current. These changes do not contribute any inertia mass and therefore make the electricity system more sensitive.

Coordination with customers and research for enhanced stability

In order to maintain the transmission capacity and ensure the reliability of the power supply, the voltage must be kept within its limits at all points in the power system. Here, coordination with the utility's customers is significance. There are also financial values involved, because losses and costs decrease when resources are used optimally. There is also ongoing research, including at the Energy Research Institute, about how grid stability can be best maintained when the share of solar and wind power increases in the system.

Expansion of the national grid

Factors affecting the expansion of the NATIONAL grid

Svenska kraftnät is working hard to expand and strengthen the national grid for electricity. Several factors lie behind the need for expansion.

Climate targets

- The EU's Energy Union shall help to create an energy system that is in line with what is needed to keep global warming as far below two degrees+ as possible.
- Continued expansion of wind power and increased wind power integration.

A common European energy market

- The third internal market package for electricity and gas - the Energy Union will strengthen competition in the electricity and natural gas markets and increase security of supply.
- Increased market integration in Northern Europe.

Improved operational reliability

- Increased dependence on electricity requires a reliable national grid.
- Great need for reinvestment in the utility's current facilities.
- Increased amount of renewable production affects the electricity system's balancing.

Major expansion projects

Svenska kraftnät expects to invest approximately 45 billion SEK by 2025. The total includes both the new investments and reinvestments. Some of the utility's ongoing investments are presented here. At the site www.svk.se/natutveckling there are several projects described (note: in Swedish).

1. The SouthWest Link - Svenska kraftnät is building The SouthWest Link to increase the reliability and capacity in the Swedish national grid. The link is also important for the expansion of wind power.

2. Stockholms Ström - Because electricity demand has increased in Stockholm, Svenska kraftnät is building a completely new structure for the electricity network in Stockholm. Along with grid companies Ellevio and Vattenfall, the utility strengthens and renews the electricity network to meet future needs for the security of electricity supply.

3. NordBalt - A new DC link between Sweden and Lithuania connects the Nordic and Baltic electricity markets.

4. Hansa PowerBridge - Svenska kraftnät, with the German system operator 50Hertz, performs a technical feasibility study for a DC link between southern Sweden and northeastern Germany. The main purpose is to increase trade capacity between the countries so that the market can take advantage of the variations in production, and thus the price of electricity, which occurs with an increasing proportion of weather-dependent electricity generation.

5. Ekhyddan - Nybro and Nybro - Hemsjö - Svenska kraftnät is planning two new overhead lines to reinforce the national grid in southeastern Sweden. In the future, greater amounts of electricity will be transported through the region because of both the new NordBalt link between Sweden and Lithuania and the planned link to Gotland.

6. Söderåsen - Svenska kraftnät is building a new 400 kV station called Söderåsen in Skåne County. A completely new facility will be built alongside the existing one, which is to be demolished when the new one is in place.

7. Porjusberget - Svenska kraftnät is revamping, together with Vattenfall, the 400 kV station at Porjus by Lule River.

What do the investments mean for Svenska kraftnät?

The major investments mean increased demands on the organisation, for both funding and the capacity to implement many projects.

Clear information and continuous dialogue

The major investments will mean more actors coming into contact with Svenska kraftnät. It is therefore important to have coordinated and transparent information. A new power line involves many meetings with affected landowners, municipalities, county councils, organisations and others.

It takes between five and ten years from the planning stage until a new power line is completed. To find the best possible route, a dialogue should start early. At the beginning of the process, Svenska kraftnät performs a consultation with all parties that may be affected. As part of the consultation process, open houses or information sessions are often held in the areas where a new power line is planned. Important information channels are informative newsletters, advertising in newspapers and Svenska kraftnät's website.

Effective approaches and smart partnerships

Having many investment projects are underway at the same time requires an effective project organisation, and it is important to take advantage of opportunities for coordination. The utility establishes a strategic purchase to better manage all procurement in the context of investment projects.

Knowledgeable employees who thrive

To cope with the future challenges, Svenska kraftnät has hired many new employees in recent years. Svenska kraftnät aims to become one of Sweden's best employers, and strives to be a modern and stimulating workplace that recruits, retains and develops the right skills. At Svenska kraftnät, employees are to thrive and do a good job.

Management report 2015

1 This is how Svenska kraftnät is operated

It is the government that determines Svenska kraftnät's tasks and appoints the Board and Utility Manager. Based on the government's tasks, Svenska kraftnät has defined a vision and goal for the management of the utility.

1.1 Organisation

Svenska kraftnät is managed by the Board and the General Director who is the Utility's director. Svenska kraftnät is organised into nine departments.

The group consists of the parent company, the subsidiaries and seven associated companies in Sweden, Norway and Finland. The main stakeholder is the Nordic power exchange, Nord Pool, with its head office in Oslo.

For interaction with external stakeholders, there are five advisory groups. The government appoints an advisory council for electricity preparedness with the task of overseeing overall defence and electricity companies' interests regarding preparedness issues. Also, the General Director appoints an operations advisory group, a power market advisory group and a planning advisory group for collaboration with various external stakeholders.

Svenska kraftnät's Board appoints an audit committee to prepare matters regarding internal control, financial reporting and an internal audit plan. The committee also supports the internal auditor's audit work and maintains contact with the National Audit Office.

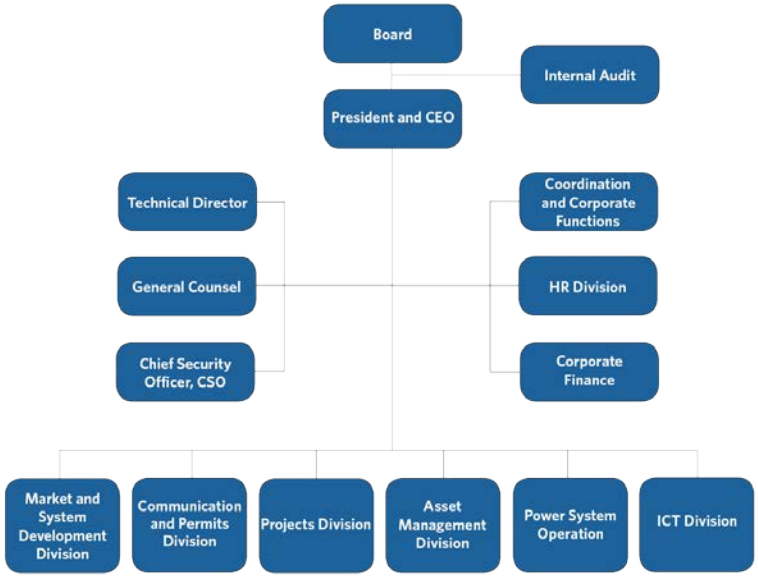


Illustration: Organisation 2016-01-01

1.2 Svenska kraftnät's mission and governance

The government decides Svenska kraftnät's tasks in accordance with Regulation (2007: 1119) with instructions for the public utility Svenska kraftnät and annual regulatory letters. The utility's main task is to

- Offer safe, efficient and environmentally-friendly transmission of electricity on the national grid
- exercise system responsibility for power cost-efficiency
- promote an open Swedish, Nordic and European electricity market
- promote a robust power supply

Based on the government's tasks, Svenska kraftnät has defined a vision and goal for the management of the utility.

The annual business planning process begins with a market analysis, review of objectives and risks, as well as a discussion about focus and ambitions for the coming year(s). The utility sets objectives and target levels at a general level and based on these, the operational business is planned. This work results in a business plan with associated risk analysis. The risk analysis describes the risks that could prevent Svenska kraftnät from reaching its goals, and presents measures to manage the risks.

Svenska kraftnät prepares an annual investment and financing plan, which had previously covered three years but from 2016 is to cover four years. With a budget proposal, this is then submitted to parliament for approval.

For planning which is more long-term, every two years, Svenska kraftnät sets a ten-year plan for investments in the national grid. The first ten-year plan - Grid Development Plan 2016 - 2025 - was established by Svenska kraftnät's Board in November of 2015.

The grid development plan is the basis for the utility's investment planning and also forms the basis for Svenska kraftnät's next European ten-year development plan.

1.3 The utility's work with internal management and control

In the Authority Ordinance (2007: 515), the government demands that all authorities should have good internal management and control. Svenska kraftnät is also covered by the Regulation (2007: 603) regarding internal management and control. Here, it is described how the utility is working to meet the requirements.

A prerequisite for a well-functioning internal control is an effective and well-functioning internal environment. At Svenska kraftnät, this involves, among other things, work with values and desired behaviour, leadership development, as well as policies and guidelines. A tool for this is the leadership criteria in place for a few years, and since 2015 also encompasses employee criteria. The criteria describe the key behaviours for managers and employees in the utility and are to be used for personal development.

Effective communication is another prerequisite for governance to function effectively. The utility works continuously to further develop tools and methods for communication and information.

By managing risks in a good manner, this increases the utility's opportunities to achieve set goals. Svenska kraftnät annually identifies overall risks associated with business planning and develops an action plan to deal with them. Risk analysis and risk management are also integrated in the utility's project and line of business operations.

The utility monitors and evaluates the business plan with associated risk analyses on a quarterly basis with an annual summary in February after the end of an operational

year. In other areas, monitoring is performed annually, according to each project and task plan or as per agreed individual tasks. The internal auditor regularly reports its findings to the General Director and to the Board and its Audit Committee. The National Audit Office also conducts special audits of business segments.

1.4 Svenska kraftnät develops internal management and control

In order to create better conditions for control, in 2013 the utility began working with developing goals. The utility defined the vision based on four long-term, tangible goals with objectives, and they were quantified with indicators. In 2015, the utility continued to develop the work with goals and indicators to create better conditions for the right priorities. There is also ongoing work to develop the management of projects and improve the link between business planning, resource management and budgeting, which will continue in future years.

In 2015, Svenska kraftnät introduced a management model for IT management, PM3. The model facilitates cooperation between IT operations and those who are in charge of standards and users of IT.

An action plan to deal with irregularities was drafted in 2013 and implemented in 2014 and 2015. Among other things, the utility organised a training seminar for all managers, programming managers and attorneys in order to prevent irregularities. The utility also developed an internal training session based on the same theme for all employees. To clarify the utility's approach externally regarding irregularities, Svenska kraftnät updated its website with information about this. By the end of 2015, it was also decided to introduce a so-called whistle-blower system.

In the work with values and desired behaviour within the utility, the introduction of the new employee criteria will be a focus area during 2016.

In 2015, work began to improve the utility's intranet. The new intranet will, when launched in 2016, create better conditions for effective and efficient management.

The National Audit Office and the internal auditor pointed out, upon their audits of points in the balance settlement, assets and rights management, where the utility can strengthen these areas in 2016. In 2015 the internal auditor began an audit of the utility's IT governance and architecture as well as of the company for the balance settlement in Sweden, Norway and Finland (eSett Oy), which is jointly owned by Svenska kraftnät, Statnett and Fingrid. The audit will continue during 2016.

In 2015, the utility developed risk management in project operations, including the introduction of new instructions and a template for risk management. Risk management includes assessments of goal fulfilments in terms of time, cost, quality, health, safety and environment (HSE). A unified management of all projects facilitates control and monitoring.

1.5 Risks

Here are some Svenska kraftnät's risks and how the utility manages them.

1.5.1 Business risks

The essential business risks which the utility handled in 2015 were, among other things, involved in construction projects, the connection of renewable electricity production and frequency state of the national grid.

Several risks are linked to the schedules of construction projects. It involves getting the necessary permits in time to handle disruptions, to prioritise development projects in the right way, and to see to it that suppliers meet their commitments. To limit the risks, the utility standardises control and work practices for construction projects. During 2015, the work was clarified in the idea phase of projects. The Board also established a system of qualification for suppliers which will raise the efficiency and quality upon pre-qualifications for submitting tenders.

Facility operations require a lot of resources and specific expertise both in the utility as well as with regards to entrepreneurs, designers and consultants. Svenska kraftnät is continuously working to ensure that the utility has access to the right skills. As part of this ongoing work, stakeholders are informed continuously about investment plans.

In Sweden, the non-plannable power production is currently being built quickly, mainly in the form of wind power. Meanwhile, there is a decision by the owners to decommission the oldest nuclear reactors by 2020. This represents a major shift for the electricity system and reduces the robustness of the system if no measures are taken to deal with the changes. The change will affect both the production and transmission systems.

Changes in the electricity system pose major challenges to its operation. When the current electricity system was designed, there was coordination between production and transmission systems. But when non-plannable electricity replaces existing plannable production, interworking functions between the production and transmission system cease, and the system becomes more difficult to balance. Voltage setting in the

electricity system is critical for the reliability and capacity of the transmission system, and production facilities are central for voltage regulation in the electricity system, both in normal operation and upon disruptions. The changes in the production apparatus therefore mean that voltage regulation is more difficult.

It is not possible to quickly change the rotational speed of generators and motors. The electricity system's inertia is primarily an important balance that is fundamental to the system's frequency stability. The conversion of the electricity system reduces the amount of mechanical inertia mass when large heavy production units are replaced by smaller ones, which affects the robustness due to the system becoming more sensitive to disruptions.

There are several ways to solve the problems but it is not currently clear which solution is best, who has the responsibility to implement actions and how costs should be shared.

If the right measures are implemented, the risk of deterioration in reliability over time decreases, but during a transition, risks increase when the electricity system needs to be adapted and upgraded during operation. In order to keep risk at an acceptable level during and after transition, solutions must be in place for many of the challenges.

Svenska kraftnät is actively working to analyse and identify solutions and appropriate measures to take. Work is conducted both internally and in various working groups in the Nordic cooperation.

Furthermore, uncertainty about production volumes and location of wind is a difficult area for Svenska kraftnät's long-term planning regarding the need for expansion for the national grid. To limit the risks, the utility works, among other things, with improving how planning and the connection of production is handed.

Financial risks

Svenska kraftnät's central role in the electricity market and the high rate of investment results in major economic flows. This thereby exposes the utility to a number of financial risks, including credit risk, currency risk, interest rate risk and liquidity risk. The utility's financial policy is geared for the long-term management of these to create stable conditions for Svenska kraftnät's finances.

As a result of the transmission losses that occur on the national grid, Svenska kraftnät is one of the Sweden's largest electricity consumers. The risks associated with it are handled according to utility's guidelines for procurement of grid losses.

Other risks

Svenska kraftnät's ability to monitor and control the national grid relies on well-functioning IT and telecommunications systems, and the systems therefore have high redundancy. An important part of operational safety is also to analyse and address shortcomings in IT security. The analysis refers to technology, rules and procedures.

Svenska kraftnät is continuously working to improve and ensure high-quality environmental work throughout the entire organisation. The utility has, among other things, an environmental management system which is certified according to ISO 14001: 2004, and in 2015 work began to prepare the organisation for a transition to ISO 14001: 2015. Having the utility certified reduces the risk of accidents or damage to the environment. The utility performs its own environmental audits and sets environmental requirements upon the procurement of construction and maintenance contracts. In addition, Svenska kraftnät works with training and internal communications to raise awareness regarding the environmental requirements the utility must meet.

Risk management with financially administrative processes is designed to ensure proper financial reporting and internal control. One way to manage risk in the financial statements is via clear processes for significant decisions. In addition, employees undergo reconciliations, both manual and automated. Reconciliations include, among other things, procedures to ensure the existence of assets and liabilities, and that assets, liabilities and financial transactions are recorded properly.

1.6 Security work

Svenska kraftnät works to maintain a high level of security in all areas of the business. A high awareness of the need for safety provides good control of security and risk management for the electricity sector. In 2015, focus was on collaboration and dialogue with companies in the electricity sector and authorities such as the Security Police, Swedish Radiation Safety Authority and the Swedish Civil Contingencies Agency.

In 2015, Svenska kraftnät handled approximately 13,000 register control cases, which is less than a 10% increase compared to 2014. These cases include personal investigations and register controls of people who have security classified roles or participate in critical operations within electricity supply. The utility also carried out a feasibility study to streamline record controls, a security audit of the authority's IT systems, several consultative support tasks for projects and lines, as well as training in security and information security.

1.7 Subsidiary and associated companies

The Svenska kraftnät group has one subsidiary and seven associated companies in Sweden, Norway and Finland.

1.7.1 Subsidiary

Svenska kraftnät Gasturbiner AB

The company is wholly-owned by Svenska kraftnät and is responsible for operating and maintaining the gas turbine plants which the company owns. The facilities are needed to handle disruptions in the electricity system.

The company owns eleven turbines in Varberg, Norrköping, Trollhättan, Norrtälje and Gothenburg, with a total capacity of 690 MW.

Sales amounted to 90 (82) million SEK.

1.7.2 Associated companies

Nord Pool AS

The company operates the Nordic power exchange, in other words the trading site for physical electricity trading in the Nordic countries and the Baltics, the so-called electricity spot market. The company is jointly owned by the system responsible national grid operators. Svenska kraftnät and Statnett each own 28.2 % of the company. Energinet.dk and Fingrid each own 18.8 %, while Augstsprieguma Tikls, Elering and LITGRID each own 2 %.

Gross sales amounted to 141,000 (121,000) million NOK and net sales to 331 (311) million NOK. Physical electricity trading on Nord Pool amounted to 489 (501) TWh.

Triangelbolaget D4 AB

For its joint owners, the company manages the optical links involving Stockholm - Oslo - Gothenburg - Malmö - Stockholm. Revenues from renting are directly transferred to shareholders. The company is equally owned by Svenska kraftnät, Vatenfall, Ellevio and Tele2.

Sales amounted to 26 (29) million SEK.

Kraftdragarna AB

The company carries out heavy transports for companies, mainly in electricity supply. The company also has a preparedness system for emergency transports for joint owners.

The joint owners are Svenska kraftnät (50 %) and Vattenfall (50 %).

Sales amounted to 33 (31) million SEK.

STRI AB

The company conducts research and development in the field of electric power transmission and high voltage testing on behalf of the shareholders and other stakeholders. The joint owners are Svenska kraftnät with 25 %, ABB with 50 %, Statnett with 12.5 % and Det Norske Veritas with 12.5 %.

Sales amounted to 74 (86) million SEK.

Elforsk AB

In January 2015, the business was transferred to Energiforsk AB and Elforsk AB, and will be decommissioned in 2016. Svenska kraftnät owns 25 % and the industry organisation Svensk Energi owns 75 % of the company.

Sales amounted to - (161) million SEK.

Energiforsk AB

Energiforsk conducts contract research and other scientific activities related to energy. The business, which was previously run within Elforsk AB, was transferred in January 2015 to Energiforsk. Svenska kraftnät owns 20 %, Svensk Energi 30 %, Svensk Fjärrvärme 20 %, Energigas Sverige and Swedegas each with 15 %.

Sales amounted to 184 (-) million SEK.

eSett Oy

The company's purpose is to manage a common Nordic balance settlement. The operations are in their establishment phase and the company does not yet have income. The plan is that the company will carry out a balance settlement from October of 2016. The joint owners are Svenska kraftnät, Fingrid and Statnett and with a third each.

Sales amounted to -7 (-2) million SEK.

Result

The associated companies included in the group, and which have the greatest impact on its results, are Nord Pool AS and eSett Oy. Svenska kraftnät's profits in each company are included in the group's results. Profits amounted to 9 (13) million SEK.

Profits from associated companies (million SEK)	2015	2014
Nord Pool AS	15	14
eSett Oy	-7	-2
STRI AB	1	2
Kraftdragarna AB	0	-1
Other	0	0
Total	**9**	**13**

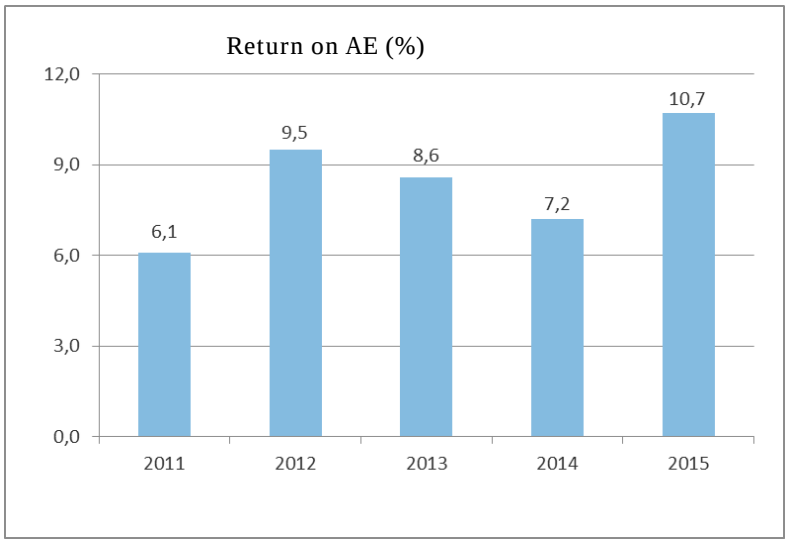
2 Financial position and cost-effectiveness

According to the regulatory letter, the Public utility Svenska kraftnät is to achieve a return on adjusted equity after standard deduction for tax of 6 % over a business cycle. The return will be excluding share of income from the sale of associated companies. Capacity fees (bottleneck revenue) that the utility takes in when it experiences price differences between bidding areas shall be managed by the utility according to the European Parliament's and Council's Regulation (EC) # 714/2009, resulting in a provision for the capacity fees not used.

Return on equity for 2015 was 10.7 (7.2) % of adjusted equity. In the public utility, the return was 10.8 (7.2) %.

The debt ratio amounted to 66.8 (83.1) %, which is, according to the regulatory letter's ceiling, no more than 140 % debt ratio. In the public utility, the debt ratio amounted to 68.9 (86.2) %.

The Government's dividend policy is that 65 % of earnings for the group will be awarded to the state. During the year, the utility also paid 65 % of the profit from 2014.



2.1 Sales and earnings

Consolidated operating revenues decreased 6 % to 8,769 (9,319) million SEK. The decrease was primarily due to lower revenues from the balance and frequency regulation, which amounted to 3,812 (4,264) million SEK. The lower revenues are largely explained by the low price of electricity during 2015. Both income and expenses affected the utility's gross basis of the market price of electricity and the volume balance of power in each electricity area, and it can therefore mean great differences resulted between years. Revenues from transmission of electricity on the national grid fell to 4,179 (4,305) million SEK. This was primarily due to lower revenues from transits which amounted to 213 (417) million SEK. Energy revenues increased, however, despite the fee reduction, to 1,638 (1,561) million SEK, which was due to both input and output to and from the national grid was higher this year than in 2014. The levels of energy income and energy compensation also depend on where in the national grid input and output occur.

Operating expenses decreased by 12.6 % to 7,562 (8,651) million SEK. The decrease was primarily due to lower costs for balancing power and system operations services, which amounted to 2,859 (3,590) million SEK and 640 (800) million SEK. The lower costs are largely explained by the low price of electricity during 2015. In addition, the costs for transits decreased to 122 (183) million SEK.

In 2015, the number of employees continued to increase and 35 (51) new full-time jobs were added in 2015. Personnel expenses therefore rose by 40 million SEK.

Depreciations and write-offs of fixed assets decreased by 135 million SEK from 927 million SEK to 792 million SEK. Write-offs increased by 48 million SEK and amounted to 708 (660) million SEK, where the increase was due to a number of facilities being decommissioned during the year. Depreciations fell from 267 million SEK to 84 million SEK, where the year's results related to the depreciation of a number of projects due to lack of effect increase in blocks 1 and 3 of Forsmark's nuclear power plant and the depreciation caused by new technology choices for the link between the mainland and the island of Gotland.

Results from stakes in associated companies amounted to 9 (13) million SEK.

The group's consolidated operating profit amounted to 1,216 (681) million SEK, which is 535 million SEK higher than 2014. The consolidated operating margin was 13.9 %, which is 6.6 percentage points higher than last year.

The net financial income amounted to -91 (52) million SEK, which is 143 million SEK lower than the previous year. The decline is primarily due to interest expense on the pension liability having increased from 45 million SEK in 2014 to -86 million, because it cannot get sufficient return on capital when the interest rate is negative. Interest capitalised during the construction period was also affected by interest rates and amounted to -16 (32) million SEK. Since Riksbank's interest rate was negative, loans at the National Debt Office generate revenues this year for the utility which amounted to 14 (-21) million SEK.

The year's results in the group amounted to 1,121 (731) million SEK.

The Group's return on adjusted shareholders' equity amounted to 10.7 (7.2) %, which is 4.7 percentage points above the target of 6 %.

2.2 Financing

The utility finances the business with generated funds within operations, most of which come from fees that regional, large electricity generators and balance providers pay to the utility, as well as loans at the National Debt Office. At the end of 2015, loans at the National Debt Office was 5,087 (6,202) million SEK. The need to borrow was reduced because the investments were financed by internally-generated funds and the resulting capacity fees. The group's cash amounted to 197 (225) million SEK. In 2015, Svenska kraftnät had the right to take out loans in and outside the National Debt Office at a total amount of 10,300 million SEK.

Svenska kraftnät has two additional sources of funding: capacity fees and investment grants.

The subsidiary Svenska kraftnät Gasturbiner AB is financed through loans from the parent company. Borrowings at year end amounted to 64 (88) million SEK.

2.3 Capacity fees

Capacity fees are incurred as a result of transmission constraints in the national grid. When the national grid cannot transfer all the electricity demanded, trading is shared on the electricity exchange in several price areas. The division occurs based on where there are limitations is transmission capacities. On the side of the limitation where there is an excess of production, a low price area is formed, while on the deficit side a high price area is formed. A price area may be made up of one or more electricity areas. As the national grid operator, Svenska kraftnät is paid capacity fees based on the

price differences that occur between the Swedish electricity areas and between a Swedish electricity area and another country.

The European Parliament's and Council's Regulation (EC) No 714/2009 governs how capacity fees may be used. In accordance with the regulation, the capacity fees are to be used to counter-trade or to finance investments that enhance or maintain transmission capacity in the national grid. Thus the capacity fees are reversed to the market's actors.

Svenska kraftnät's capacity fees increased compared to the previous year. It was mainly due to larger and more appropriate price differences within Sweden and between Sweden and Finland and Sweden and Poland. The higher price differences are largely explained by the abundance of water in reservoirs, which led to low electricity prices and high flows through the national grid. It resulted in more appropriate transmission constraints in the national grid with price area division as a result. Capacity fees received amounted to 2,068 (1,172) million SEK.

Capacity fees (million SEK)	**2015**	**2014**
Received capacity fees	**2,068**	**1,172**
- of which within Sweden	705	960
- of which foreign-based	1,363	212
Costs for counter-trading	**-19**	**-12**
Investment financing	**-1,495**	**-347**
- of which within Sweden	-705	-211
- of which foreign-based	-790	-136
Year's capacity fees to balance	**554**	**813**
Balanced capacity fees, opening balance	1,169	356
Balanced, current year	554	813
- of which within Sweden	-	-
- of which foreign-based	-1,723	-1,169
Total balanced	**1,723**	**1,169**

Of the year's received capacity fees, 19 (12) million SEK was used to cover costs for counter-trading and 1,495 (347) million SEK was used as an investment contribution for investments made. The remaining 554 (813) million SEK was reclassified as long-term liability in the balance sheet to be used for investment grants next year, because there were not enough investments that met the criteria for the allocation of external capacity fees, e.g. to foreign countries. In total, the utility has 1,723 (1,169) million SEK in balanced capacity fees. When the capacity fees are used to contribute to the investments made, an activation is performed with the same depreciation period as the facilities the contributions are linked to. Thus, they help to reduce the annual cost of the facility. In 2015, the bulk of allocated capacity fees were distributed to The SouthWest Link and in 2014, the bulk was distributed to NordBalt and Stockholms Ström.

2.3.1 Investment grants

The second source of funding is investment grants. One type of investment grant is the fee that Svenska kraftnät charges to connect grid customers to the national grid. The connection fee will finance the measures that, due to capacity or operational security reasons, need to be taken to connect a given facility to the national grid. Investment grants can therefore be given by landowners who, through new grid expansions, keep released land. The Stockholms Ström project is one such example. Another type of investment grant stems from the EU as co-financier of NordBalt, a DC link built between Sweden and Lithuania. The investment grants amounted to 201 (193) million SEK in 2015.

2.4 Cost-effectiveness

Svenska kraftnät's costs will be at least as high as in comparable companies. To be made more efficient, the utility carried out certain efforts during the year. Listed below are some examples.

2.4.1 Management

Svenska kraftnät has, for several years, worked to establish strategic management which ensures a cost-effective and sustainable national grid. As a step in this work, the utility, during the year, entered into a cooperation with ITOMS, The International Operations and Maintenance Study. It is a voluntary partnership in which grid operators compare facility management. The result will arrive in early 2016 and after analysis the utility will establish an action plan that will make the Svenska kraftnät more cost-effective, without reducing reliability. This may involve e.g. higher data quality, improved risk analysis and more efficient processes in maintenance.

2.4.2 Increase of procurement efficiency

In 2015, Svenska kraftnät worked to establish strategic purchasing. As part of this work, strategies for key purchase categories were developed, a so-called category management.

The public utility annually procures technical consultants for large amounts. An example of a category strategy that led to financial savings is the strategy for technical consultants. Implementation of the strategy was made through the procurement of a new framework agreement which, among other things, will result in significant cost savings, more efficient processes and better conditions to retain and ensure necessary competence.

2.4.3 Telecommunications

Svenska kraftnät works continuously with the public utility's framework agreement regarding material and equipment for the communications network and can thus engage in telecom business in a cost-effective manner. In 2015, the utility worked, in accordance with established procurement procedures, to develop a new agreement for the equipment used for communications with the national grid's stations. Even with the deployment of optical fibres, Svenska kraftnät works in the most efficient manner possible by having work coordinated with other measures such as reinvestment of lines and construction of new lines.

2.4.4 Expansion project

In 2015, a method was developed and implemented for quality assuring programmes and projects in the areas of facilities and the business. The purpose was to increase the chances of achieving project goals and ensuring that projects have the right conditions for continued operation. Any shortcomings related to the management of the projects were identified and recommended actions were developed. By continuously working with these types of quality assurance activities, Svenska kraftnät is better able to manage projects more efficiently and professionally. In 2015, the utility also developed a process for collecting and managing experience in projects in a systematic way. The process was tested in a few projects and gave an effective anchoring of skills in the organisation. The introduction of the process continues in 2016.

Svenska kraftnät worked during the year to improve planning by further developing the portfolio management of construction projects. A decision was taken regarding the planning process, organisation and decision-making structure to be applied as the basis for further development of portfolio management, which will be implemented in 2016. Portfolio planning is expected to lead to resources being used more efficiently

and that the utility's investment plans, to an even greater extent than before, are feasible and reliable.

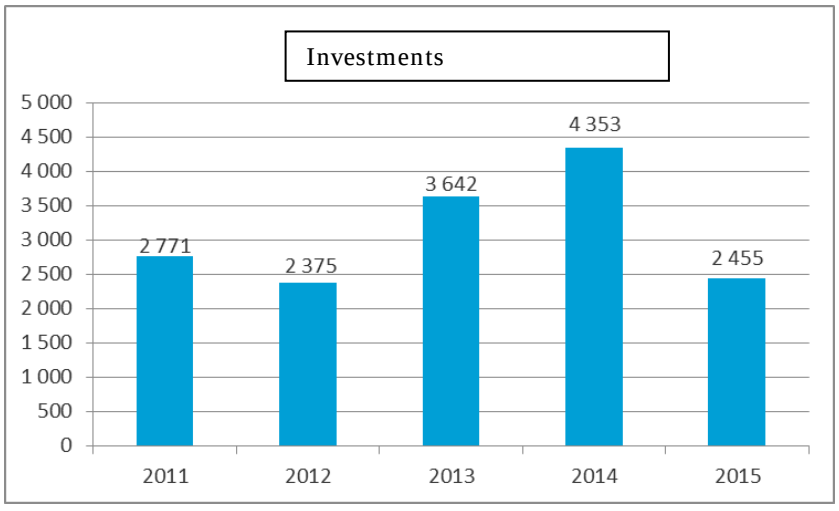
2.4.5 Research and development

Svenska kraftnät collaborates with universities, suppliers and other grid owners to gain in-depth knowledge of ageing and diagnostic methods for various types of cables used in large projects such as The SouthWest Link, NordBalt and Stockholms Ström. Knowledge helps the utility to prevent major accidents and avoid costs.

3 Investments

The expansion of the national grid follows the development of society, and it is energy and climate policy, together with the need to maintain the national grid, that allows Svenska kraftnät to invest in the national grid. Investments must meet the demands of market integration, the demands of expansion to allow for the connection of new electricity and the demands of reinvestments to secure a robust power supply.

The group's investments amounted to 2,455 (4,353) million SEK in 2015. New investments amounted to 1,883 (3,574) million SEK and reinvestments amounted to 572 (779) million SEK.



Investments were distributed in the group in the following manner.

Investments (million SEK)	2015	2014
The public utility		
Grid investments	2,342	4,282
Optic-investments	13	1
Intangible fixed assets	56	48
Total - public utility	**2,411**	**4,331**
Svenska kraftnät Gasturbiner AB	44	22
Total	**2,455**	**4,353**

The group's total investments amounted to 2,455 (4,353) million SEK. Of these, 2,399 (4,305) million SEK were investments in tangible fixed assets. The business segment Transmission of electricity on the national grid accounted for the bulk of investments at 2,393 (4,326) million SEK.

Before 2015, Parliament approved an investment plan for 4,350 (5,564) million SEK. Investments in the national grid were 1,895 million SEK lower than planned and the deviations are due to mainly three reasons:

- Delays in projects explained the bulk of the deviation which was 1,238 million SEK. It was mainly due to technical difficulties which involved entrepreneurs not being able to deliver according to their commitments. Delays in the converter stations in The SouthWest Link and NordBalt accounted for 710 million SEK and 120 million SEK respectively. As a result of the delays, fees were offset to the next year.
- During the year, a number of projects were cancelled, which meant a deviation of 555 million SEK. The reason for projects being cancelled was partly foregone output increases in Forsmark and partly new technology choices for the link to Gotland.
- Delays caused by the extended approval processes gave a deviation of 262 million SEK. In order to implement a project, it requires several state environmental decisions, construction plans and concessions. Svenska kraftnät is dependent on other agencies working together to drive projects forward. Unattained permits delay project implementation.

In addition, some projects were more expensive than planned, mainly due to uncertainties in budgeting when soil conditions are unclear. The routing of the long ground cable in The SouthWest Link explained most of the deviation.

A detailed account of the deviations is in Svenska kraftnät's Investment and Financing Plan 2017 - 2020, which the utility submits to the government by March 1, 2016.

Svenska kraftnät decided in November of 2015 on a ten-year plan for the development of the national grid, "Grid development plan 2016-2025". The plan clarifies Svenska kraftnät's priorities and intentions for the development of the national grid over a period of ten years.

3.1 Bottlenecks and market integration

Svenska kraftnät strives to achieve an efficient electricity market with effective competition. It is therefore important to remove bottlenecks in the Nordic grid and between the Nordic region and the continent. Bottlenecks refer to physical transmission constraints in the national grid.

The SouthWest Link is Svenska kraftnät's largest investment ever and is expected to cost almost 8,000 million SEK. Electricity connection will be an important transport link to southern Sweden, and helps to strengthen the operational security in this part of the country. The link's capacity will be 1,200 MW. The northern part of The SouthWest Link became operational in April 2015, involving a new 176 km 400 kV line from Hallsberg to Östansjö and down to Barkeryd. Commissioning of the southern part of the link between Barkeryd and Hurva has been postponed until 2016 because the contractor is delayed due to converter stations. Investments in The SouthWest Link totalled 274 (2,607) million SEK of a total invested amount of 6,645 million SEK.

NordBalt is a foreign link between Sweden and Lithuania. The investment is estimated at 2,750 million SEK for Svenska kraftnät's part. The aim is to connect the Baltic, Nordic and European electricity markets. The connection also helps to improve the Baltic States' electricity supply security. NordBalt is a joint project between Svenska kraftnät and the Baltic grid companies Litgrid in Lithuania and Augstprieguma Tikls in Latvia. The project is a priority of the European Commission. Within the framework of the European Energy Programme for Recovery (EEPR), the Commission has set aside 175 million euros for the project. The link's capacity will be 700 MW. In 2015, work continued on the construction of converter station in Nybro and to place the 192 km long sea cable which was completed during the year. During the year, 1,191 (598) million SEK was invested in the NordBalt project of a total of 2,411 million SEK.

Investments during the year to increase market integration and to prevent bottlenecks in the electricity network amounted to 1,691 (3,306) million SEK.

3.2 Connection of new power generation and grids

Svenska kraftnät is obligated to connect new power production, which in recent years has mostly involved connecting new wind farms. During the year, the public utility invested in several new stations and in upgrading of existing stations for connection of wind power production. In June 2015, the Högnäs station was commissioned. It is a new 400 kV station that allowed for the connection of a new wind farm, and in August the new 400 kV Loviseholm station was commissioned. The utility also began investing in new lines to allow the distribution of wind power, for example, 400 kV lines between Storfinnforsen - Midskogoch Långbjörn - Storfinnforsen.

3.2.1 New grid structure in the stockholm region

With a growing population, the demand for electricity increases. Stockholm region's growth has made it necessary to review the grid structure to meet future needs for the security of electricity supply. In the Stockholms Ström project, Svenska kraftnät, Vattenfall Eldistribution and Ellevio are building new electricity connections and stations to strengthen the national grid. The new structure also means that some air ducts can be demolished. Together with municipalities and construction companies in Stockholm County, approximately fifty projects are financed, involving 20 municipalities. The projects are expected to be completed by 2025. In 2015, investments were made in new stations, lines and cables. During the year there was construction of new links: Danderyd - Jarva, and Anneberg - Skanstull, as well as air ducts and cabling between Hagby and Anneberg and the new 400 kV station Anneberg. The year's investments in Stockholms Ström were 252 (449) million SEK of a total invested amount of 2,241 million SEK.

The investments to connect new electricity amounted to 397 (658) million SEK during the year.

3.3 Reinvestments

The Swedish national grid has, at several sites, soon reached its technical lifespan. Previously implemented status assessments showed that the need for reinvestment in the facilities will be very major in the coming years. The utility works with strategic management to cost-effectively maximise operational safety. This includes adapting to future conditions and using data and information about the utility's facilities to make decisions at the right time for the right measures, and implement them correctly.

The utility also conducted several station renewals to increase operational safety. This means that the old stations were renovated into modern double-switch substations.

The renewed Sege station was commissioned in October 2015. Parts of the new 400 kV Stackbo station became operational in October 2015, and the remaining parts of Stackbo station are expected to be operational during 2016. In Kalix, a new 400 kV station was commissioned in October 2015.

3.3.1 New it-solutions

Work progressed during the year in the project for new data communications between control centres and stations. The project will result in a modern communication solution that can handle business requirements, including security and availability. The system consists of three parts: operating telecommunications network, operating data network and monitoring of operations, and is expected to be completed during 2017.

Svenska kraftnät's system for control and monitoring of the national grid became operational in 2001 and is approaching the end of its technical lifespan. An upgrade is underway to ensure long-term operation of the national grid and meet the high demands placed on the control rooms. The first part, a back-up system, was commissioned during the year and a new system is expected to be completed in 2016.

Reinvestments during the year amounted to 367 (389) million SEK, of which reinvestments in existing facilities amounted to 248 (258) million SEK.

4 Business segments

Svenska kraftnät's operations are divided into four business segments:

- transmission of electricity on the national grid
- system responsibility for electricity
- telecommunications
- electricity preparedness

In this chapter, the results achieved in the business segments are reported.

The Telecommunications business segment is reported below, divided into each of the utility's external customers' area of use. The segmentation in the table is a result of this.

The government decided on September 11, 2014 to transfer responsibility for the account-keeping of electricity certificates and guarantees of origin for electricity to the Government's National Energy Authority and until January 1, 2015 Svenska kraftnät had the business segment called Chargeable business.

Certain business is common for several business segments, such as primary control and disruption reserves. How costs and revenues are allocated is described in each section, also see the section Additional information and notes.

The group	**Operational income**		**Operating revenue**		**Investments**	
(million SEK)	**2015**	**2014**	**2015**	**2014**	**2015**	**2014**
Transmission of electricity on the national grid	4,533	4,600	866	764	2,393	4,326
System responsibility for electricity	3,896	4,376	295	-134	29	15
Telecommunications - external	71	73	28	26	-	-
Telecom - internal	58	58	14	10	33	12
Chargeable activities	-	16	-	4	-	0
Associated companies	-	-	9	13	-	-
Electricity preparedness	269	254	4	-2	-	-
Segment elimination	-58	-58	-	-	-	-
Total	**8,769**	**9,319**	**1,216**	**681**	**2,455**	**4,353**

The public utility	Operational income		Operating revenue		Investments	
(million SEK)	**2015**	**2014**	**2015**	**2014**	**2015**	**2014**
Transmission of electricity on the national grid	4,539	4,605	855	754	2,378	4,319
System responsibility for electricity	3,896	4,377	287	-136	0	-
Telecommunications - external	71	73	28	26	-	-
Telecom - internal	58	58	14	10	33	12
Chargeable activities	-	16	-	4	-	-
Electricity preparedness	269	254	4	-2	-	-
Segment elimination	-58	-58	-	-	-	-
Total	**8,775**	**9,325**	**1,188**	**656**	**2,411**	**4,331**

Illustration: The electricity system in the Nordic countries, 2015

4.1 Transmission of electricity on the national grid

Grid operations include the expansion, operation and maintenance of the national grid in Sweden. Svenska kraftnät's grid customers are large electricity generation plants and regional grids, and the public utility signs contracts with customers to enable them to access and use the national grid. The national grid tariff is a spot tariff, which means that a subscriber gets access to electricity, no matter where in the country the input or output is made.

The national grid tariff consists of two charges:

- **The power** charge shall cover operating, maintenance, depreciation and capital costs for the grid. The fee is based on the customer's yearly subscribed effect of input and output at each connection point. Input fee is lowest in the south and increases linearly with latitude to its highest value in the north. For the output fee, this increases opposite as above. The geographical differentiation is intended to provide long-term price signals regarding the location of production and consumption.
- **Energy charge** covers the cost of transmission losses in the national grid. The fee is designed to cover the costs of the losses in the national grid caused by input and output in the individual connection points. Input or output that reduces grid losses credit the energy charge, so-called energy compensation

Revenue from electricity transmission Group (million SEK)	2015	2014
National grid tariff		
Power fee	2,328	2,327
Energy fee	1,638	1,561
Total	**3,966**	**3,888**
Transit revenues	213	417
Total sum	**4,179**	**4,305**

The national grid tariff and transit revenues represent revenues from the transmission of electricity. The revenues from the national grid tariff amounted to 3,966 (3,888) million SEK. Of this revenue, the power fee amounted to 59 (60) % and the energy fee was 41 (40) %.

The decrease was mainly due to revenue from transmission of electricity through Sweden to other countries, so-called transit, being significantly lower than the previous year and amounted to 213 (417) million SEK.

Power subscription grid	2015	2014
Input, MW	21,291	20,781
Output, MW	19,275	19,584
Number of customers	26	24

Input subscriptions increased while output subscriptions declined slightly compared with 2014. The number of customers connected to the national grid increased to 26 (24).

Transmission of electricity on the national grid	2015	2014
Input energy grid, TWh	117.8	116.6
Output energy grid, TWh	114.6	113.6
Maximum output power, MWh/h (hour with highest energy output)	17,805	19,558

During the year, the energy input amounted to 117.8 (116.6) TWh and the collected (output) energy was 114.6 (113.6) TWh. The input to the national grid increased compared to the previous year due to marginally higher electricity production in the country. The increased output is explained by temperatures being lower than in 2014, which was a year with average temperatures above normal.

Transmission losses: grid	**2015**	**2014**
Energy losses, TWh	3.2	3.0
Proportion of output energy, %	2.8	2.6
Maximum power losses, MWh/h (hour with highest energy losses)	770	881

Energy losses in the national grid amounted to 3.2 (3.0) TWh, which was slightly higher than the previous year. The increased loss is explained by hydroelectric power production in northern Sweden and Norway being higher than in 2014. This increased transmission of electricity from north to south. Since the energy loss increases with distance, this meant that the losses were higher in 2015.

Transmission of electricity on the national grid (million SEK)	**2015**	**2014**
Operational income	4,533	4,600
Operational costs	-3,667	-3,836
Operating revenue	**866**	**764**

Operating revenues from transmission of electricity on the national grid amounted to 866 (764) million SEK. Operating income fell by 67 million SEK compared with the previous year, mainly due to lower revenues from transit for 2015. Operating costs amounted to 3,667 (3,836) million SEK. The decrease in costs was mainly due to lower depreciations and lower costs for the purchase of lost power.

Svenska kraftnät reports both revenues and costs for transit. Revenues from transit during the year were significantly lower than the previous year and amounted to 213 (417) million SEK. Of the year's revenues, 46 million SEK was income relating to 2014, which gave an actual result of 167 million SEK for 2015. Costs were also lower and amounted to 122 (183) million SEK. Of the year's costs for transit, 4 million SEK stemmed from 2014, which gave an actual result of 118 million SEK for 2015. The year's result is partly based on estimated revenues and expenses.

The compensation agreement for transit, Inter TSO Compensation, is an agreement between 35 system operators in Europe and is governed by Regulation 838/2010/EU. The purpose of the agreement and its calculation mechanism is that each contracting

party shall obtain and provide financial compensation to the electricity network used for the transmission of electricity through one country to another.

Theoretically, compensation consists of two parts: compensation for infrastructure and compensation for losses. On a monthly basis, each contractor reports six snapshots of flows in the respective grids and the measured values regarding the exchange through foreign links. These are then calculated centrally and compiled as net to minimise payment flows between the parties. The compensation which Svenska kraftnät receives or pays is related to all input system operators' flows and thus only a weak relationship can be shown between e.g. the utility's loss costs and compensation for losses that the utility receives. It is thus very difficult to assess in advance the transit's impact on earnings. The difficulties with predicting the financial outcome depends on the complexity of the distribution mechanism in the agreement with ENTSO.

Revenues from energy prices were higher during the year and amounted to 1,638 (1,560) million SEK. For 2015, the energy fee was lowered by 4 % for all electricity areas so that the utility could buy loss electricity at a lower secured price than last year. As both input and output to/from the national grid was higher this year than in 2014, energy revenues increased despite a lower fee level. The levels of energy income and energy compensation also depend on where in the grid input and output occur.

The costs of the loss power declined despite the loss volume increasing to 1,174 (1,224) million SEK. This was mainly due to the secured loss power price being lower than in 2014 and that the positive outcome of the volume risk was higher than the previous year. The outcome of the volume risk was positively explained by grid losses being higher than the secured volume, while the price of electricity in 2015 was lower than the secured price. Since Svenska kraftnät buys the unsecured loss volume at spot price, this means a gain in relation to the loss price that the utility charges via the energy charge. This profit from the volume risk increased compared with the previous year, when both the unsecured volume and the price difference between the secured price and the spot price were higher than in 2014.

The high earnings in the energy side were mainly due to the energy fee, along with the cost of the loss power, generated a net profit of 179 million SEK, which was 181 million SEK higher than the previous year. This is mainly due to the fact that risk outcome upon the purchase of grid losses were much lower than in 2014. In addition, the flow pattern deviated from the previous year in such a way that the profit from the energy tariff increased.

Revenue from capacity fees and investment subsidies amounted to 193 (149) million SEK. Of these, 174 (137) million SEK was attributable to the year's revenue through contributions to grid investments, and 19 (12) million SEK was attributable to the year's counter-trading costs.

Depreciations fell from 267 million SEK to 84 million SEK, where the year's outcome applied to the depreciation of a number of projects due to Forsmark Power Group AB having decided to discontinue efforts to increase power in blocks 1 and 3 of the Forsmark nuclear power plant. In addition, there was depreciation caused by new technology choices for the link between the mainland and the island of Gotland. Of last year's depreciations, 173 million SEK involved the cancelled contract with Alstom Grid for the delivery of a new operation control system. Further costs were 93 million SEK in accrued project expenditures for the management project Ekhyddan - Barkeryd. The project was created to manage a, now failed, power increase at Oskarshamn nuclear power plant.

The Group's income and expenses for primary regulation decreased. Overall revenues declined from 166 million SEK in 2014 to 129 million SEK in 2015 and costs from 737 million SEK in 2014 to 564 million SEK in 2015. Revenues and costs for the primary regulation related to the business segment having risen, however, these relate only to the primary regulation's one component, FCR-D. Revenues amounted to 42 (28) million SEK and costs were 173 (155) million SEK. The lower costs for the group are attributable to a warm winter with higher water run-off than normal, e.g. more water in reservoirs. The higher costs for the business segment are explained by the need for the primary regulation's one component, the frequency controlled disturbance reserve (FCR-D) was higher than in 2014. In 2014, Oskarshamn 3 had a limitation in its production. Frequency controlled disturbance reserve is held as insurance available to handle a disturbance upon the failure of the largest production source in the Swedish electricity system, in other words Oskarshamn 3. When not in use, the need decreases to provide a frequency controlled disruption reserve. In 2015, Oskarshamn 3 was back in operation, which brought back the need for FCR-D at a normal power level and thus increased costs compared to 2014. Revenues were directly attributable to the cost of purchased FCR-D that Svenska kraftnät sold on to other Nordic system operators.

The operating margin for the business segment was 19.1 (16.6) %, which was 2.5 percentage points higher than for 2014.

The investments in the business segment amounted to 2,393 (4,326) million SEK.

4.1.1 Reliability in 2015

Reliability was good in 2015, with less noise and lower, non-supplied energy and effect than the previous year. The number of disruptions on the national grid were 167 (205); most of which were handled by automatic disconnection of the fault without affecting the electricity supply. A number of disruptions in the national grid caused, however, energy not being supplied.

Disruptions	2015	2014	2013	2012	2011
Disruptions on the national grid, quantity	167	205	177	202	192
Disruptions with power outages, quantity	7	22	1	3	9
Non-delivered energy (NDE), MWh	9.3	10.6	0.2	6.9	42.3
Non-delivered power (NDP), MW	31.0	84.3	10.0	23.0	235.0

The table shows the number of disruptions on the national grid over a five year period. The number of disruptions that led to delivery outages for electricity customers were 7 (22). The energy not delivered to electricity customers amounted to 9.3 (10.6) MWh. The goal is maximum 10 MWh per year. Non-delivered power (NDP) amounted to 31.0 (84.3) MW during the year. The goal of NDP is not more than 80 MW per year.

The number of disruptions varies between years. The number for 2015 was within what can be considered a normal variation, the last ten years has seen on average about 180 disruptions per year. The main reason for the difference between 2014 and 2015 results was the large number of faults that were caused by lightning in 2014. In 2014, lightning caused 72 faults, which was 35 % of the total number of disruptions. For 2015, the number lightning related disruptions was only 15, which represented 9 % of the total number of disruptions.

A major disruption occurred on Tuesday, February 10 when the two section lines[5], Hjälta - Ängsberg and Nysäter - Ängsberg, were disconnected, which meant a situation called N-2 fault, in other words that two faults occurred simultaneously. Usually only one fault occurs at a time, which is called N-1. The initial cause of the disruption was a faulty protective function and in connection with a test connection of Hjälta - Ängsberg, there was a rapid surge which led to a voltage transformer failing in Ängsberg. Nysäter - Ängsberg could be connected a few hours later. Hjälta - Ängsberg on the other hand, due to the damaged power transformer, had a remaining fault and was shut down for four days. It is rare that two section lines are disconnected at the same

[5] Lines going through an area that divides the two electricity areas.

time. One such incident greatly reduces the transmission capacity and affects operational security.

4.2 System responsibility for electricity

Svenska kraftnät has system responsibility for electricity, which involves overall responsibility for seeing to it that Swedish electricity supply is reliable and that the input and output of electricity is always in balance, in other words the frequency is 50 Hertz. To achieve this, Svenska kraftnät signs agreement regarding balance responsibility for electricity with 30 companies committed to being responsible for balance.

The balance providers pay fees to cover Svenska kraftnät's costs for reserves and other operating expenses. The fees are based on the balance operator's consumption and production, as well as consumption imbalances.

The business segment also includes Ediel communication[6] and the power reserve that Svenska kraftnät has been mandated to tender.

It is the government that approves the objectives that Svenska kraftnät sets for reliability. To meet these goals, it requires that the voltage, frequency and power flows are kept within established limits.

4.2.1 Balance regulation

The balance operators have the responsibility to plan their consumption and production, thereby helping to ensure balance in the electricity system. Svenska kraftnät is then responsible for balancing input and output of electricity during operation hours. The balance operators also have the financial responsibility so that the electricity system gets as much electricity as it is taken out. As a result, Svenska kraftnät sells and buys balance power based on the balance operators' imbalances. With the exception of trading with production balance power, whose pricing should provide an incentive for the balance operator to keep their balance, these trades result in gain for the utility, they only aim to spread costs and revenues between the balance operators.

In order to maintain a reliable grid and power system frequency when the balance operators deviate from their plans, Svenska kraftnät sets necessary balance regulations. It means that the utility gives balance providers the task to increase or decrease their production or consumption. The cost of these regulations is the basis for the pric-

[6] Electricity industry's electronic information exchange.

ing of the balance power. In addition to the manual orders (FRR-M) on the so-called regulations power market, Svenska kraftnät procures reserves as primary regulation, automatic secondary regulation and disruption reserve. These are used when the manual orders are not sufficient to maintain the frequency within allowed limits.

4.2.2 Regulation forms

Automatic reserves	Purpose	Activation
FCR-N	Stabilises the frequency upon small production and consumption changes.	When the frequency is changed within 49.9 - 50.1 Hz.
FCR-D	Stabilises the frequency upon major disruptions.	When the frequency is changed outside of 49.9 - 50.1 Hz.
FRR-A	Restores the frequency to 50 Hz.	When the frequency deviates from 50.00 Hz.

Manual reserves	Purpose	Activation
FRR-M	Voluntary tenders on the regulating power market. Restores the frequency to 50 Hz and thereby restores the automatic reserves.	When the frequency deviates from 50.00 Hz.
FRR-M	Contracted disturbance reserve. Restores the automatic reserves after a fault, so that the system is ready for a new fault within 15 minutes.	Manual activation upon disruption.
Power reserve	Used to reduce the risk of power shortage, available November 16 to March 15.	Upon strained power balance during extreme conditions.

Svenska kraftnät's costs and revenues for the balance regulation is due to lack of balance of the volume and the price of necessary regulations. Gross-wise, revenues and costs for balance regulation can vary quite a lot from year to year, as both the price and volume varies.

The cost of the operational area has increased in recent years and it has, for some years, shown a loss. In 2014, fees were increased on two occasions and in addition on one occasion in February 2015 to deal with the financial deficits. For 2015, a financial surplus was reported for the business segment.

4.2.3 Balance power between electricity areas

Balance power between electricity areas is defined as the difference between planned and physical flow and may involve a cost for Svenska kraftnät. Such balancing power is priced at the average of the regulating power prices in each area. Balance power from a high-price area to a low-price area means a loss for affected system operators in relation to the purchased and sold balance power and regulating power in each area. Simi-

larly, the system operators will make a profit when this type of balance power goes from a low-price area to a high-price area. On foreign links, risk is shared between Svenska kraftnät and the foreign system operators. Balance power also occurs between electricity areas in Sweden, and in this case, Svenska kraftnät assumes the entire financial risk.

Balance power between areas is a natural consequence of frequency regulation in the Nordic electricity system. If an over-balance in one area is compensated by the under-balance in another area, system operators do not regulate this, even if it means balance power "flows" between areas. This is considered to be more effective than regulating each area separately.

One possible measure to reduce costs is to develop the market for balance power in areas with high regulation power prices. Another is to create incentives for better balance between production and consumption in each electricity area respectively. Discussions are ongoing between the Nordic transmission system operators as to the measures that are appropriate to take.

Illustration: Electricity area map

4.2.4 Frequency regulation

Frequency quality is measured regularly in the frequency deviation as the number of minutes per year outside the nominal frequency 50 Hz$^{+/-}$ 0.1 Hz. The goal is that the frequency shall not exceed 6,000 minutes per year outside the range of 49.90 - 50.10 Hz. In 2015, the frequency was outside this range for 10,668 (10,366) minutes.

Frequency control occurs both automatically and manually. The automatic primary regulation consists of two products, frequency controlled normal operation reserve (FCR N)[7] and frequency controlled disturbance reserve (FCR D)[8]. The manual control returns the frequency to 50 Hz within 15 minutes, while the automatic reserves reset. FCR-N is dimensioned so that the normal operation mode maintains the frequency in the range of 49.9 - 50.1 Hz. FCR-D is dimensioned to, upon disrupted operation, ensure that the frequency does not drop below 49.5 Hz.

[7] Frequency Containment Reserves – Normal. (FCR-N).

[8] Frequency Containment Reserves – Disturbance. (FCR-D).

In January 2013 a test period was stared with the new automatic reserve for secondary regulation in normal operation (FRR-A)[9] in the Nordic electricity system. Frequency improvements have been possible to demonstrate during the hours the reserve has been used actively. The tests continued in 2014 and 2015 to find a reasonable level of volume, cost and market function across the Nordic region. It is of great importance that, in addition to the purely operational safety benefits, that FRR-A also develops an efficient market solution. Test operations were concluded in 2015 and some analysis of the tests remain during 2016. The results will form a basis for decisions on any permanent introduction of FRR-A. A prerequisite for the permanent introduction of FRR-A is also that it is implemented in cooperation with other Nordic system operators.

Illustration: The electricity balance

4.2.5 The power situation

The year was generally warm and it had an impact on electricity consumption. The highest electricity consumption for the year was during one morning hour on December 14 and amounted to about 23,100 MW. This is slightly below the highest electricity consumption during the winter of 2014 which amounted to about 24,760 MW (January 13) and varied greatly from the highest consumption ever in Sweden, 27,000 MW (February 5, 2001).

Sweden has, during the year, had a strong power balance. Of the all the year's hours, it involved net exports 97 % of the time. In total during 2015, Sweden net exported over 23 TWh of electricity. On average, about 2500 MWh/h was exported. Exports went mainly to Finland, but also to Poland and Germany. Sweden has imported electricity from Norway and Denmark.

The water supply in the Swedish hydropower reservoirs was, at the beginning of 2015, slightly below average, but from the summer onwards there was very good water supply.

During the year, the Swedish future of nuclear power has been a highly topical issue. The owners of the nuclear blocks Oskarshamn 2 (660 MW), announced in October that the block will never be put into operation again. During the year, it was announced that three more nuclear power blocks will be decommissioned prematurely, e.g. before in 2020. Swedish nuclear power represents just over 24 % of the installed power generation capacity in Sweden and is an important contribution to the Swedish power balance when demand for electricity is greatest.

[9] Automatic Frequency Restoration Reserve (FRR-A).

In 2015, more than 600 MW of new wind power was created and, at the end of 2015, there were approximately 6030 MW of wind power installed, according to data from Svensk Vind. Wind power now represents about 15 % of the installed power generation capacity in Sweden.

Trade capacity for imports and exports to Denmark were reduced during the first four months from 700 MW to 300 MW. Otherwise, there were no major or lengthy disruptions in transmission links that affected Sweden's import capacity when electricity consumption was high.

Several storms hit Sweden in 2015, but none had any significant impact on the Swedish electricity system. On March 20, there was the solar eclipse over the Northern Hemisphere and Svenska kraftnät had extra monitoring in place because the forecast said that 30,000 MW of electricity from solar cells in Germany could be affected, which could lead to disruptions in the Nordics. But it passed without problems.

4.2.6 Power reserve

Svenska kraftnät has, in accordance with Act (2003: 436) involving power reserves, responsibility so that a power reserve is available during the winter. In the regulation (2010: 2004) involving the power reserve, the quantity is stated which to be procured for each winter period. For the period from 16 November 2015 until 15 March 2016, a power reserve of up to 1,000 (1,500) MW is available.

The power reserve will help to secure the electricity supply in extreme situations that can arise in very cold weather. The power reserve is financed by a special fee for the balance operator companies and is ensured by Svenska kraftnät entering into agreements with electricity producers, suppliers and electricity consumers to deliver additional production capacity or oversee potential consumption reduction which is at the utility's disposal. During 2015, a total of 1,000 (1,500) MW were procured, of which 660 (874) MW related to production and 340 (626) MW related to the reduction of consumption. In 2015 there was no activation of the power reserve.

On November 23, the preparedness time for Karlshamn block 3 was changed for 19 hours. Because of a decreasing temperature, high winds and several nuclear power blocks disconnected, the utility assessed that the margins for the power requirement were too narrow and the power reserve was prepared.

4.2.7 Results for business segments

System responsibility for electricity (million SEK)	2015	2014
Operational income	3,896	4,376
Operational costs	-3,601	-4,510
Operating revenue	**295**	**-134**

Operating revenues from the System responsibility business segment for electricity amounted to 295 (-134) million SEK. The improved result was mainly due to increased income from fees and lower expenses for primary regulation. On three occasions, February 1 and August 1, 2014, and February 1, 2015, tariffs were raised for consumption and production, while the fee for balance power was kept unchanged upon the two subsequent increases. The increase was to cover both long-term increased expenses for primary regulation and automatic secondary regulation (FFR-A), and partly the reduced surplus from the production balance power.

Group operating revenues declined by 480 million SEK compared with 2014 and amounted to 3,896 (4,376) million SEK. Operating expenses also decreased and amounted to 3,601 (4,510) million SEK. Profit increased by 429 million SEK compared with the previous year.

Revenues and expenses from the balance and system operators decreased gross-wise. Both income and expenses for purchased and sold balance power is controlled in terms of the gross electricity market price and the balance power volume in each area. Despite the volume of bought and sold balance power having increased, the lower electricity price resulted in both revenue and costs decreasing in 2015.

In the group, total revenues and costs for primary regulation decreased. Overall revenues declined from 166 million SEK in 2014 to 129 million SEK in 2015 and costs from 737 million SEK in 2014 to 564 million SEK in 2015. Operating revenues from the System operators business segment for electricity decreased revenues and amounted to 87 (138) million SEK. The costs for purchased primary regulation decreased to 391 (583) million SEK. The lower revenues and costs can be explained by lower prices compared with last year, when the price, among other things, was affected by water levels in reservoirs. The costs for purchased FCR-N decreased to 304 (503) million SEK compared with the previous year, while costs for purchased FCR-D were higher during the year, 87 (80) million SEK.

Net loss for the balance power between electricity areas amounted to 119 (68) million SEK during the year, of which 42 (15) million SEK within Sweden. The increase was largely

due to the greater price differences between the Swedish electricity areas and between Sweden and Finland.

The revenues from the power reserve amounted to 91 (112) million SEK. These revenues are reported in the winter months, from mid-November to mid-March. The costs for the power reserve during a corresponding period amounted to 91 (112) million SEK. The change is due in part to the procured volume having decreased. Svenska kraftnät receives revenue from the balance operators which corresponds to the cost, which makes it a zero result.

The cost of the disturbance reserve amounted to 80 (74) million SEK and was paid, at a third of the cost, by the System operator for electricity. The cost for the business segment amounted to 24 (21) million SEK.

Operating revenues amounted to 295 (-134) million SEK. The operating margin was 7.6 (-3.1) %.

The investments in the business segment amounted to 29 (15) million SEK.

4.3 Telecommunications

In order to control and monitor the national grid for electricity, Svenska kraftnät has a nationwide communications and data network. This network constitutes an important condition so that the utility is able to maintain a high level of reliability of the national grid, which is particularly important during construction after a disruption. Therefore, the communication network has three separate lines of communication on important stretches of line. To ensure the operation upon power outages there is also a reserve system with power supply which is not possible to disrupt. It is used mainly by the business segment Transmission of electricity on the national grid and generates revenues for the business segment Telecommunications.

The communications network consists of optical fibre that is mostly installed in the power lines' top lines. The grid consists of approximately 9,500 km of own optical fibre and approximately 2,300 km of optical fibre leased from other grid owners. During the year, the optical grid was upgraded and expanded with 900 km of optical fibre, where the two largest expansions are The SouthWest Link in Hallsberg - Motala - Nässjö - Värnamo - Hässleholm - Hörby and the NordBalt submerged cable between Nybro in Sweden and Klaipeda in Lithuania. Upon power line expansions, an optical fibre cable is placed together with the power line.

Svenska kraftnät will run the communications network in a cost-effective and competitively neutral manner. Overcapacity means that the utility can lease the optical fibre without active telecommunications equipment (so-called dark fibre) to large telecommunications operators and power companies. The leasing takes place through direct sales and cooperation within the associated company Triangelbolaget.

Svenska kraftnät also leases active links to energy companies for their operational communications. In addition, the utility takes in revenues from the leasing of capacity services and antenna sites on masts and poles.

The maintenance of the optical fibre grid is handled by a contractor and is part of Svenska kraftnät's central maintenance procurement. The operation, monitoring and preparedness function coordinates the utility with other surveillance and preparedness for the IT functions. It results in a cost-effective operation and business.

The availability of the telecommunications and communications network should be at least 99.95 % based on dual (redundant) links. The year's result was 99.85 % (100).

Telecommunications (million SEK)	2015	2014
Operational income		
External	71	73
Internal	58	58
Total	**129**	**131**
Operational costs		
External	-43	-47
Internal	-44	-48
Total	**-87**	**-95**
Operating revenue		
External	28	26
Internal	14	10
Total operating revenue	**42**	**36**

The business segment's total revenues amounted to 129 (131) million SEK, of which the part of the external business was 71 (73) million SEK. The bulk of external revenues come from the leasing of dark fibre. The internal revenues from the business segment Transmission of electricity on the national grid amounted to 58 (58) million SEK.

Operating revenues amounted to 42 (36) million SEK. The improved operating revenue stemmed from last year's result having included the scrapping of masts.

The operating margin was 32.6 (27.5) % and the investments within the business segment amounted to 33 (12) million SEK.

Illustration: Optical fibre grid

4.4 Chargeable activities

On January 1, 2015, responsibility for account management of electricity certificates and guarantees of origin were transferred to the National Energy Administration. From previous years' profits, there was an accumulated surplus of 16 million SEK to transfer to the National Energy Administration. The surpluses until 2013 were transferred to the National Energy Authority in January 2015 and the surplus for 2014 was transferred in July 2015.

Chargeable activities (million SEK)	2015	2014
Total operating incomes	-	16
Total operating costs	-	-12
Total operating income for the business segment	-	4

Total operating revenues for the business segment Chargeable activities amounted to - (4) million SEK. Operating expenses amounted to - (12) million SEK and the operating revenue was - (4) million SEK.

4.5 Electricity preparedness

Svenska kraftnät is an electricity preparedness authority, which, among other things, means that the utility, with the help of grants, strengthens the electricity supply in the country so it can withstand severe stress. Svenska kraftnät was allocated 255 (255) million SEK in grant funds for 2015. In addition, the utility had a grant balance of 60 million SEK. During the year, the utility disposed of 262 (248) million SEK in grants. The funds were used for preventive preparedness measures to counter and deal with disruptions and measures for high alert and war.

4.5.1 Risk and vulnerability assessments

In 2015, the utility was given a special government task to analyse information security within the authority's area of responsibility. The findings were reported in the year's national risk and vulnerability analysis. During the year, approximately twenty actors in electricity supply submitted information about risk sources for analysis. The data will be used by the utility, among other things, as a basis for directing future electricity preparedness measures.

Within the Nordic contingency and security forum (NordBER), where the utility participates and collaborates, a project was started during the year to develop a method to identify risks at a Nordic level.

4.5.2 Reduce the risks of serious disruptions

Along with the electricity supply actors, Svenska kraftnät worked to reduce the risk of serious disruptions, among other things by:

- implementing a dead grid start test in two cogeneration plants
- installing a reserve in two cogeneration plants to enable operational start upon a major power outage
- renovating a gas turbine for a dead grid start of a major cogeneration plant
- educating and training personnel in the operation and maintenance of a power reserve facility
- contributing funds to the disruption reserve to maintain gas turbine installations' preparedness to start island operation[10] in priority areas upon major operational disruptions

Svenska kraftnät also continued work on the backup system for operational communications.

4.5.3 Mobilisation and coordination of resources

During the year, the utility trained technicians so they can repair and construct temporary bypass lines past damage sites on the national grid and regional grids. In addition, a large-scale exercise for Jämtkraft and Skellefteå Kraft was carried out.

[10] Local grid established upon disturbance.

Svenska kraftnät conducted several trainings for NGOs. Participants included tracked vehicles and crawler tractor drivers and pilots. The utility also organised a regional collaboration exercise where volunteer staff participated. NGOs are an important resource whose support strengthens electricity companies' abilities to manage events that may affect the power supply.

4.5.4 Fast and efficient management and information efforts

Electricity companies in Sweden have an organisation for power collaboration, which is divided into seven areas. Within each area there is a power collaboration steering committee which supports affected companies by e.g. allocating resources. Svenska kraftnät is in the organisation and can, among other things, supply repair personnel. This staff is trained by Svenska kraftnät but they are employed by utility companies, contractors or are civil servants from entirely different industries. Svenska kraftnät can also supply reserve materials and communications equipment. In 2015, the utility developed a three-year training and exercise programme for power collaboration, and conducted the first training section. The aim was to inform about new opportunities in power collaboration and practice basic functions for the power collaboration's steering committees in the web-based support system Susie.

During the year, Svenska kraftnät and the National Post and Telecom Agency funded training and exercises in crisis management for participants from the energy industry and the telecommunications industry.

During the year, Svenska kraftnät trained 11 grid companies in how to handle operating situations upon severe stress in the electricity supply. They were informed about society's and electricity supply's crisis preparedness and about the technical electric power phenomenon.

4.5.5 Connection to Rakel

The public utility Svenska kraftnät shall, within its area of responsibility, strive so that actors with tasks within society's crisis preparedness join the joint radio communications system called Rakel. The work will be done in collaboration with the Swedish Civil Contingencies Agency (MSB). In 2015

- the utility participated in the Energy Sector's Rakel forum
- the utility started a project to support the introduction of Rakel at companies within production mentioned in Power supply's guidelines for cooperation in Rakel

- the utility developed training and carried out training for programming documentation
- the utility completed the project with the transfer of Rakel subscriptions to the power collaboration steering committees' representatives
- the utility managed approximately one dozen cases to introduce Rakel at electricity supply companies

In connection with all the exercises and trainings, Svenska kraftnät strived to increase awareness and utilisation of Rakel among power actors. Relation tests according to the VMA calendar[11] were also conducted on two of the main key figure groups[12] within the electricity supply.

On Rakel Day in 2015, MSB Svenska kraftnät's managing director of Rakel - Michaela Stenman - was awarded a commendation for his work with Rakel.

4.5.6 Contingency planning

Svenska kraftnät's crisis management organisation exercised and also began planning for participation in a national joint exercise in 2016 (SAMÖ 2016), which, however, was cancelled. During the year, the utility also establish common grounds for collaboration and management upon social disorder under the leadership of MSB.

At the end of the year, the government decided to resume the civil defence, which, among other things, involved Svenska kraftnät. The focus of the work so far has been on accumulating of knowledge, information on the political security situation and identification of needs and actions.

4.5.7 Security-related preparedness measures

As the industry authority for energy supply, Svenska kraftnät works to keep security protection in the power industry at an optimal level. Security protection means to prevent espionage, sabotage and other crimes that may threaten national security, and to protect against terrorism.

During the year, Svenska kraftnät further developed support to electricity supply's actors through updates, especially guidelines. The utility developed a demonstrator[13]

[11] VMA is the abbreviation for important public announcement in Swedish. The warning system is tested four times a year, at 15.00 on the first Monday of March, June, September and December.

[12] Predefined group that can communicate in Rakel.

[13] Computers, grids and a mini-control are connected to mimic a workplace at an electricity producer.

to simulate IT security attacks. It will raise awareness and will be used in training, starting in 2016. In addition to this, the utility developed reference solutions for IT security based on open source in order to strengthen the protection of vital IT systems in the electricity supply.

Moreover, the utility conducted these contingency measures:

- oversight of the security protection at three electricity supply facilities
- strengthening of the security protection at three electricity supply facilities
- development of three technical feasibility reports for the physical protection of future construction projects
- further development of the website energisäkerhetsportalen.se[14]

4.6 Dam safety

Svenska kraftnät strives to promote dam safety in the country. During the year, work focused on supporting the county administrative boards and dam owners in the work related to the new regulatory framework for dam safety, which was introduced in 2014, as well as the development of coordinated and practised preparedness for dam failure.

4.6.1 Supervisory guidance

Svenska kraftnät is responsible for supervisory guidance for dam safety according to Chapter 11 of the Environmental Code. The utility compiled the dam owners' annual reporting on dam safety to the county government, and followed up on the county administrative board's supervision. The supervisory guidance also related mainly to guidance for the county administrative boards when handling impact assessments and dam safety classification.

4.6.2 Consequence investigation and classification

Svenska kraftnät established, during the year, guidelines for impact assessments and dam safety classification associated to the utility's regulations and general guidelines for impact assessments. Dam owners and the county boards began work on the investigation and classification of dams.

[14] Energy Security Portal is a website for companies in the energy sector (electricity, natural gas, heating and oil & fuel supply). It provides relevant information and documentation regarding safety. The news and articles presented on the portal are authorised through a collaboration between Svenska kraftnät, Svensk Energi and The Swedish Energy Agency.

4.6.3 Preparedness for dam failure and high flows

Svenska kraftnät strives to reduce the risk of serious disruptions to society as a result of dam failures or high flows in regulated rivers. In March, the utility reported for a government commission to identify needs and develop a plan to implement measures to further stimulate the development of integrated and practised preparedness for dam failure. The task resulted in a five-year action plan and the utility carried out, in collaboration with industry and government agencies, the following activities in 2015 among others:

- Introduction of emergency preparedness and procedures for warning the public of the dam failures.
- Situation description of contingency work for 16 power plant rivers.
- Flood maps for two rivers and the mapping of objects that can be flooded upon dam failures for twelve rivers.

4.6.4 Climate changes and flow dimensioning of dams

Svenska kraftnät follows how climate changes affect dam safety. In 2015, the utility established a new edition of guidelines for dimensioned flows for dams together with the power industry, mining industry and SMHI (Swedish National Weather Service). The revisions clarify, among other things, application of guidelines in a changing climate.

4.6.5 Knowledge development and skills support

Svenska kraftnät promotes research, development and dissemination of knowledge in dam safety. The utility supports, together with the power industry, Energiforsk AB's projects in dam safety. In 2015, Svenska kraftnät supported and participated in dozens of projects, including dam failure calculations and flood mapping, dam owners' preparedness exercises as well as calculation methods for high flows in regulated waterways.

Svenska kraftnät also supports, together with the industry, Svenskt VattenkraftCentrum, a centre for higher education and research, which aims, among other things, to ensure the long-term supply of expertise support in hydropower and dam safety.

5 Employees

5.1 Being an attractive employer - focus point

To strengthen Svenska kraftnät's brand and attractiveness as an employer, the utility is now running the project called Sweden's Best Workplace. In a development platform, the utility has gathered activities to develop and retain employees, as well as to attract new talent. The target for 2015 was that the Svenska kraftnät would be one of the ten best workplaces in Sweden in the employee survey Great Place to Work. In the survey, Svenska kraftnät ended up in eleventh place - as close to the top ten goal as possible.

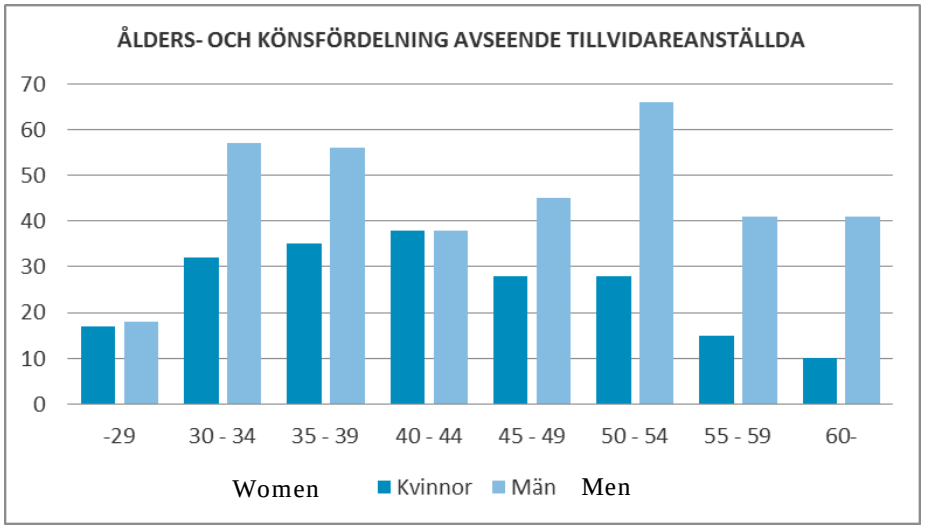
In 2015, the number of employees continued to increase and the need to support the business with external expertise also increased. The international work requires more and more internal resources, and emerging technologies with additional commitments require new skills. The expansion and the challenges which follow place great demands on the public utility's leaders. Clear leadership is one of several important conditions to create a good, efficient and value-driven workplace.

Svenska kraftnät provides manpower to strategically important tasks with its own staff, but as a client organisation, the utility cannot control what skills are on the market. An important challenge for the utility is to cooperate with consultants and contractors in order to retain key skills within the industry.

Major changes in the world and a broader mandate require long-term and well-thought-out skills support. Svenska kraftnät strives for a good balance of age, gender and ethnicity, and the utility shall also conduct safe and sustainable operations with employees who feel satisfied. An open and value-driven culture provides good conditions to find future talent and skills.

5.2 Key figures, objectives and outcomes

The group has, at the end of the year, 565 (530) permanent employees. Converted to full-time, this amounted to 557 (522), of whom 364 (338) were male and 193 (184) were female. Staff turnover was 5.7 (4.0) %, including retirements. Sick leave during the year was 3.3 (2.4) %. The average age at Svenska kraftnät at year-end is 44 (44). The age profile has changed significantly during the past decade. From being an organisation with many older employees, the age profile is now balanced.



Employees stated in the latest employee survey that Svenska kraftnät is a very gender equal and parent-friendly workplace, which takes full account for employees with different backgrounds. The proportion of women in the organisation is steadily increasing and is approaching 40 %. Half of the utility's managers are women.

Key figures, objectives and outcomes	Outcome 2014	2015 Goal	Outcome 2015	2016 Goal
Number of permanent employees	530	596	565	627
Full-time employed	522	580	557	615
Employee turnover total	4.0 %	<5 %	5.7 %	<5 %
Employee turnover excluding retirements	3.4 %	<2.5 %	5.0 %	<2.5 %
Average age	44 years	<45 years	44 years	<45 years
Proportion of women	36 %	>36 %	36 %	>37 %
Proportion of female managers	47 %	>40 %	49 %	>40 %
Foreign background (SCB def.)	13 %	>12 %	12 %	>13 %
Sick leave	2.4 %	<2 %	3.3 %	<2.5 %
Fully healthy (no sick days)	51 %	>60 %	35 %	>55 %
Share of long-term sick leave over 60 days	0.8 %	<1 %	1.6 %	<1 %

Key figures, objectives and outcomes	Outcome 2014	2015 Goal	Outcome 2015	2016 Goal
Number of chronically-ill - full-time	1	0	4	0
Number of new employees	74	80	67	90
Average age of new employees	39 years	<40 years	38 years	<40 years
Proportion of women - new employees	42 %	>40 %	37 %	>40 %
Job rotation, number of people	22	>30	32	>35

According to the target for 2015, the number of permanent employees at year-end should have been 596. The lower figure of 565 employees was mainly due to the fact that the recruitment processes started later than planned and that some skills are hard to find. Sickness leave increased sharply - mainly women - and the utility will strengthen efforts to reduce sick leave.

Each department reported in its annual analysis of skills which are areas of expertise that are essential for business a couple of years ahead and what skills need to be strengthened through training, recruitment and consultants. The report also showed where in the organisation dependence on key personnel is great and the risks that may arise if the gaps are not addressed. A certain skill gaps was found in 45 (49) % of the utility's areas of expertise and a substantial gap existed in 5 % (4). In 27 (24) % of the utility's areas of expertise, there existed dependency on key personnel. The competence analysis showed that training, use of consultants and expertise from other parts of the business are the most common actions towards countering competence gaps.

Each year, Svenska kraftnät has analysed the experience and skills of employees who were to retire in the next five years. The need to make this analysis annually has decreased, as the proportion of older employees is now low. For 2016, the analysis will be integrated into the regular skills assessment.

Virtually all employees underwent a personal development session during the year, where individual development plans were established.

A trainee programme with four young engineers concluded with external intern placements during the year. Svenska kraftnät participated in three (three) job fairs at selected universities and was a supervisor in five (five) theses.

Svenska kraftnät continued to focus on being a healthy and safe workplace. Upon long-term sick leave, the utility reacts quickly, and after two weeks of sick leave a rehabilita-

tion plan is established between the employee and the manager. This helps to virtually see to it that all those who are ill long-term return to work. In the autumn, the utility performed risk assessments of the working environment throughout the organisation. The increase in sick leave is worrisome, especially noted is a high rate of sick leave among long-term sick leave by women over 50. The reason can possibly be attributed to an increase in stress-related absence.

Sick leave (%)	<29 years	30-49 years	<50 years	TOTAL
Women	2.6	5.3	8.0	5.8
Men	1.1	1.6	2.5	1.9
TOTAL	**1.9**	**3.1**	**3.9**	**3.3**

During the year, Svenska kraftnät further developed the concept for leadership succession and management development, and it established leadership criteria in full. In addition, the utility's managers received more individual support in their leadership and a preparatory management programme for fourteen aspiring leaders was conducted during the year. To further strengthen the leadership of Svenska kraftnät and provide support in all executive roles, the utility launched and distributed a well-received Leaders' Guide. The guide is based on the exercises and theories used in leadership programmes and which participants have found useful. A leadership measurement during the year showed good overall leadership (69 % agree that leadership criteria are met and that they are satisfied).

Svenska kraftnät has been working for some years to clarify the utility's expectations of managers and employees. During the year, a project to develop and implement employee criteria ended. Employee criteria are based on Svenska kraftnät's values, leadership criteria and current salary criteria, and is geared to clarify those expectations. A goal was also to, during the year, launch a career model for Svenska kraftnät. This work has begun and will be completed in 2016. The update of the plan for gender equality and diversity was not implemented as planned during the year.

5.3 Goals for skills supply – 2016

In 2016, Svenska kraftnät will recruit about 90 new employees. It is planned that the utility will have 627 permanent employees at the end of 2016. It is therefore very important to have effective recruitment processes and a good introduction for new employees.

In 2016, the utility will develop the strategy for employees' skills development further and introduce a new model for performance appraisal and salary review. In the model,

follow-up is clearly connected to the public utility's goals and management and employee criteria. In addition, Svenska kraftnät continues to develop a new career model.

Svenska kraftnät will, during 2016 carry out a competence analysis, which will be the starting point for the work with the objective of seeing to it that the entire organisation shall have the right skills to meet goals and challenges. The analysis should also describe the activities needed to meet skills shifts from older to younger employees. As in previous years, special efforts will be undertaken to reduce the dependence on key employees.

Through support, guidance and inspiration in HR issues for the utility's leaders, the conditions increase for good leadership. A leadership measurement is planned in 2016 to chart the development needs of Svenska kraftnät's leaders.

The utility will, in 2016, implement a comprehensive development programme for new leaders. A trainee programme will start for four young engineers in the autumn.

Through a continued focus on a psychosocial working environment, conditions are created for a healthy and safe workplace. Special efforts are needed to reduce the sick leave rate to an acceptable level.

The work on gender equality and diversity continues and plans for gender equality and diversity will be updated.

Efforts to strengthen Svenska kraftnät as employer and employer brand continue and the utility will measure the results of our own employees and among students.

The utility will participate in at least four job fairs and offer at least five theses.

Other goals for 2016 are in the table of key figures, targets and outcomes.

5.4 Goals for skills supply - 2017/2018

The long-term goal for the future supply of skills is by seeing to it that Svenska kraftnät is one of Sweden's most attractive employer. The utility shall be deemed to be a modern and stimulating workplace that is committed to retaining and developing the right skills. Svenska kraftnät should also be a well-known employer with external target groups that are interesting for the utility. The utility has the same ambition in the role as client to consultants and contractors.

Svenska kraftnät has adopted the following focus for human resource management:

- Leaders and employees must demonstrate the key behaviours that are defined in management and employee criteria. By developing leadership and employee empowerment, the utility clarifies expectations and ambitions. The expected result is satisfied, effective and motivated employees and managers.
- Svenska kraftnät shall recruit, develop and retain the right skills to be able to realise goals. By developing and monitoring the skills of employees and managers, the utility aims to have the right skills in relation to the need.
- Svenska kraftnät shall assume responsibility for sustainability issues and set high standards so that the working environment is safe, sustainable and stimulating for employees, consultants and contractors.
- Svenska kraftnät shall develop a culture of continuous learning in order to work more efficiently. The utility shall create a culture of learning and feedback where good examples are highlighted and harnessed, and a culture where the utility evaluates what is done and how it is done.

6 Health, Environment, Safety and Quality

Svenska kraftnät works for environmentally-sound, safe and sustainable solutions for Sweden's electricity supply. In order to achieve concrete results, it requires that the utility, together with other government agencies and industry actors, has a good dialogue and collaboration to create consensus in the work with health, environment, safety and quality.

6.1 A sustainable and safe business

Svenska kraftnät shall operate and develop its business in a sustainable and safe manner. For this to succeed, work needs to be conducted systematically with issues about health, environment, safety and quality (HESQ). The utility developed work during the year and it is now largely integrated in the areas of working environment, electricity safety, environment, safety and quality.

Svenska kraftnät's environmental management system is certified according to ISO 14001:2004. During the year, preparations began for a transition to the new ISO 14001:2015, which will take place in 2017. According to the regulation (2009:907) on environmental management in government agencies, the utility reports the environmental management yearly to the Ministry of the Environment & Energy and the Environmental Protection Agency in a special report in conjunction with the annual report.

6.2 Dialogue for greater consensus

Svenska kraftnät places great importance to the cooperation that takes place within the industry in order to gain a consensus on HESQ issues. The public utility participates in the work of joint industry forums, such as Svensk Energi, where the utility participates as an adjunct member of several committees and working groups. One of the working groups in 2015 started update of an industry interpretation of the Working Environment Agency's rules for working environments in construction projects. The updated version will also include joint workplaces and coordination responsibilities.

Within the electrical safety committee, Svenska kraftnät participates in several working groups together with other actors in the electricity network industry and electricity network technology companies. Two examples of cooperation in 2015 were the introduction of a revised electrical safety instruction manual and work with the industry-wide electrical safety information to the public and to contractors hired by the public.

In the security committee, the utility also has a dialogue with other agencies to create a common understanding surrounding the safety levels for buildings and facilities. Svenska kraftnät participates in various forums and networks to exchange experiences with authorities and other organisations. The dialogue will broaden and deepen skills, while the parties can gain a common approach to how the area should be developed.

Svenska kraftnät also participates in networking regarding environmental and sustainability issues in the Cooperation Forum for state developers. The purpose of the forum is to, via cooperation, promote development and efficiency in the state's real estate ownership and management.

6.3 Risk awareness has increased

Risks in construction projects should be identified and dealt with at as early a stage of the investment process as possible. During the year, Svenska kraftnät therefore continued to develop methods for risk analyses in technical feasibility studies. Work on risk analyses follows a common thread, from technical feasibility, to projects where they are handed over to the supplier before the implementation of the project.

A good example of Svenska kraftnät's efforts to eliminate health and safety risks and improve preparedness for accidents and injuries are the projects Ekhyddan-Nybro and Nybro-Hemsjö. The projects wanted to quickly tackle and develop a preparedness for the risks that can arise when sub-contractors and consultants are hired for stocktaking, land surveys and geological surveys in the field. The project team therefore developed a checklist for assessing potential risks and proposed practical solutions to eliminate them. Such risks can include everything from falls and road traffic injuries to the threats and harassment or attacks by animals.

Since 2013, an EU directive applies which sets minimum requirements for electromagnetic fields for employees. The Working Environment Authority plans to, around mid-year 2016, issue a regulation that will clarify the employer's responsibility to manage the risks with electric and magnetic fields. Svenska kraftnät thoroughly investigated during the year regarding how the requirements surrounding electric fields will affect the business and work with internal instructions began.

6.4 Skills-enhancing efforts

During the year, Svenska kraftnät trained all newly-hired project manager and technical feasibility leaders in the construction working environment coordination for planning and project design and execution. Some suppliers also received training in

the role of co-ordinator. The utility conducts regular delegation training for all new employees and project managers to prepare them for signing the delegation regarding the working environment.

During the first half year, Svenska kraftnät trained affected employees in the area of electrical safety to raise risk awareness. The background was the new industry-wide electrical safety guidelines called ESA14 which began to apply from June 1 2015.

6.5 Work with deviations provides increased knowledge

Svenska kraftnät began to use the deviation management system called ENIA in the spring of 2014. In 2015, the utility worked further to anchor new work methods and to achieve greater security, both internally and externally. This has involved, among other things, to increase employees' skills and understanding of working with deviations.

In 2015, a total of 388 (669) deviations were reported. This are fewer than the previous year, which may be because Svenska kraftnät had fewer station projects in the implementation phase and fewer revisions this year. Probably, there is also an unknown number of deviations that are not reported. As in 2014, most deviations were reported from the construction operations where the deviation process is best anchored. Most deviations apply to the working environment area.

No serious accidents involving electricity as the root cause occurred during the year. One reason may be that training in connection with the introduction of ESA14 has raised employees' risk awareness. Some electrical incidents were reported, however, including thefts of copper. Thefts are a major electrical safety-related risk, both for the person or persons performing the theft, and for the operating contractors. Svenska kraftnät always has responsibility that the national grid's electricity systems are safe.

Successful work with deviations requires complete and accurate root cause analysis, and corrective and preventive actions. Svenska kraftnät continues to make improvements in this area and also focuses more and more on systematic feedback.

6.6 Requirements for suppliers becomes clearer

For Svenska kraftnät, the demands on the suppliers which the utility hires is an important part of HESQ work. In many procurements of construction and maintenance contracts, the work requires contractors to work systematically with working environment, environment, electrical safety and quality.

In 2015, Svenska kraftnät undertook extensive efforts to develop and implement evaluation criteria for procurement of contractors. The demands on Svenska kraftnät's entrepreneurs are partly set in the pre-qualification process (e.g. prior to the award of the contract), and partly as contract conditions for the execution of the contract. Upon pre-qualification, entrepreneurs should first show that they have a comprehensive systematic work with HESQ issues through a structured management system. The utility puts extra focus on the entrepreneurs having the ability to manage e.g. client requirements and legal requirements in different areas. In addition, the entrepreneurs should present a reference project that has handled HESQ issues structured throughout the project.

Since many years, Svenska kraftnät sets electrical safety and environmental requirements in the technical guidelines for construction and maintenance contracts. The utility is now working on the technical guidelines for a common standard for working environment, electrical safety, environment and quality. The aim is for Svenska kraftnät's requirements in orders to be clearer for the suppliers. Requirements in all these areas are gathered in one place and with the same structure, providing increased opportunities for systematic and coordinated management and monitoring. The new technical approach will consist of several components under an umbrella structure with the general requirements on the supplier's systematic work. Moreover, there will be specific requirements for working environment, electrical safety, environment and quality. The requirements expected to be completed in spring 2016.

During the year, the utility updated the technical guideline for physical protection and the electrical safety guideline for electrical safety instructions.

6.7 Internal audits provide a basis for improvements

Svenska kraftnät continuously monitors the requirements set in tenders upon construction and maintenance meetings during subcontractors' execution of the work. The utility conducts audits of a number of contracts each year. This is an effective way to ensure that contractors meet the work requirements on health, environment, safety and quality. The audits also provide a basis for improvement for both the contractors and Svenska kraftnät in the role as requirement setter.

In 2015, Svenska kraftnät undertook fewer audits in order to instead be able to focus more on gathering experiences from deviations that emerged during the audits and spread the experience in the organisation. It is important that the measures provide an effect throughout operations.

In accordance with Svenska kraftnät's ISO certified environmental management system, annual internal environmental audits in operations are performed in accordance with an established internal audit programme.

6.8 Safety and quality - prioritised areas under development

Security issues in project operations consist of security protection, physical protection and information security. The security function supports the project in terms of requirements and verification of safety requirements in the above fields. The approach is under development and the goal is that there should be an appropriate level of safety in the utility's projects and that security shall be implemented systematically and consistently. Collaboration occurs and a dialogue is conducted within the organisation to identify what needs exist in the security area and to promote a common view within the area.

During the year, Svenska kraftnät ran a number of projects with a focus on quality. From these, conclusions were drawn that the quality issue is a prioritised development area for investment and management operations in the coming years. The goal is to establish standardised and systematic quality assurance that will permeate throughout Svenska kraftnät's entire operations. Quality at all levels will lead to efficient processes resulting in cost savings and preventing unneeded operational repetitions, cost increases and delays.

6.9 Energy and chemicals - focus point

For several years, Svenska kraftnät has been working with improvements in energy efficiency. Energy efficiency programmes have been implemented in seven stations and at the central grid and emergency supply council. In 2016, focus will increase on energy efficiency as a result of the (2014: 266) Energy Audits Act for large companies that is now in force and includes Svenska kraftnät.

For the construction of grid stations, Svenska kraftnät drafted, in 2015, a new technical guideline requiring a standardised control building. The aim is that buildings should have a standard that is appropriate for the business and the staff who work there. These include requirements for energy efficient solutions such as heat exchangers, the presence of lighting control and energy efficient radiators. The guideline also includes environmental standards for construction materials and products according to BASTA criteria. BASTA is a database of construction products that meet certain specified requirements regarding chemical content.

Since Svenska kraftnät introduced the chemicals management system Chemsoft in 2014, the use of the system has gradually increased. The purpose is to review chemical products and see to it that the contractors use fewer environmentally hazardous and harmful products. Reports from project activities shows that older products are replaced with new and better products, because the latter are subject to less demands on how they should be handled.

6.10 Creosote use reduced

When Svenska kraftnät builds new power lines, timber is often used in the steel upright foundations and brace anchors. Such wood is impregnated with creosote oil to protect against rot during the long lifetime of the power line. Despite the fact that creosote is a toxic and carcinogenic substance, according to European and Swedish environmental legislation, it may be used in power line construction.

Svenska kraftnät has continued to use soil foundation with wooden sleepers, not only due to habit, but also because the life cycle analyses demonstrated that the overall environmental impact will be greater with the foundations of steel or concrete. Careful investigations have also shown that dangerous creosote does not leak more than some centimetres or a single decimetre from the buried foundations. The Swedish environmental courts have also accepted Svenska kraftnät's creosote use.

Nevertheless, the use of creosote creates concern, among other things, from landowners, local communities and municipalities. The handling of the creosote impregnated wood also constitutes a health and safety problem in the construction phase. It cannot be ruled out that the rules for the use of creosote can be tightened when the EU's Biocides Directive will be revised in 2018.

Therefore, in 2015 an internal R & D project, work was undertaken to seek the best options to ground foundations with wooden sleepers. The General Director has now decided to take a first step by banning the use of sleepers made of wooden sleepers from 2016 onwards upon foundation laying for A-pillars in the 400 kV grid. Instead, the utility will use prefabricated concrete foundations.

A-pillars are braced portal pillars which constitute about two thirds of the pillars when building a new 400 kV line. How they are laid depends on ground conditions, which can vary greatly. An estimate is that about two-thirds of the A-pillars in a "normal" line have ground foundation and where creosote-treated timber thus far has been used.

The decision will result in a significant reduction in Svenska kraftnät's creosote use. Internal work will also continue to find a good alternative, even for Svenska kraftnät's other pillar types.

6.11 Design pillars by Göta Canal

A key environmental issue for Svenska kraftnät is how the utility's facilities affect the landscape. The national grid's high power line pillars are prominent in the landscape, but in some cases the pillars serve as a positive element.

Just east of Borensberg, by the passage of Göta Canal and Motala River, Svenska kraftnät has built and lit a number of line pillars. The design pillars are part of The SouthWest Link and is the result of a design competition where representatives from Motala Municipality, the County Administrative Board in Östergötland County, Svenska kraftnät and Umeå University was part of the jury. The pillars should remind people of beacons to emphasise Borensberg's location by Göta Canal.

6.12 Endangered species benefit from clearing

An R & D project saw the Swedish University of Agricultural Sciences (SLU) in 2015 develop and apply a method for measuring biological diversity in power line lanes. The goal was to objectively measure changes in biodiversity, compared with the surrounding landscape, and see how the utility's care of power line lanes affects biodiversity. The work was coordinated with regional environmental monitoring in the County Administrative Boards' joint sub-programme "The Grasslands' Green Infrastructure".

In another research study, the Biodiversity Centre (CBM) at SLU examined if the proximity to power lines increases the number of species and individuals of butterflies in other habitats. The conclusion is that power lines appear to function as a proliferation source for butterflies. There were more species and individuals by forest roads and natural pastures close to power lines than in areas far from power lines. As in previous studies, it was also confirmed that there were more butterflies in the lanes than in the natural pastures and on forest roads, which confirms their importance for the butterfly fauna.

In June, the butterfly lane called Hummelsvedjan in Östhammar was inaugurated, where the utility, in cooperation with the County Administrative Board of Stockholm and Holmen Forest, has adapted the care of roadsides and power line lanes to benefit Euphydryas maturna butterflies and other endangered species. The area now ranks as one of the most butterfly-rich in the county.

7 Research and Development

Svenska kraftnät shall contribute to and support research and development in electricity transmission and distribution, which is important for Svenska kraftnät's business. Therefore, the utility works actively in research and development technology projects to develop a future electricity system.

The electricity system, in the future, shall better respond to climate targets and be reliable and flexible enough to cope with global changes and requirements.

7.1 Svenska kraftnät supports research and development

Svenska kraftnät participates in and supports technological research, development and demonstration in ten areas of technology:

- system utilisation and reliability
- system impact of large-scale renewable electricity
- environment
- information and operational plan
- maintenance
- dam safety
- electricity market
- technology for stations and lines
- competency support
- other efforts spanning more technologies

In 2015, Svenska kraftnät reviewed the entire business to further strengthen R & D work. This resulted, from 2016 onwards, in that work will be run in three strategic R & D areas, instead of the ten technology areas above:

- new technology
- the future's electricity system
- operating and planning support

7.2 Collaboration for development

Svenska kraftnät often collaborates in research and development with companies in the industry through the jointly-owned Energiforsk AB. To collaborate with universities is also a priority, and this work continues to build knowledge, among other things, through theses and doctoral projects.

Overall in the long term, the research and development activities are of great importance for ensuring the competence required so that Svenska kraftnät can perform the utility's tasks, both now and in the future.

Svenska kraftnät is a co-owner of the development company STRI AB together with ABB, Statnett and Det Norske Veritas. STRI conducts research and development projects, many of them in collaboration with partners and with Nordic grid companies.

In 2015, Svenska kraftnät used 23 (26) million SEK for research and development.

7.3 Project and development work

During the year, Svenska kraftnät ran several projects to improve reliability, availability and to streamline the electricity system. A few examples:

- Svenska kraftnät worked with working environment issues surrounding electric fields. The project interpreted an EU Directive for the forthcoming regulation from the Swedish Working Environment Authority on minimum requirements for electromagnetic fields (EMF) and health and safety. The project resulted in a preliminary internal guideline and a preliminary instruction, and an analysis was also performed as to the risks with electric fields. The guideline and instruction are estimated to be set during the first half of 2016. The analysis is used in ongoing projects and in feasibility studies for new projects. An instruction regarding the calculation and measurement of electric field remains to be developed.
- Svenska kraftnät studied different foundation methods for the most common type of pillar for 400 kV. The study provided clear evidence of many advantages of the prefabricated foundations compared to the other types (sleeper foundations with creosote impregnated wooden sleepers, sleeper foundations with steel sleepers, site-cast concrete foundations, slimmed down versions of site-cast concrete foundations). The prefabricated foundations will now begin to be used in future line projects where appropriate.
- The work with the non-contact method of measuring the temperature of electrical contacts, previously developed between 2011 and 2014 for Svenska kraftnät, con-

tinued in 2015. The evaluation was expanded with an additional pilot installation of isolators in a grid station of 220 kV. Readings from this installation will be analysed at the Royal Institute of Technology (KTH) during 2016. The purpose of the analysis is to evaluate the effectiveness of a new maintenance method that is carried out with voltage (AMS).

- Svenska kraftnät collaborated with Chalmers and ABB to gain deeper insight into the ageing mechanisms of the so-called HVDC PEX cables. Such are used in upcoming facilities in The SouthWest Link and NordBalt.
- Svenska kraftnät collaborated with KTH and Ellevio to develop diagnostic methods for cables in tunnels, whose number will increase in connection with the construction of Stockholms Ström.
- Svenska kraftnät tried two types of machinery for the clearing of power lines. The one that worked better is now part of a multi-year project where performance and cost are evaluated.
- Svenska kraftnät undertook a major project with laser scanning along some power lines. Laser data was analysed by various methods. In 2015 the methods were adapted to support Svenska kraftnät's regular maintenance. The results were evaluated and the methods will partly be used on a trial basis during 2016.
- Svenska kraftnät examined how an expected decrease in the inertia mass ("inertia") in the electricity system is to be managed; reduction can lead to unacceptable frequency deviations. A collaboration with Fingrid and Nordic Analysis Group (NAG) resulted in a survey of how much inertia mass is in the system today, and how much can be expected in the future, and an analysis of the impact of reduced inertia mass in the electricity system.
- Svenska kraftnät, Fingrid and Statnett started a project to develop better so-called load models for power system analyses of the Nordic system. In 2016, participants will measure the load voltage and frequency characteristics of a few places in the regional grids.
- The utility further developed power system models for Svenska kraftnät's power system simulator Aristo. The simulator is used for operator training, operational analysis and power system studies. It is also important that the simulator is used at universities to strengthen competence there. Aristo is at Chalmers, KTH and the Faculty of Engineering (LTH) at Lund University.

- Svenska kraftnät participated in a Nordic research collaboration within NAG surrounding Phasor Measurement Units (PMU). This is a technology that can provide better knowledge about the Nordic grid's dynamics, improve monitoring opportunities and in the longer term provide instruments for the national grids.
- The utility provided financial support to universities' research programmes Elektra, SweGRIDS and Vindforsk. In addition, Svenska kraftnät gave direct financial support to some research projects at universities.
- SCADA[15]-security is an investment in the information and operating system that was established in 2010 and continued during 2015. Here, KTH, the Swedish Defence Research Agency (FOI), The Swedish Civil Contingencies Agency (MSB) and Svenska kraftnät collaborated. The utility is funding research at KTH.
- Svenska kraftnät will continue to strengthen cooperation with KTH via an employee, Martin Nilsson, having begun studies in industrial frequency control in 2015. Supervisor is Göran Ericsson, who in 2014 was appointed Adjunct Professor at KTH.
- Svenska kraftnät supports knowledge and skills development in dam safety, partly through R & D projects, and partly by supporting the Swedish Hydropower Centre (SVC), a centre for higher education and research in hydropower and mining dams. The activities of SVC are divided into the areas of engineering and hydro turbines and generators. Svenska kraftnät supports both areas.

7.4 Martin researches in order to optimise the electricity system's power balance

Most of Svenska kraftnät's research is conducted via the development companies Energiforsk and STRI, which the utility co-owns. Svenska kraftnät also supports research projects, graduate student projects and theses at technical universities around Sweden.

Martin Nilsson, aged 30, works as an analyst at Svenska kraftnät's balance service and is also chairman of Svenska kraftnät's sports and cultural association called Kraftkällan. Since January of 2015, he is a PhD student at KTH, where he conducts research on issues regarding power balance between production and consumption of electricity.

- My employment as a doctoral student consists of 80 % research and studies and other time is geared for the analysis of the balance service, he says.

[15] Supervisory Control and Data Acquisition (SCADA).

7.4.1 Balance in the electricity system

Martin's research involves developing strategies to optimise the power balance state in real time. It may e.g. involve strategies that mean more regulation strength, better measurement and monitoring, increased incentives for businesses to keep their power balances or to compare the Nordic solution for power balancing with other solutions in the world.

- So far, research has shown how a cost can relate to a change made to the electricity system and how that in turn affects system operators to maintain the power balance. It may be a new international link, or changes in the rules regarding the system operation agreement or a new market solution. Another research result is a method which estimates rules strength's volume and location in the electricity system. This is important to understand how the system will respond to imbalances, explains Martin.

The research results are presented in articles at two conferences organised by the international community for the electrical engineers "IEEE" (Institute of Electrical and Electronics Engineers). Partly in Bangalore, India, in early 2016, and in Boston, USA, in the summer of 2016.

7.4.2 Nordic collaboration regarding the electricity system's frequency

Martin started at Svenska kraftnät as an analyst for the balance service in September, 2013.

- During my time as an analyst, I mainly worked with frequency controlled reserves and in the Nordic Analysis Group (NAG). In the Nordic collaboration, we discussed the quality of the Nordic frequency and the non-frequent frequency oscillators that the Nordic electricity system is exposed to. Before that I worked for Fortum Generation with optimising hydropower. This work experience helps me to compare practical reality to academic theory, he says.

In autumn of 2016, Martin will go on parental leave. The licentiate degree is planned for the turn of the year 2017/2018, and he aims to complete his doctoral dissertation by the summer of 2020.

- We are facing a very interesting time where power generation and the power system are high on the political agenda and many believe it is a key to Sweden's future prosperity. Here I would like to be able to contribute, he concludes.

8 International cooperation

Svenska kraftnät works for a greater integration and harmonisation of the Nordic and Baltic countries' electricity markets and electricity networks, and it promotes further development of electricity market cooperation in Europe to promote an internal market for electricity.

8.1 Electricity market cooperation in Europe

Within Europe, great efforts are under way for an integrated European electricity market with a sustainable and secure energy supply. The completion of the EU's third legislative package on the internal electricity market is a key part of the work that the Energy Union and European Commission launched in 2015. Svenska kraftnät participates primarily in the work within the framework of the cooperation organisation European Network of Transmission System Operators for Electricity (ENTSO-E). Within ENTSO-E, 41 European transmission system operators (TSOs) work together from 34 countries. ENTSO-E works based on the European Commission's mission with two main tasks:

- Establish proposals for binding EU rules, so-called grid codes[16] in the areas of operation, connection to the national grid and electricity market.
- Develop a European ten-year grid development plan (TYNDP[17]).

8.1.1 Grid codes and the Commission's guidelines

In March of 2015, ENTSO-E submitted a proposal for the grid code for disturbed operation and operating reconstruction[18] (ER) to European control authority ACER[19]. ER is the last code, of the currently known grid codes, which ENTSO-E has developed proposals for (see status image below) and in 2015 ENTSO-E therefore primarily worked to influence the design of the finalised grid codes (law proposals[20]) through discussions with the European Commission and ACER. Advocacy work is important because it is the EU Commission which proposes legislation for approval by Member States. In 2015, the grid code was approved with the requirements of grid connection of genera-

[16] Grid codes.
[17] Ten Year Grid Development Plan.
[18] Emergency and Restoration.
[19] Agency for the Cooperation of Energy Regulators.
[20] Note that the European Commission has written about many of the national grid codes for the guidelines. The legal status upon entering into force will be the same, the regulation.

tors[21] (RFG), the grid code for connecting of consumers[22] (DCC), the grid code with the requirement of grid connection of systems for high voltage DC and DC connected power facility modules[23] (HVDC) and the Commission's guideline regarding transmission items and other price hedging products[24] (FCA) by member states. This bill is expected to enter into force during the first half of 2016, following approval by the European Parliament and the Council of Ministers. Svenska kraftnät assisted the Cabinet Office before the member states' approval of the draft laws.

The past year was also marked by implementation work and preliminary implementation work where the utility participated both within ENTSO-E and regionally as well as internally at Svenska kraftnät.

The introduction of the EU Commission's Regulation CACM

In August 2015, the European Commission's regulation called Capacity Allocation and Congestion Management (CACM)[25] entered into force. CACM contains rules for the allocation of transmission capacity and congestion management. The aim is to harmonise the calculation and allocation of transmission for both the day before trading and for intra-day trading within the EU. The regulation contains a combination of directly binding rules and requirements of grid operators to develop common methods for a range of areas, with harmonised management as a result. In addition, it lays down rules for the electricity exchange's operations.

In November, each European grid operators submitted the first common methodological proposal to their respective supervisory authority for approval. This proposal included a division of Europe into capacity calculation regions and involves, if approved, that Svenska kraftnät is included in the three capacity calculation regions (CCR[26]): CCR Nordic, CCR Hansa and CCR Baltic. Within these regions, participants will develop common and coordinated capacity calculation methods and techniques for handling capacities.

8.1.2 The Energy Union

In early 2015, the European Commission presented a joint working method plan for the development of the electricity and gas markets in Europe in the coming years to

[21] Requirements for Generators.

[22] Demand Connection Code.

[23] Requirements for grid connection of high voltage direct current systems and direct current-connected power park modules.

[24] Forward Capacity Allocation.

[25] Commission Regulation (EU) 2015/1222 on 24 July 2015 regarding the establishment of guidelines for capacity allocation and congestion management, OT L 197/24.

[26] Capacity Calculation Regions.

achieve a secure, sustainable and competitive energy sector. The plan is called the Energy Union and within the European Commission it is expected to submit 43 concrete proposals within a period of five years. There are suggestions on how European markets will become more integrated, how the share of renewable energy will increase further, how power consumption will decrease and how the gas supply will be secured.

Next year the majority of these proposals are presented, and they are expected to cover several legislative acts of significance for Swedish energy policy and Swedish conditions as well as Svenska kraftnät's business segments. Svenska kraftnät has begun to analyse the work of the Energy Union and provide input to ENTSO-E and the Ministry of the Environment and Energy. Svenska kraftnät also sent comments directly to the European Commission in its communication regarding a new market design.

8.2 Nordic and regional cooperation

While cooperation and harmonisation work takes place within Europe, Nordic and regional cooperation continues to develop. Below is some of the ongoing work which aims to increase the integration and harmonisation of the Nordic and Baltic countries' electricity markets and electricity networks.

8.2.1 Nordic planning cooperation

There is a tradition of cooperation in the Nordic countries for greater integration between the countries' electricity markets. Together with the neighbouring countries' grid operators, Svenska kraftnät builds upon the cooperation for further harmonisation of the various Nordic cooperative groups. The goal of the cooperation is a safe, cost-effective and environmentally friendly Nordic power system in the areas of operations, grid planning, marketing and IT. In 2015, a common approach was developed and work began with a joint report which will describe the challenges in the Nordic electricity system in 2025, and in a second step solutions will be presented for these. The first part of the report will be presented to the Nordic Council of Ministers in the summer of 2016.

8.2.2 Nordic balance settlement

Svenska kraftnät runs, together with their counterparts in Finland and Norway (Fingrid, Statnett), the project called Nordic Balance Settlement (NBS), which will provide a common Nordic balance settlement. The work is an important part in the development of a Nordic retail market. The project is a joint venture with IT systems and balance settlement which is to simplify administration and provide long-term cost savings. Against this background, in 2013 the joint venture eSett Oy was established.

In 2015, work continued to establish common rules for balance settlement and the introduction of the new system support for balance settlement. A prerequisite for being able to establish a Nordic balance settlement was that parliament, in the autumn, endorsed the government's proposals for changes in the Electricity Act. At the beginning of 2016, the regulation and guidelines are expected to be decided. The introduction of the new harmonised model for balance settlement in Sweden, Norway and Finland is planned for October 2016.

8.2.3 Regional investment plans

In 2015, Svenska kraftnät participated in ENTSO-E's work to develop a regional development plan for the Baltic region[27]. The plan describes, based on different visions, a possible development of the national grid 10-15 years in the future. One result of the plan is a list of project candidates that can be included in the joint European plan called TYNDP. The results of the 2015 plan for the Baltic Sea region broadly confirmed the previous plan (2013) with the already known project candidates. But if more renewable energy in the region is added, more than what is deemed likely, further links between the countries can be justified. In addition to project candidates in the regional and pan-European studies, each country has many projects that are presented separately in the national plans.

8.2.4 The development of the electricity market in the Baltics

In 2015, work continued on the integration of the Baltic and Nordic electricity markets. The work is based on the Baltic Energy Market Interconnection Plan (BEMIP) and was initiated by the European Commission with the aim of, among other things, introducing a common system for reserving and balancing.

The entire Baltics are now integrated with the Nordic electricity market in terms of the day-before market and within-the-day market. A project is ongoing where the first step is to form a Baltic balancing market and develop cooperation between the Nordic and Baltic countries. A second step could be to form a common Nordic-Baltic balancing market.

A prerequisite for a more integrated Nordic-Baltic electricity market is the new DC link called NordBalt between Lithuania and Sweden. The link is expected to be operational in early in 2016.

[27] A regional development plan is established every two years.

Illustration: Status of grid codes at the end of 2015

Seven-year overview for the group		2015	2014	2013	2012	2011	2010	2009
Income statement, million SEK								
Operational income		8,769	9,319	10,111	9,789	9,282	10,547	6,851
Operating expenses excluding depreciation and write-offs		-6,770	-7,724	-8,565	-7,999	-7,965	-9,098	-5,881
Depreciations and write-offs		-792	-927	-715	-811	-676	-664	-613
Profit from shares in associated companies		9	13	19	23	9	20	31
Operating revenue		**1,216**	**681**	**850**	**1,002**	**650**	**805**	**388**
Financial posts		-91	52	4	-64	-42	-22	-7
Earnings after financial entries		**1,125**	**733**	**854**	**938**	**608**	**783**	**381**
Tax		-4	-2	-5	-15	-14	-10	-6
Minority interest in profit after tax		-	-	1	27	-13	-4	1
The year's result		**1,121**	**731**	**850**	**950**	**581**	**769**	**376**
Balance sheet, million SEK								
Intangible fixed assets		254	188	328	306	308	282	284
Tangible fixed assets		21,687	20,096	16,498	13,568	12,465	10,400	9,782
Financial fixed assets		281	160	122	98	105	96	347
Inventories		83	85	87	84	86	89	88
Short-term receivables		1,139	1,584	1,440	1,666	1,844	1,972	1,023
Cash equivalents		197	225	160	210	733	370	130
Total assets		**23,641**	**22,338**	**18,635**	**15,932**	**15,541**	**13,209**	**11,654**
Own equity		9,641	9,026	8,849	8,625	8,054	7,971	7,457
Minority interests		-	-	-	34	61	48	44
Deferred tax liabilities		34	32	33	32	40	38	32
Long-term liabilities								
Interest-bearing		5,087	6,202	3,775	1,854	2,768	1,972	1,835
Non-interest bearing		7,167	5,031	3,870	3,272	1,794	936	507
Provisions		781	663	681	633	537	478	433

Seven-year overview for the group		2015	2014	2013	2012	2011	2010	2009
Income statement, million SEK								
Short-term liabilities								
Interest-bearing		-	-	-	-	82	82	82
Non-interest bearing		931	1,384	1,427	1,482	2,205	1,684	1,264
Total own equity and liabilities		**23,641**	**22,338**	**18,635**	**15,932**	**15,541**	**13,209**	**11,654**
Key figures								
Return on adjusted equity after tax[28]	%	10.7	7.2	8.6	9.5	6.1	8.4	4.3
Return on invested capital	%	8.4	5.0	7.6	9.7	6.5	9.0	4.5
Solidity	%	35.8	35.7	42.0	47.0	45.6	53.1	57.2
Operating margin	%	13.9	7.3	8.4	10.2	7.0	7.6	5.7
Capital turnover rate	times	0.4	0.5	0.6	0.6	0.7	0.9	0.6
Debt ratio	%	66.8	83.1	54.8	30.4	37.4	30.8	33.2
Self-financing rate	times	0.7	0.3	0.4	0.8	0.6	1.1	0.7
Interest coverage rate[29]	times	11.6	n/a	n/a	14.8	13.9	14.0	13.3
Other								
Internally generated funds	million SEK	1,835	1,271	1,460	1,680	1,189	1,370	983
Net debt	million SEK	5,648	6,625	4,296	2,277	2,655	2,162	2,220
Investments	million SEK	2,455	4,353	3,642	2,375	2,771	1,276	1,527
Dividends paid to the state	million SEK	475	553	618	378	499	244	1,172
Annual work units	Quantity	547	504	461	422	375	344	317
Input energy on the national grid	TWh	117.8	116.6	119.3	123.5	113.5	110.3	104.4
Output energy on the national grid	TWh	114.6	113.6	116.5	120.0	110.8	108.0	101.7
Energy losses	TWh	3.2	3.0	2.8	3.5	2.7	2.4	2.7

[28] Return on equity after standard tax of 22 % from 2013. Adjusted equity refers to the average of the opening and closing restricted equity and 78 % of non-restricted equity.

[29] Since the interest expense in 2013 and 2014 has been positive, this key figure does not apply to these years.

9 Financial reports

Income statement - group		January-December	January-December
million SEK	**Statement**	**2015**	**2014**
Operational income			
- Revenues from electricity transmission	1	4,179	4,305
- Revenues from balance and frequency regulation		3,812	4,264
- Revenues from the power reserve		91	112
- Government subsidies for electricity preparedness	2	262	248
- Other external revenues	3	289	259
Net turnover		**8,633**	**9,188**
Own work capitalised	4	119	110
Other operational revenues		17	21
Total operating incomes		**8,769**	**9,319**
Operational costs			
Personnel costs	**5**	**-498**	**-458**
- Costs from electricity transmission	6	-1,578	-1,738
- Costs from balance and frequency regulation		-3,499	-4,391
- Costs for disruption reserve		-80	-74
- Costs for the power reserve		-91	-112
- Operation and maintenance costs		-432	-424
- Other external costs	7	-577	-516
Diverse external costs		**-6,257**	**- 7,255**
Depreciations and write-offs of tangible			
and intangible fixed assets	13.14	-792	-927
Other operating expenses		-15	-11
Total operating costs		**-7,562**	**-8,651**
Profit from shares in associated companies	8	9	13
Operating revenue		**1,216**	**681**

Income statement - group		January-December	January-December
million SEK	**Statement**	**2015**	**2014**
Result from financial investments			
Result from securities and receivables			
which are fixed assets	9	0	0
Other interest incomes and similar result entries	10	15	3
Interest costs and similar result entries	11	-106	49
Earnings after financial entries		**1,125**	**733**
Tax on the year's result	12	-2	-4
Deferred tax	12	-2	2
The year's result		**1,121**	**731**

9.1 Income statement per business segment (million SEK) 2015

RÖRELSENS INTÄKTER	Överföring av el på stamnätet	Systemansvar för el	Telekom	Elberedskap	Intresseföretag	Totalt
Intäkter från överföring av el	4 179					**4 179**
Intäkter från balans- och frekvensreglering	42	3 770				**3 812**
Intäkter från effektreserv		91				**91**
Statsanslag för elberedskap				262		**262**
Övriga externa intäkter	209	13	67			**289**
NETTOOMSÄTTNING	4 430	3 874	67	262		**8 633**
Aktiverat eget arbete	95	16	2	6		**119**
Övriga rörelseintäkter	8	6	2	1		**17**
TILLKOMMANDE RÖRELSEINTÄKTER	103	22	4	7		**136**
SUMMA RÖRELSENS INTÄKTER	**4 533**	**3 896**	**71**	**269**		**8 769**
RÖRELSENS KOSTNADER						
PERSONALKOSTNADER	-399	-64	-10	-25		**-498**
Kostnader för överföring av el	-1 578					**-1 578**
Kostnader för balans- och frekvensreglering	-173	-3 326				**-3 499**
Kostnader för störningsreserv	-40	-40				**-80**
Kostnader för effektreserv		-91				**-91**
Drift- och underhållskostnader	-403	-13	-18	2		**-432**
Övriga externa kostnader	-291	-63	-6	-217		**-577**
Koncernjustering störningsreserv	8	16		-24		
DIVERSE EXTERNA KOSTNADER	-2 477	-3 517	-24	-239		**-6 257**
Av- och nedskrivningar	-718	-20	-53	-1		**-792**
AV- OCH NEDSKRIVN AV MATERIELLA & IMMATERIELLA ANL.TILLGÅNGAR	-718	-20	-53	-1		**-792**
Övriga rörelsekostnader	-15					**-15**
ÖVRIGA RÖRELSEKOSTNADER	-15					**-15**
SUMMA RÖRELSENS KOSTNADER	**-3 609**	**-3 601**	**-87**	**-265**		**-7 562**
Interna intäkter			58			**58**
Interna kostnader	-58					**-58**
INTERNA POSTER	-58		58			
SUMMA INTERNA POSTER	**-58**		**58**			
Resultatandelar intresseföretag					**9**	**9**
Rörelseresultat	**866**	**295**	**42**	**4**	**9**	**1 216**

9.2 Income statement per business segment (million SEK) 2014

RÖRELSENS INTÄKTER	Överföring av el på stamnätet	Systemansvar för el	Telekom	Avgiftsbelagd verksamhet	Elberedskap	Intresseföretag	Totalt
Intäkter från överföring av el	4 305						**4 305**
Intäkter från balans- och frekvensreglering	28	4 236					**4 264**
Intäkter från effektreserv		112					**112**
Statsanslag för elberedskap					248		**248**
Övriga externa intäkter	165	12	67	15			**259**
NETTOOMSÄTTNING	4 498	4 360	67	15	248		**9 188**
Aktiverat eget arbete	88	12	3	1	6		**110**
Övriga rörelseintäkter	14	4	3				**21**
TILLKOMMANDE RÖRELSEINTÄKTER	102	16	6	1	6		**131**
SUMMA RÖRELSENS INTÄKTER	**4 600**	**4 376**	**73**	**16**	**254**		**9 319**
RÖRELSENS KOSTNADER							
PERSONALKOSTNADER	-367	-50	-14	-4	-23		**-458**
Kostnader för överföring av el	-1 738						**-1 738**
Kostnader för balans- och frekvensreglering	-155	-4 236					**-4 391**
Störningsreserv	-37	-37					**-74**
Effektreserv		-112					**-112**
Drift- och underhållskostnader	-387	-17	-21		1		**-424**
Övriga externa kostnader	-242	-54	-4	-6	-210		**-516**
Koncernjustering störningsreserv	8	16			-24		
DIVERSE EXTERNA KOSTNADER	-2 551	-4 440	-25	-6	-233		**-7 255**
Av- och nedskrivningar	-853	-20	-52	-2			**-927**
AV- OCH NEDSKRIVN AV MATERIELLA & IMMATERIELLA ANL.TILLGÅNGAR	-853	-20	-52	-2			**-927**
Övriga rörelsekostnader	-7		-4				**-11**
ÖVRIGA RÖRELSEKOSTNADER	-7		-4				**-11**
SUMMA RÖRELSENS KOSTNADER	**-3 778**	**-4 510**	**-95**	**-12**	**-256**		**-8 651**
Interna intäkter			58				**58**
Interna kostnader	-58						**-58**
INTERNA POSTER	-58		58				
SUMMA INTERNA POSTER	**-58**		**58**				
Resultatandelar intresseföretag						**13**	**13**
Rörelseresultat	**764**	**-134**	**36**	**4**	**-2**	**13**	**681**

9.3 Comments for the income statement

9.3.1 Operational income

Operating income decreased in 2015 and amounted to 8,769 (9,319) million SEK, a decrease of 550 million SEK. The decrease was mainly attributable to the business segment System responsibility for electricity, yet also the business segment Transmission of electricity on the national grid had lower revenues compared with last year.

Revenues from the balance and frequency adjustment decreased by 452 million SEK to 3,812 (4,264) million SEK, which was mainly due to lower revenues from balance and system operators. The volume of purchased balance power increased compared with the previous year, but when the average price decreased markedly, revenues were lower.

Revenue from electricity transmission decreased and amounted to 4,179 (4,305) million SEK, where the decrease was mainly due to lower revenues for transit compared to the previous year. Energy revenues increased compared with the previous year although the charge was reduced by 4 % for all bidding areas. It was explained by higher input and output from the national grid this year compared to last year.

9.3.2 Operating revenue

The operating revenue for the group amounted to 1,216 (681) million SEK, which is 535 million SEK higher than 2014. The operating revenue includes external revenues and expenses, income from associated companies and consolidated depreciation and write-offs.

Operating costs amounted to 7,562 (8,651) million SEK. Some of the types of costs affects both the business segments called Transmission of electricity in the national grid and System responsibility for electricity. Costs that cannot be attributed directly are allocated at a standard rate between the two business segments.

Transmission of electricity on the national grid is the dominant performance driving business segment within Svenska kraftnät's business. The year's operating revenue for the business segment amounted to 866 (764) million SEK. The higher result was mainly due to energy revenues and energy compensation along with the cost of the loss of power generated a higher net profit than last year. In addition, costs for depreciations were lower this year compared with last year as described below.

The higher input and output gave increased revenues from energy charges compared to the previous year. The levels of energy income and energy compensation also depend on where in the grid input and output occur. The costs for the purchase of loss power was lower compared to 2014, mainly due to the loss power price was lower compared to last year.

Revenues for transit during the year were significantly lower compared to the previous year. The costs of transit were also higher. Because of the complexity of the distribution mechanism in the agreement with ENTSO, combined with the long lag in invoicing and late corrections, it is difficult to predict the financial outcome for the correct period. The year's result is partly based on estimated revenues and expenses.

Income and expenses for primary regulation decreased compared to the previous year, which are largely attributable to costs for the primary regulation's one component - frequency controlled disturbance reserve (FCR-N) was reduced. The cost of FCR-D, however, increased compared to last year.

Operating revenues from the System responsibility business segment for electricity amounted to 295 (-134) million SEK. Turnover for the balance and frequency regulation reflects the level of electricity prices during the year, which can be seen as a grosswise large deviation compared with the previous year. In 2015, the volume of purchased and sold balance power increased, and at the same time the average price de-

creased, which explains the lower revenue and costs. The improved operating revenue was due to increased income from fees from the balance operators through two fee increases in 2014 and one in 2015, partly because both revenue and costs for the primary regulation reduced for the business segment.

The operating revenues of the business segment Telecommunications amounted to 42 (36) million SEK.

The business segment Electricity preparedness utilised, during the year, 262 (248) million SEK of the appropriations for electricity preparedness, which was funded by grants.

The operating revenues for the business segment Chargeable activities amounted to - (4) million SEK.

Svenska kraftnät remains in a recruitment period and 35 (51) new full-time employees have been added since December 2014. Staff costs increased by 40 million SEK from 458 million SEK in 2014 to 498 million SEK in 2015.

Depreciations and write-offs of fixed assets decreased by 135 million SEK from 927 million SEK to 792 million SEK. Write-offs increased by 48 million SEK and amounted to 708 (660) million SEK, where the increase was due to a number of facilities being decommissioned during the year.

Depreciations fell from 267 million SEK to 84 million SEK, where the year's outcome applied to the depreciation of a number of projects due to Forsmark Power Group AB having decided to discontinue efforts to increase power in blocks 1 and 3 of the Forsmark nuclear power plant. In addition, there was depreciation caused by new technology choices for the link between the mainland and the island of Gotland. Of last year's depreciations, 173 million SEK involved the cancelled contract with Alstom Grid for the delivery of a new operation control system. Further costs were 93 million SEK in accrued project expenditures for the management project Ekhyddan - Barkeryd. The project was created to manage (a now failed) power increase at Oskarshamn nuclear power plant.

Results from stakes in associated companies amounted to 9 (13) million SEK.

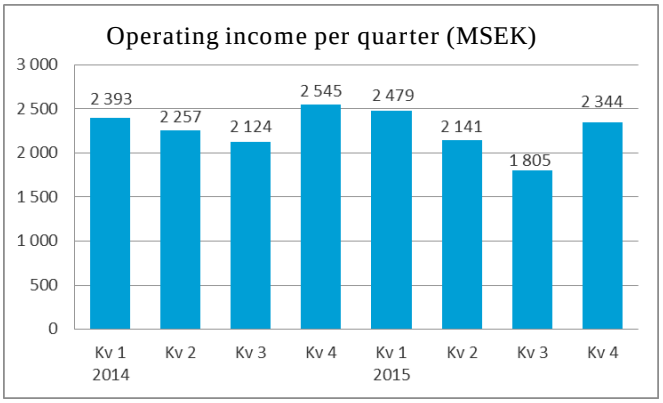
The consolidated operating margin was 13.9 (7.3) %, which is 6.6 percentage points higher than last year.

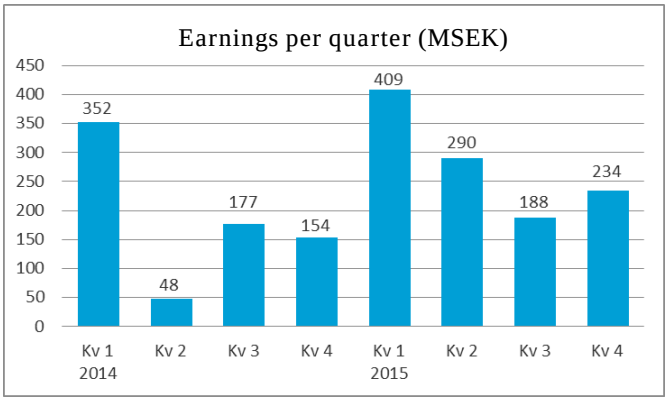
9.3.3 Net financial income

The net financial income of the group amounted to -91 (52) million SEK, which is 143 million SEK higher than the previous year. Interest income for the group amounted to 15 (3) million SEK. The decline in net financial income is primarily due to interest expense on the pension liability increasing from 45 million SEK last year to -86 million SEK because yield was not achieved on the capital due to the negative interest rate. Interest capitalised during the construction period was also affected by interest rates and amounted to -16 (32) million SEK. Since Riksbank's interest rate was negative, borrowings with the National Debt Office generate revenues this year for the utility which amounted to 14 (-21) million SEK.

9.3.4 The year's result

The year's result for the group amounted to 1,121 (731) million SEK, which is 390 million SEK higher than 2014. The result corresponds to a return on adjusted equity of 10.7 (7.2) %. According to the regulatory letter for 2015, the goal is to achieve a return on adjusted equity at 6 % over a business cycle. Net profit margin with a deduction for standard tax was 10.0 (6.1) %.





Balance sheet - group

million SEK	Statement	31/12/2015	31/12/2014
Assets			
Fixed assets			
Intangible fixed assets	13		
Balanced expenses for software		90	52
Land rights		88	52
Optic usage rights		18	18
Current installations		58	66
		254	**188**
Tangible fixed assets	**14**		
Buildings and land		565	455
Machinery and other technical installations		11,815	9,981
Current installations		9,307	9,660
		21,687	**20,096**
Financial fixed assets			
Shares in associated companies	17	116	128
Long-term receivables from associated companies	18	23	15
Other long-term receivables	19	142	17
		281	**160**
Total fixed assets		**22,222**	**20,444**
Current assets			
Inventories			
Inventories of raw materials		83	85

Balance sheet - group

million SEK	Statement	31/12/2015	31/12/2014
Short-term receivables			
Accounts receivable		598	592
Receivables at associated companies		24	25
Other receivables	20	10	96
Settlement treasury	21	99	77
Prepaid costs and accrued income	22	408	794
		1,139	**1,584**
Short-term investments			
Cash and bank		197	225
		197	225
Total current assets		1,419	1,894
Total assets		**23,641**	**22,338**
Contingent assets	**29**		

million SEK	Statement	31/12/2015	31/12/2014
Own equity and liabilities			
Own equity			
Restricted own equity			
Government capital		600	600
Other restricted capital		3,650	3,633
		4,250	**4,233**
Free own equity			
Balanced profit/loss		4,270	4,062
The year's result		1,121	731
		5,391	**4,793**
Total own equity		**9,641**	**9,026**

million SEK	Statement	31/12/2015	31/12/2014
Own equity and liabilities			
Deferred tax liabilities	**23**	**34**	**32**
Provisions			
Provisions for pensions and similar obligations	24	781	663
Other provisions		0	0
		781	**663**
Long-term liabilities			
Interest-bearing liabilities	25	5,087	6,202
Non-interest bearing liabilities	26	7,167	5,031
		12,254	**11,233**
Short-term liabilities			
Supplier debt		494	657
Other liabilities	27	101	107
Accrued costs and deferred income	28	336	620
		931	**1,384**
Total own equity and liabilities		**23,641**	**22,338**
Pledged securities		**None**	**None**
Contingent obligations	**29, 30**		

9.4 Comments for the balance sheet

9.4.1 Balance sheet total

The group's balance sheet total amounted to 23,641 (22,338) million SEK, which is 1,303 million SEK higher and is primarily due to an increase in tangible fixed assets.

9.4.2 Fixed assets

Svenska kraftnät's intangible fixed assets consist of land rights, rights of use optic links, licenses and capitalised expenditure for computer software. The reported value amounted to 254 (188) million SEK. Investments in computer software, mainly up-grading of the utility's operation control system, was 48 (34) million SEK. The year's

write-offs for intangible fixed assets amounted to 28 (23) million SEK. In addition, depreciations have been made for 0 (165) million SEK.

The tangible fixed assets consist primarily of power lines, stations, buildings and land, optic links and other technical facilities and construction of facilities in progress. The tangible assets' value amounted to 21,687 (20,096) million SEK, which is an increase of 1,591 million SEK. Investments during the year amounted to 2,399 (4,305) million SEK and write-offs were 680 (637) million SEK. In addition, depreciations have been made for 84 (57) million SEK.

The remaining fixed assets consist of shares in associated companies and non-current receivables. Shares in associated companies amounted to 116 (128) million SEK. During the year, the public utility received 8 (4) million SEK in dividends from Nord Pool AS and profits from associates amounted to 9 (13) million SEK. For the trading of electricity futures, which the public utility carries out, Nasdaq Clearing AB requires security. The security structure consists of a default fund that is set once per quarter, and a daily security requirement which is adjusted daily based on the market value of the portfolio of electricity futures. For the default fund, the public utility deposits cash in SEK. For the daily collateral requirement, the public utility has a bank guarantee facility with Swedbank amounting to 100 million EUR. As the safety requirement increased during the year, cash in EUR has been deposited for the equivalent of about 100 million SEK. The total deposits at year end amounted to 116 (16) million SEK.

9.4.3 Inventories

In inventories, which amounted to 83 (85) million SEK, fuel for gas turbines in the subsidiary Svenska kraftnät Gas Turbines AB are included.

9.4.4 Current assets

Current assets amounted to 1,419 (1,894) million SEK, of cash amounted to 197 (225) million SEK. The decrease mainly relates to accrued revenues for balancing power and is explained by the fact that billing for December occurred before year-end, which did not happen last year.

9.4.5 Own equity

The equity of the group was, at year-end, 9,641 (9,026) million SEK. During the year 475 (553) million SEK was awarded to the state. Furthermore, balanced funds of 16 million SEK were transferred relating to electricity certificates and guarantees of origin to the National Energy Administration. The year's results in the group amounted to 1,121 (731) million SEK.

9.4.6 Long-term liabilities

The group's long-term interest-bearing debt consists of the utility's loans with the National Debt Office amounting to in 5,087 (6,202) million SEK. The decrease of 1,115 million SEK was due to the high influx of capacity fees which largely financed the utility's investments. This means that debt decreased. The average interest rate on consolidated loans in 2015 was -0.25 (0.42) %.

Non-interest bearing long-term debts consist of contributions from landowners, investment contributions from stakeholders, expensed capacity fees, advances from customers in the optic business segment and other customers, and amounted to 7,167 (5,031) million SEK. The change is primarily due to the year's retained capacity fees amounting to 2,068 (1,172) million SEK. Net indebtedness decreased by 969 million SEK and amounted to 5,648 (6,259) million SEK. This affected the indebtedness, which decreased during the year to 66.8 (83.1) %. The primary reason is, as mentioned above, a high influx of capacity fees, which means that not as much borrowing is needed. The appropriations for 2015 states that Svenska kraftnät may have a debt ratio not exceeding 140 %.

9.4.7 Short-term liabilities

Accounts payable decreased from 657 million SEK 657 to 494 million SEK in 2015. Accrued expenses and deferred income also decreased, from 620 million SEK in 2014 to 336 million SEK in 2015. Accounts payable are affected by the projects' payment plans and may vary between years. The decrease in accrued expenses and deferred income was primarily due to invoicing of balance power for December occurred before the year's end, which did not happen last year.

Financing analysis - The Group	**January-December**	**January-December**
Million SEK	**2015**	**2014**
Operations		
Operating result before financial entries	1,216	681
Adjustment for cash flow items with no impact		
Depreciations and write-offs	792	878
Other items	-191	-268
Financial income and expenses	14	-20
Dividend received	8	4
Tax payments	-4	-4

Financing analysis - The Group	January-December	January-December
Million SEK	**2015**	**2014**
Cash flow before changes in operating capital and investments	**1,835**	**1,271**
Change in stock	1	3
Change in short-term receivables	424	-79
Change in short-term liabilities	-633	2
Cash flow before investments	**1,627**	**1,197**
Investments		
Investment in intangible fixed assets	-56	-48
Investment in tangible fixed assets	-2,323	-4,217
Investments in financial assets	-107	-31
Sales of facilities	3	-
Net investments in operations	-2,483	-4,296
Cash flow after investments	**-856**	**-3,099**
Financing		
Change in interest-bearing loans	-1,114	2,427
Change in other long-term liabilities	2,433	1,290
Dividends paid	-475	-553
Transfer of balanced profit for Chargeable activities to the National Energy Board	-16	-
Financing	828	3,164
liquidity change		
Cash including short-term investments at beginning of year	225	160
The same at end of period	197	225
Change in cash	-28	65

9.5 Comments regarding the financing analysis

The financial analysis aims to describe the Svenska kraftnät Group's ability to generate cash and is a supplement to the income statement and balance sheet's description of the profitability and financial position. Cash refers to cash and bank balances.

The cash flow from ongoing operations before changes in operating capital increased by 564 million SEK compared to the previous year and amounted to 1,835 (1,271) million SEK. The increase is mainly explained by the higher operating profit. The cash flow from the operating capital decreased by 134 million SEK compared to the previous year and amounted to -208 (-74) million SEK. The decrease is mainly explained by lower accounts payable and lower provision for accrued expenses.

The group's investments decreased during the year and amounted to 2,455 (4,353) million SEK, of which investments affecting cash flow amounted to 2,379 (4,265) million SEK. The investments affecting cash flow are affected by payments relating to last year's investments being included in the period's cash flow (the corresponding applies to previous year's investments). In addition to this, the cash flow was adjusted for investments for items with no cash flow impact, such as activated building interest.

The change in interest-bearing loans amounted to -1,114 (2,427) million SEK. The reduced need for borrowing was due to the high influx of capacity fees during the year, which largely finance investments. Capacity fees are reported as other long-term debt, which increased by 2,433 (1,290) million SEK. The increase in long-term debt also explains the resulting received external investment grants. The state was paid 475 (553) million SEK. In addition, 16 million SEK was paid relating to the balanced profit for Chargeable operations to the National Energy Board in connection with the transfer of responsibility for the account-keeping of power certificates and guarantees of origin.

The year's cash flow amounted to -28 million SEK compared with 65 million SEK in 2014.

9.6 Change in equity - the group (million SEK)

	Government capital	Other restricted capital	Balanced profit/loss including year's result	Total own equity
Ingoing balance 2014	**600**	**3,626**	**4,623**	**8,849**
Dividend	-	-	-553	-553
Conversion difference	-	-	-1	-1
Offset restricted/free capital	-	7	-7	0
The year's result	-	-	731	731
Outgoing balance 2014	**600**	**3,633**	**4,793**	**9,026**
Ingoing balance 2015	**600**	**3,633**	**4,793**	**9,026**

	Government capital	Other restricted capital	Balanced profit/loss including year's result	Total own equity
Dividend	-	-	-475	-475
Transfer of balanced funds relating to electricity certificates and guarantees of origin to the National Energy Board.	-	-	-16	-16
Conversion difference	-	-	-15	-15
Offset restricted/free capital	-	17	-17	0
The year's result	-	-	1,121	1,121
Outgoing balance 2015	**600**	**3,650**	**5,391**	**9,641**

The equity of the group amounted to 9,641 (9,026) million SEK, of which restricted equity amounted to 4,250 (4,233) million SEK.

The appropriations of profits proposed in the 2014 Annual Report was adopted by the government.

Income statement - Public utility		**January-December**	**January-December**
million SEK	**Statement**	**2015**	**2014**
Operational income			
- Revenues from electricity transmission	1	4,190	4,316
- Revenues from balance and frequency regulation		3,812	4,264
- Revenues from the power reserve		91	112
- Government subsidies for electricity preparedness	2	262	248
- Other external revenues	3	284	254
Net turnover		**8,639**	**9,194**
Own work capitalised	4	119	110
Other operational revenues		17	21
Total operating incomes		**8,775**	**9,325**

Income statement - Public utility		January-December	January-December
million SEK	**Statement**	**2015**	**2014**
Operational costs			
Personnel costs	**5**	**-498**	**-458**
- Costs from electricity transmission	6	-1,578	-1,738
- Costs from balance and frequency regulation		-3,501	-4,392
- Costs for the power reserve		-91	-112
- Costs for disruption reserve		-137	-124
- Operation and maintenance costs		-407	-395
- Other external costs	7	-588	-532
Diverse external costs		**-6,302**	**-7,293**
Depreciations and write-offs of tangible			
and intangible fixed assets	13.14	-772	-906
Other operating expenses		-15	-12
Total operating costs		**-7,587**	**-8,669**
Operating revenue		**1,188**	**656**
Result from financial investments			
Result from securities and receivables which are fixed assets	9	8	6
Other interest incomes and similar result entries	10	15	3
Interest costs and similar result entries	11	-106	49
Earnings after financial entries		**1,105**	**714**
The year's result		**1,105**	**714**

9.7 Parent company - Public utility Svenska kraftnät

Operating income amounted to 8,775 (9,325) million SEK, of which 12 (12) million SEK related to sales to Group companies. Results from financial items amounted to 1,105 (714) million SEK.

The public utility's investments in tangible and intangible assets totalled 2,411 (4,331) million SEK. Cash amounted, as per Dec 31, 2015, to 190 (192) million SEK.

The public utility finances operations with equity and loans with National Debt Office. Borrowing at year-end amounted to 5,087 (6,202) million SEK and equity was 9,413 (8,799) million SEK.

In 2015, the public utility received co-financing from several investment projects and used the resulting capacity fees to finance investments which aim to strengthen or maintain the transmission capacity of electricity in the national grid.

Balance sheet - Public utility

Million SEK	Statement	31/12/2015	31/12/2014
Assets			
Fixed assets			
Intangible fixed assets	**13**		
Balanced expenses for software		90	52
Land rights		88	52
Optic usage rights		18	18
Current installations		58	66
		254	**188**
Tangible fixed assets	**14**		
Buildings and land		552	444
Machines and inventory		11,622	9,810
Current installations		9,307	9,660
		21,481	**19,914**
Financial fixed assets			
Shares in Group company	15	9	9
Receivables of Group company	16	51	75
Shares in associated companies	17	66	66
Receivables at associated companies	18	23	15
Other long-term receivables	19	141	15
		290	**180**

Balance sheet - Public utility

Million SEK	Statement	31/12/2015	31/12/2014
Total fixed assets		**22,025**	**20,282**
Current assets			
Short-term receivables			
Accounts receivable		597	591
Receivables of Group company		23	22
Receivables at associated companies		24	25
Other receivables	20	5	95
Settlement treasury	21	99	77
Prepaid costs and accrued income	22	407	794
		1,155	**1,604**
Short-term investments			
Cash and bank		190	192
Total assets		**23,370**	**22,078**
Contingent assets	**29**		
Own equity and liabilities			
Own equity			
Restricted own equity			
Government capital		600	600
Other restricted capital		3,314	3,314
		3,914	**3,914**
Free own equity			
Balanced profit/loss		4,394	4,171
The year's result		1,105	714
		5,499	**4,885**
Total own equity		**9,413**	**8,799**

Balance sheet - Public utility

Million SEK	Statement	31/12/2015	31/12/2014
Provisions			
Provisions for pensions and similar obligations	24	781	663
Other provisions		0	0
Total provisions		**781**	**663**
Long-term liabilities			
Interest-bearing liabilities	25	5,087	6,202
Non-interest bearing liabilities	26	7,167	5,031
		12,254	**11,233**
Short-term liabilities			
Supplier debt		481	651
Liabilities to Group company		9	8
Other liabilities	27	101	107
Accrued costs and deferred income	28	331	617
		922	**1,383**
Total liabilities		**13,176**	**12,616**
Total own equity and liabilities		**23,370**	**22,078**
Pledged securities		**None**	**None**
Contingent obligations	**29, 30**		

FINANCING ANALYSIS - Public utility

million SEK	January-December 2015	January-December 2014
Operations		
Operating result before financial entries	1,188	656
Adjustment for cash flow items with no impact		
Depreciations and write-offs	772	857
Other items	-182	-256

FINANCING ANALYSIS - Public utility

	January-December	January-December
Financial income and expenses	14	-18
Dividend received	8	4
Cash flow before changes in operating capital and in-	**1,800**	**1,243**
Change in stock	0	0
Change in short-term receivables	426	-79
Change in short-term liabilities	-640	3
Cash flow before investments	**1,586**	**1,161**
Investments		
Change in long-term receivables	16	-9
Change in other financial assets	-100	-30
Investment in intangible fixed assets	-56	-48
Investment in tangible fixed assets	-2,279	-4,195
Investments in financial assets	-	-1
Sales of facilities	3	0
Net investments in operations	-2416	-4,283
Cash flow after investments	**-830**	**-3,122**
Financing		
Change in interest-bearing loans	-1,114	2,427
Change in other long-term liabilities	2,433	1,290
Dividends paid	-475	-553
Transfer of balanced profit for Chargeable activities to the National Energy Board	-16	-
Financing	828	3,164
Liquidity change		
Cash including short-term investments at beginning of year	192	150
The same at end of period	190	192
Change in cash	-2	42

9.8 Change in equity - public utility (million SEK)

	Government capital	Other restricted capital	Balanced profit/ loss including year's result	Total own equity
Ingoing balance 2014	**600**	**3,314**	**4,724**	**8,638**
Dividend	—	—	-553	-553
The year's result	—	—	714	714
Outgoing balance 2014	**600**	**3,314**	**4,885**	**8,799**
Ingoing balance 2015	**600**	**3,314**	**4,885**	**8,799**
Dividend	—	—	-475	-475
Transfer of balanced funds relating to electricity certificates and guarantees of origin to the National Energy Board.	-	-	-16	-16
The year's result	—	—	1,105	1,105
Outgoing balance 2015	**600**	**3,314**	**5,499**	**9,413**

Of which equity amounted to 3,914 (3,914) million SEK.

Dividends are reported against the following income title:

Income title, thousand SEK	Amount to deliver	Delivered amount
2116 The public utility's delivered dividend and receipt of the equivalent to state tax	475,000	475,000

10 Additional information and notes

10.1 Accounting and valuation principles

10.1.1 Basis for the report's establishment

Svenska kraftnät's accounting complies with regulation (2000: 606) regarding authorities' bookkeeping and the Accounting Administration's regulations and general guidelines. The regulation corresponds to the Accounting Act, but is adapted to the specific conditions that apply to state agencies including public utilities. The annual report is, with some supplements noted in the regulatory letter, prepared in accordance with regulation (2000:605) regarding annual reporting and budgeting and the Financial Management Authority's regulations and general guidelines. Part of Svenska kraftnät's operations, electricity preparedness, is financed through government grants. For this operation, the regulatory letter (1996:1189) also applies, which, among other things, regulates the principles for grant settlement and how unused funds may be transferred between different budget years.

10.1.2 Conditions for the preparation of the consolidated financial statements

The Parent Company's functional currency is SEK as a reporting currency for both the parent company and the group. All amounts stated are rounded to the nearest million SEK unless otherwise stated. Income statement related items refer to the period January 1 - December 31. Balance sheet items refer t0 December 31. Figures in brackets refer to the previous year's values.

10.2 Group accounting principles

10.2.1 The group's coverage

The Svenska kraftnät group includes the Public utility parent company Svenska kraftnät, one subsidiary and seven associated companies. The parent company is a Swedish state public utility which has its head office in Sundbyberg. The Group is under the controlling influence of the Swedish government.

The subsidiary and associated companies are limited liability companies or assume corresponding legal forms abroad.

10.2.2 Principles of consolidation

The consolidated financial statements are prepared using the purchase method, which basically means that the acquisition cost of the shares in the subsidiary are eliminated against the equity that existed in the subsidiary upon acquisition.

Internal profits within the Group are eliminated in full.

Associated companies are reported according to the equity method. This means that the booked value of stakes and shares in associated companies in the consolidated accounts are valued at the Group's share of associated companies' equity. Hereby, Svenska kraftnät's share is included in associated companies' results in the group's result and dividends paid. The share is included in retained earnings.

10.2.3 Untaxed reserves/financial statement appropriations

In preparing the consolidated accounts, untaxed reserves and appropriations in the subsidiary have been divided into deferred tax and restricted equity. The deferred tax liability is calculated at the current tax rate.

Income accounting

Revenue is reported to the extent that it is probable that the economic benefits will in turn benefit the group, and that revenues can be reliably measured. Revenues are reported net, after VAT. In the consolidated financial statement, the group internal sales are eliminated.

Revenue from electricity transmission

Revenue from electricity transmission consists of power charges and energy charges, as well as the transit compensation. Impact fees are fixed annual charges for subscriptions reported as revenue linearly over the period that the fee is intended to cover, while energy fee revenue in connection with Svenska kraftnät's services is used.

Revenues for transit are received when the national grid is used to transmit power through Sweden to abroad. The compensation agreement for transit, Inter TSO Compensation, is an agreement between 35 system administrators in Europe. The purpose of the agreement and its calculation mechanism is that each contracting party shall obtain and provide financial compensation so that the national grid is used for the transmission of electricity through one country to another. Theoretically, compensation consists of two parts: compensation for infrastructure and compensation for losses. The compensation Svenska kraftnät receives or pays is related to all input system operators' flows.

Revenues from balance and frequency regulation
Revenues consist primarily of sold balance power. If the customer together bought balance power during the settlement period, this is reported as a balance power revenue for Svenska kraftnät. If the customer, rather than collectively, sold balance power, this is reported as a balance power cost.

Revenues from power reserve
Svenska kraftnät has, in accordance with Act (2003:436) involving power reserves, responsibility so that a power reserve is available during the winter. The power reserve is financed by a special fee that Svenska kraftnät charges the balance operator companies.

Government grants for electricity preparedness
Svenska kraftnät is an electricity preparedness authority and receives grant funding for this.

Other external income
Other external income consists, among other things, of revenues for capacity fees and contributions, use of the IT system Ediel and income for capitalised work.

Revenues from capacity fees relate to compensation resulting from capacity fees to cover the year's costs for counter-trading and income from capitalised capacity fees. Revenues from capitalised capacity fees are settled with the same periodicity as the depreciations for the investment projects that the capacity fees have made contributions to. How the received capacity fees may be used is governed by the European Parliament's and Council's Regulation (EC) 714/2009.

Other income is reported as revenue when the service is provided.

10.2.4 Segment accounting or business segments
The Group's primary area is business segments. The Group's operations are divided into four (five) business segments. A business segment is a distinguishable unit within Svenska kraftnät which is distinguished from other operations based on the risks and opportunities that Svenska kraftnät's task entails.

10.2.5 Distribution of income and costs between business segments
The income and expenses that affect several business segments is distributed among these according to the following distribution keys:

- Costs for disruption reserve is allocated at one-third each for Transmission of electricity on the national grid, System responsibility for electricity and Electricity preparedness.

- Income and expenses for primary regulation upon disturbed operation (FCR-D) is allocated at one-third on each for System responsibility for electricity and two-thirds for Transmission of electricity in the national grid. Income and expenses for primary regulation normal operation (FCR-N) and secondary regulation (FRR-A) are charged to System responsibility for electricity at 100 %.
- Joint revenues and expenses across segments are allocated according to the following breakdown in 2015: Transmission of electricity on the national grid: 80 %, System responsibility for electricity: 13 %, Electricity preparedness: 5 % and Telecommunications: 2 %. For 2014, the distribution was: Transmission of electricity on the national grid: 80 %, System responsibility for electricity: 11 %, Electricity preparedness: 5 %, Telecommunications: 3 % and Chargeable activities: 1 %.
- The business segment Telecommunications provides a nationwide network for telecommunications and data which is an important prerequisite in order to maintain a high level of reliability for the national grid. The business segment Transmission of electricity uses the service, and is charged with internal costs.

10.2.6 Interest income

Interest income is reported as it is earned. They are reported in the income statement in the period in which they arise.

10.2.7 Interest expenses

Interest expenses consist of interest and other costs incurred when borrowing capital. The interest expense is reported in the period to which it relates. Interest expenses during the construction period are activated during construction of fixed assets exceeding 100 million SEK.

10.2.8 Receivables and liabilities

Assets and liabilities have been valued at their acquisition value unless otherwise stated. Uncertain receivables are booked to the amount they, after individual assessment, are estimated to be paid as.

10.2.9 Receivables and liabilities in foreign currency

Receivables and liabilities in foreign currency are valued at the balance day's rate. The difference between the acquisition date and the balance sheet date has been added to the result.

10.2.10 Inventories

Inventories of the Group consist of fuel for gas turbine operation. Inventories are valued at the lowest acquisition cost and actual value according to the FIFO principle.

10.2.11 Cash equivalents

Cash and cash equivalents include bank balances.

10.2.12 Derivative

The public utility uses derivative instruments to hedge financial risks, primarily electricity price risk and currency risk for electrical losses.

10.2.13 Valuation of electricity futures

The electricity futures, which reflect the actual needs of the business, without conscious hedging, are not reported in the balance sheet. The electricity futures exceeding actual needs are valued according to the Lower Value Principle (LVP), which means that a contract which is a hedge should be reported as an expense immediately when it arises. Any gains should not be reported. Furthermore, LVP means that changes in value are reported continuously from the time when the contracts are signed.

The actual need of electricity is defined as the minimum annual volume for Svenska kraftnät's electricity losses in the past five years, broken down by quarter.

10.2.14 Reporting of leases

All leases and are and reported as operational leases. They are expensed linearly. No financial leases exist.

10.2.15 Tangible fixed assets

Tangible fixed assets are reported at gross acquisition cost less accumulated planned write-off and depreciations. An investment is considered new construction as well as expansions and renovations which, in the long term, increase standards, quality or performance.

Expenditures for repairs and maintenance are expensed in the period incurred. Maintenance means the work required for the facility to be used in the way it is originally intended, but that does not raise its performance or significantly prolong its lifespan.

Interest expenses during the construction period are activated upon construction of facilities exceeding 100 million SEK.

10.2.16 Intangible fixed assets

Expenses for land rights, rights of use in optic links, licenses, construction in progress and development costs for computer software are capitalised and depreciated over its

their lifespan. All intangible assets have limited useful lifespans. Land rights are written off according to the line concession's useful lifespan, which is usually forty years.

Usage rights concern optic lines and are written off between 15 and 25 years in accordance with the contract period. The public utility's accounting system and operation monitoring is estimated to have a useful lifespan of ten years. The assessment is based on development time, complexity and replacement difficulty.

10.2.17 Given investment grants

When Svenska kraftnät initiates structural changes in the national grid, it can affect other grid owners. It is the national grid owners that cause deterioration of reliability which has to compensate other grid owners for the actions necessary to maintain reliability. If the actions occur in another facility but will be paid for by the utility, this is handled by the given investment grants. The investment is reported as a prepaid expense (long-term) and is resolved at the same rate that the facility the given grant is linked to.

10.2.18 Write-offs

Write-offs according to plan are based on assets' acquisition cost minus estimated period of use. Linear write-off is used for all fixed assets.

The assets' residual values and useful lifespans are reviewed regularly and adjusted as necessary.

Annual write-off rates	**(%)**
Lines, excluding submerged cables with associated lines	2.5
Land and submerged cables with associated lines	3.3
Control facility parts in stations	6.7
Other station parts	3.3
Optic links	4.0 – 6.7
Reserve materials	6.7
Telecommunications and information systems	6.7 – 20.0
Gas turbine facilities	5.0
Personal computers and inventory	33.3

10.2.19 Depreciations

In conjunction with the financial statements, it is tested if there are indications that an asset has declined in value and if therefore there is a depreciation need regarding tangible and intangible assets. A fixed asset which has a lower value than the actual value will be depreciated to this value, if it can be assumed that the decline in value is permanent. The value for the business is the greater of the replacement cost to acquire the corresponding asset and the asset's net sale value. Depreciations are charged to income.

10.2.20 Provisions

A provision is reported when there is a legal or constructive obligation as a result of a past event and where it is probable that an outflow of resources will be required to settle the obligation and the amount can be estimated reliably.

10.2.21 Taxes

Svenska kraftnät's subsidiaries are obligated to pay income tax for limited liability companies, while Svenska kraftnät, as a public utility and a part of the Swedish state, is exempt from income tax. Deferred taxes on differences between the carrying amount and the tax base is not reported by the public utility and the Svenska kraftnät group, with the exception of deferred tax on untaxed reserves in the subsidiary. Deferred tax assets are reported to the extent it is considered likely that sufficient taxable profit will be available in the foreseeable future.

10.2.22 Pensions

Since 2003, the pension agreement applies called PA-03 for state employees born 1943 or later. For employees born 1942 or earlier, PA-91 applies. Pension liability is calculated by the National Government Employee Pensions Board (SPV). PA-03 includes old-age, survivor and disability pension.

PA-03 includes the defined contribution pensions - individual retirement pensions and supplementary old-age pension (Kåpan). For these, a premium is paid. It also includes the defined benefit pensions - retirement pension on income exceeding 7.5 income base amounts and retirement transition rules for employees born 1943 - 1972. These commitments are reported under provisions for pensions.

The year's allocation to pension liabilities, together with premiums, is expensed. The interest portion of the year's pension is reported as interest expense.

Slightly less than 0.5 % of employees were not updated, which means that the pension liability for these has been standard-calculated. Updating means that SPV performs a total review of a state employee's all employments, both state and local government, or private. If there are gaps in the employment time, pension liability is standard-calculated. This means, among other things, that SPV assumes that the employee has had a state employment from the age of 28 and that the liability is calculated with a factor of 0.95. This means that the actual liability may be smaller or larger. Svenska kraftnät estimates that the pension debt is not booked too low and has chosen to report pension liability estimated by SPV.

The reported pension liability is based on the insurance-technically estimated assumptions that Svenska kraftnät is responsible for according to the pension agreements PA-91 and PA-03. The pension liability is calculated on the grounds that the Board of SPV has established. The determination makes it possible to use either the 2015 or the 2016 year's estimation basis upon the calculation of the 2015 pension liability. In brief, the difference between them is that 2016's estimation basis is based on a lower return assumption (0.0 instead of 0.8 %). Svenska kraftnät reports the liability according to 2016's basis because it is the latest calculation of the liability that is available. The part of the pension liability change that is due to the transition to the 2016 estimation basis is reported as interest expense.

Svenska kraftnät pays special payroll tax on pensions paid according to Regulation (1991: 704) regarding the establishment the special payroll tax on state pension costs, not based on the provisions for pensions. As the pension liability relates to future pension payments, a provision is made for special payroll tax based on the pension liability at year-end.

10.2.23 Investment grants

External grants for investments do not reduce the investment's cost, but are reported as a liability in the balance sheet with the amount received. As the asset is written off, an income is offset from capitalised investment grants as other income in the income statement.

10.2.24 Capacity fees

In accordance with European Parliament and Council Regulation (EC) No 714/2009 on conditions for access to the electricity network for cross-border transactions, capacity fees received are reported in the balance sheet as a current liability and are deducted in the first place against the counter-trading expenses during the fiscal year. Unfilled capacity fees are reclassified as long-term debt and can be utilised for investment

grants/co-financing for investments that maintain or increase the national grid's transmission capacity.

10.2.25 Research and development costs

Research and development work is an integral part of the business and concerns long-term improvement measures that are expensed over the year. Svenska kraftnät conducts research and development in order to increase reliability, efficiency and environmental compatibility of grid and system operations. Therefore, no expenses are capitalised for research.

10.2.26 Financial analysis

The financial analysis is prepared in accordance with the indirect method. The reported cash flow involves transactions that involve receipts and payments. It means that discrepancies may occur compared with changes of individual items in the balance sheet.

10.2.27 Borrowing

Borrowing is reported at nominal amount.

10.2.28 Shares in group company

Shares in the group company are reported at acquisition cost less any deductions for any depreciations. Dividends received are reported when the right to the dividend is deemed secure.

10.2.29 Supervisory authority

The supervisory authority for grid operations is the Energy Markets Inspectorate.

Notes

Note 1 Revenues from transfer of electricity

	The group		The public utility	
million SEK	**2015**	**2014**	**2015**	**2014**
Power fees	2,328	2,327	2,339	2,338
Energy fees	1,638	1,561	1,638	1,561
Transit revenues	213	417	213	417
Total	4,179	4,305	4,190	4,316

Note 2 Allocation for electricity preparedness

Appropriations accounting for the public utility

thousands (SEK)

Appropriation	FW/B transfer amount	Year's distribution according to regulatory letter	Retraction	Total amount available	Expenditures	Outgoing transfer amount
Expenditure area 21 Energy 1:10 Electricity preparedness						
Appropriations item 1, Electricity preparedness	143,877	255,000	-83,877	315,000	-262,014	52,986
Total	**143,877**	**255,000**	**-83,877**	**315,000**	**-262,014**	**52,986**

Conditions for allocation according to the appropriation

million SEK	Maximum amount	Result
Management costs in operations	30	30

During the year, of the 262 (248) million SEK of funds, those used for emergency preparedness measures was 7 million SEK, repair preparedness 55 million SEK, measures for robust power supply 124 million SEK, security protection and information security measures 23 million SEK, electronic communications 11 million SEK, dam safety measures 12 million SEK and administration 30 million SEK. During the year, 170 million SEK of funds which was spent has been further conveyed.

For the allocation, there is also a framework for authorisation, such as civil legally binding commitments which entail future expenses. These are shown in the table below. The request of the authorisation framework is based on actual and projected commitments. The use of the authorisation framework in 2015 is lower than estimated. This is partly due to staff changes and delays at companies where electricity preparedness measures are performed. The planned measures thereby could not be implemented according to the original plan.

Expense area 21 — Energy 01:11 Electricity preparedness	Assigned authorisation, relating to outstanding commitments	Initial commitments	Outstanding commitments	Distribution per year	
thousands (SEK)				**2016**	**2017-**
Appropriations item 1, Electricity preparedness	330,000	212,450	158,779	135,329	23,450*

*Of which 7,168 thousand SEK refers to 2018

Note 3 Other external revenues

	The group		The public utility	
million SEK	**2015**	**2014**	**2015**	**2014**
Revenues from capitalised capacity fees	152	120	152	119
Revenues from capacity fees (counter- trading)	19	12	19	12
Revenues from capitalised investment grants	22	17	22	17
Telecommunications revenues	64	65	65	65
Revenues from chargeable operations	-	15	-	15
Other revenues	32	30	26	26
Total	**289**	**259**	**284**	**254**

Note 4 Capitalised work for own account

The item relates to labour costs for Svenska kraftnät's own staff capitalised against investment projects. Investment projects cover both construction in progress and capitalised IT development projects.

	Group and the Public utility	
million SEK	**2015**	**2014**
Current installations	101	100
Capitalised development of computer software	18	10
Total	**119**	**110**

Note 5 Personnel costs

The group's personnel costs amounted to 458 (458) million SEK, of which cash amounted to 306 (281) million SEK. Pension costs are added at 55 (49) million SEK and social security contributions at 112 (103) million SEK. All personnel costs are attributable to the public utility since the subsidiary Svenska kraftnät Gasturbiner has no employees.

The number of AWU's (Annual Working Units) in the group was 547 (504), of which 547 (504) were in the public utility. On December 31, the group had 565 (530) permanent employees of whom 565 (530) were in the public utility.

The average number of employees during the year was 563 (529). The distribution between men and women is shown in the table below.

Employees	**The group**		**The public utility**	
Quantity	**2015**	**2014**	**2015**	**2014**
Women	198	187	198	187
Men	365	342	365	342
Total	**563**	**529**	**563**	**529**

The General Director's salary amounted to 1.4 (1.4) million SEK and pension expense was 0.8 (0.6) million SEK, according to estimates from the National Pensions Board. The Vice General Director's salary amounted to 1.2 (1.2) million SEK and pension expense was 1.1 (0.8) million SEK.

Board of Directors

Quantity	**2015**	**2014**
Women	3	3
Men	7	7
Total	**10**	**10**

Compensation in SEK to the Board etc. is shown in the table below.

Board member	Job title	Born	Appointed	Tasks as board or council member in other state agencies	Board member in limited liability company	Fee
Bo Netz	Chairman, General Director of Sida	1962	2013	National Arts Council	AB Trav och Galopp	69,504
Bo Källstrand	Chairman[30]	1949	2009	Seventh AP Fund, the National Pensions Board		41,502
Anna-Stina Nordmark-Nilsson	Vice Chairman CEO of Lulebo AB. Advisor and consultant in own company	1956	2004		Sveaskog AB (publ.), Sveaskog Förvaltnings AB, Dedicare AB (publ.)	69,000
Mikael Odenberg	General Director	1953	2008	Employers Agency's Board, Swedish Defence Directors Group and the government Crisis Management Council.		-
Karin Stierna	City Council Deputy in Strömsund Municipality[31]	1970	2007			28,002
Björn Carlsson	CEO of Ackkärrs Bruk. Consultant in Investment Banking	1952	2010			56,004
Bo Normark		1947	2010	Director of Energy Development Board at the Swedish Energy Agency.		56,004
Charlotte Zackari	General Counsel at Swedish Customs	1954	2014			56,004
Charlotte Bergqvist	CEO of Trinda Energy	1977	2015		Chairman of Power Circle AB	28,002
Mikael Berglund	Electrician	1964	2015			28,002
Erik Böhlmark	SACO employee representative	1985	2015			-
Stefan Ekberg	ST employee representative	1956	2012			-
Total						**432,024**

[30] Bo Källstrand left the Board in 2015.

[31] Karin Stierna left the Board in 2015.

According to the authority's instruction, at Svenska kraftnät there should be a council that has insight into operations with electricity preparedness issues and a council to assist the utility in work with dam safety issues. Members of Electricity Preparedness Council are appointed by the government, while the General Director appoints the members of the Dam Safety Council.

Compensation to members of the Electricity Preparedness Council during 2015, in SEK:

Johan Askelund	2,925
Greta Berg	1,950
Lars Joelsson	1,950
Daniel Jonsson	2,925
Ove Landberg	1,950
Jan Mörtberg	1,950
Cecilia Nyström	2,925
Lars Ström	2,925
Mikael Toll	2,925
Mats Wallinder	1,950
Helena Wärnlund	2,925
Total	**27,300**

Compensation to members of the Dam Safety Council during 2015, in SEK:

Henrik Löv	36,000

Compensation for representation in the Telecom Management Board in 2015, in SEK:

Katarina Grén	16,000
Alf Andersson[32]	16,000
Total	**32,000**

Of the above amount, 50,525 SEK was paid in 2016.

[32] Alf Andersson left this year as Chairman of the Telecom Management Board and a new Chairman was appointed, Katarina Grén.

Note 6 Costs from transfer of electricity

	The group		The public utility	
million SEK	**2015**	**2014**	**2015**	**2014**
Purchase of loss electricity	1,174	1,224	1,174	1,224
Energy compensation	282	331	282	331
Transit costs	122	183	122	183
Total	**1,578**	**1,738**	**1,578**	**1,738**

Note 7 Other external costs

	The group		The public utility	
million SEK	**2015**	**2014**	**2015**	**2014**
Counter-trading for the national grid	19	12	19	12
R & D measures	23	26	23	26
Electricity preparedness measures	209	204	233	228
Other external costs	326	274	313	266
Total	**577**	**516**	**588**	**532**

Note 8 Result from shares in associated companies

	The group	
million SEK	**2015**	**2014**
Nord Pool AS	15	14
eSett Oy	-7	-2
STRI AB	1	2
Kraftdragarna AB	0	-1
Other	0	0
Total	**9**	**13**

Note 9 the result from securities and receivables which are fixed assets

	The group		The public utility	
million SEK	**2015**	**2014**	**2015**	**2014**
Result upon liquidation of subsidiaries	-	0	-	0
Dividends on shares and stocks in associated companies	-	-	8	4
Interest income on long-term receivables in subsidiaries	-	-	0	2
Interest income on long-term receivables in associated companies	0	-	0	-
Total	**0**	**0**	**8**	**6**

Note 10 Other interest income and similar items

	The group		The public utility	
million SEK	**2015**	**2014**	**2015**	**2014**
Interest income from bank deposits	0	0	0	0
Interest income, National Debt Office	14	-	14	-
Other interest income	1	3	1	3
Total	**15**	**3**	**15**	**3**

Stake in associated companies' results are reported in note 8.

Note 11 Interest costs and similar items

	The group		The public utility	
million SEK	**2015**	**2014**	**2015**	**2014**
Interest costs, pension liabilities	-86	45	-86	45
Interest costs, long-term loans	-	0	-	0
Interest expenses, National Debt Office loans	-	-21	-	-21
Interest costs, short-term liabilities	0	0	0	0
Interest costs, currency futures	-3	-7	-3	-7
Capitalised interest from construction	-16	32	-16	32
Exchange rate differences	-	0	-	0
Other	-1	-	-1	-
Total	**-106**	**49**	**-106**	**49**

Interest rates and exchange rate differences should be seen in a context, regardless if the exchange rate differences are positive or negative.

Note 12 Tax on the year's result

	The group	
million SEK	**2015**	**2014**
Current tax	-2	-4
Deferred tax	-2	2
Total	-4	-2

Since most of the group's result before taxes was earned in the public utility, which is exempt from income tax, no report is made of the relationship between the tax expense and the reported profit before tax for the group.

Note 13 Intangible fixed assets

Intangible fixed assets consist of land rights in the form of land servitudes and line rights, rights of use for optic links, licenses and capitalised expenditure for computer software.

Group and the Public utility 2015-12-31 million SEK	**Capitalised ex-penditure for software**	**Land rights**	**Rights of use for optic**	**Current installations**	**Total**
Opening acquisition values	203	180	82	66	531
Acquisitions	-	-	-	56	56
Sales/disposals	-20	-	-	-	-20
Depreciation	-	-	-	-	-
Reclassifications	60	41	4	-64	41
Closing accumulated acquisition values	**243**	**221**	**86**	**58**	**608**
Opening depreciations	151	128	64	-	343
Sales/disposals	-17	-	-	-	-17
The year's depreciations	19	4	5	-	28
Closing accumulated depre-ciations	153	132	69	-	354
Closing planned residual value	**90**	**89**	**17**	**58**	**254**
Depreciations for previous fiscal year	15	3	5	-	23

Group and the Public utility 31/12/2014 million SEK	Capitalised ex-penditure for software	Land rights	Rights of use for optic	Ongoing construc-tion of new facilities	Total
Opening acquisition values	203	180	82	183	648
Acquisitions	0	-	-	48	48
Depreciation	-	-	-	-165	-165
Closing accumulated acquisition values	**203**	**180**	**82**	**66**	**531**
Opening depreciations	136	125	59	-	320
The year's depreciations	15	3	5	-	23
Closing accumulated depreciations	**151**	**128**	**64**	**-**	**343**
Closing planned residual value	**52**	**52**	**18**	**66**	**188**
Depreciations for previous fiscal year	27	3	5	-	35

Note 14 Tangible fixed assets

The group 31/12/2015 million SEK	Buildings and land	Machinery and other technical installations	Current installations	Total
Opening acquisition values	808	22,413	9,660	32,881
Acquisitions	1	50	2,348	2,399
Sales/disposals	-	-14	-	-14
Depreciations	-	-	-84	-84
Reclassifications	135	2442	-2,617	-40
Closing acquisition values	**944**	**24,891**	**9,307**	**35,142**
Opening depreciations	353	12,432	-	12,785
Sales/disposals	-	-10	-	-10
The year's depreciations	26	654	-	680
Closing accumulated depreciations	**379**	**13,076**	**-**	**13,455**
Closing planned residual value	**565**	**11,815**	**9,307**	**21,687**
Depreciations for previous fiscal year	23	614	-	637

The group 2014-12-31 million SEK	Buildings and land	Machinery and other technical facilities	Current installations	Total
Opening acquisition values	755	21,226	6,329	28,310
Adjustment: opening balance	-	470	-	470
Acquisitions	-	29	4,276	4,305
Sales/disposals	-6	-140	-	-146
Depreciation	-	-	-57	-57
Reclassifications	59	828	-888	-1
Closing acquisition values	**808**	**22,413**	**9,660**	**32,881**
Opening depreciations	336	11,476	-	11,812
Adjustment: opening balance	-	470	-	470
Sales/disposals	-6	-128	-	-133
The year's depreciations	23	614	-	637
Closing accumulated depreciations	**353**	**12,432**	**-**	**12,786**
Closing planned residual value	**455**	**9,981**	**9,660**	**20,096**
Depreciations for previous fiscal year	18	615	-	633

The public utility 2014-12-31 million SEK	Buildings and land	Machinery and other technical facilities	Current installations	Total
Opening acquisition values	736	20,001	6,327	27,064
Adjustment: opening balance	-	470		470
Acquisitions	-	7	4,276	4,283
Sales/disposals	-6	-140	-	-146
Depreciation	-	-	-57	-57
Reclassifications	60	826	-886	0
Closing acquisition values	**790**	**21,164**	**9,660**	**31,614**
Opening depreciations	**329**	**10,419**	**-**	**10,748**
Adjustment: opening balance	-	470		470
Sales/disposals	-6	-128	-	-134
The year's depreciations	23	593	-	616

The public utility 2014-12-31 million SEK	Buildings and land	Machinery and other technical facilities	Current installations	Total
Closing accumulated depreciations	**346**	**11,354**	**-**	**11,700**
Closing planned residual value	**444**	**9,810**	**9,660**	**19,914**
Depreciations for previous fiscal year	18	596	-	614

The public utility 2014-12-31 million SEK	Buildings and land	Machinery and other technical facilities	Current installations	Total
Opening acquisition values	736	20,001	6,327	27,064
Adjustment: opening balance	-	470		470
Acquisitions	-	7	4,276	4,283
Sales/disposals	-6	-140	-	-146
Depreciation	-	-	-57	-57
Reclassifications	60	826	-886	0
Closing acquisition values	**790**	**21,164**	**9,660**	**31,614**
Opening depreciations	329	10,419	-	10,748
Adjustment: opening balance	-	470		470
Sales/disposals	-6	-128	-	-134
The year's depreciations	23	593	-	616
Closing accumulated depreciations	**346**	**11,354**	**-**	**11,700**
Closing planned residual value	**444**	**9,810**	**9,660**	**19,914**
Depreciations for previous fiscal year	18	596	-	614

The concept Machines and other technical facilities includes switchgear equipment, power lines, marine cables, control system parts, optic systems and telecommunications and information systems. Disposals arise primarily in connection with the facilities being put into operation after reinvestments. Taxable value for properties in the group amounted to 71 (66) million SEK.

Note 15 Shares in group companies 2015-12-31

Company	Organisation number	Location	Share in %	Quantity	Nominal value	Booked value
Svenska kraftnät Gasturbiner AB	556451-0260	Stockholm, Sweden	100	900	9	9
Total					**9**	**9**

Note 16 Receivables from group companies

	The public utility	
million SEK	**31/12/2015**	**31/12/2014**
Loan receivable from subsidiaries	51	75
Total	**51**	**75**

Refers to the loan receivable with conditional repayment obligation. During the year, 24 million SEK was amortised.

Note 17 Shares in associated companies 2015-12-31

Company	Swedish Corporate ID number	Location	Share %	Quantity	The group	The public utility
Nord Pool AS	984058098	Lysaker	28.20	4,320	70	42
STRI AB	556314-8211	Ludvika	25	375	21	4
Kraftdragarna AB	556518-0915	Västerås	50	5,000	15	1
Elforsk AB	556455-5984	Stockholm, Sweden	25	750	1	0
Energiforsk AB	556974-2116	Stockholm, Sweden	20	1,000	0	1
Triangelbolaget D4 AB	556007-9799	Stockholm, Sweden	25	525	0	0
eSett Oy	2582499-7	Helsinki	33.33	1,250	9	18
Total					**116**	**66**

The cost is equal to the booked value in the public utility.

NOTE 18 Long-term receivables from

	The group		The public utility	
million SEK	31/12/2015	31/12/2014	31/12/2015	31/12/2014
Loan receivable from associated companies	23	15	23	15
Total	23	15	23	15

Associated companies

Note 19 Other long-term receivables

	The group		The public utility	
million SEK	**31/12/2015**	**31/12/2014**	**31/12/2015**	**31/12/2014**
Security for financial trading on Nasdaq/OMX	142	17	141	15
Total	**142**	**17**	**141**	**15**

Note 20 Other operating receivables

	The group		**The public utility**	
million SEK	**31/12/2015**	**31/12/2014**	**31/12/2015**	**31/12/2014**
VAT receivables	-	55	-	55
Tax receivables	3	1	-	-
Investigation of supplier invoices	5	40	5	40
Other short-term receivables	2	0	-	0
Total	**10**	**96**	**5**	**95**

Note 21 Settlement of treasury

Closing receivables of 99 (77) million SEK is the difference between the withdrawn/deposited funds from the Government's overdraft and settled expenses/incomes received against the state budget.

	The public utility	
million SEK	**31/12/2015**	**31/12/2014**
Collection		
Reported in income title (dividend)	-475	-553
Collection fund paid to non-interest-bearing flow	475	553
	0	0
Appropriations in non-interest-bearing flow		
Opening balance (debt +, debt -)	77	64
Reported against appropriations	262	248
Funds attributable to transfers etc. which were paid to non-interest-bearing flow	-240	-235
Balance	**99**	**77**

Note 22 Prepaid costs and accrued income

	The group		The public utility	
million SEK	**31/12/2015**	**31/12/2014**	**31/12/2015**	**31/12/2014**
Prepaid costs for premises	8	9	8	9
Prepaid costs, other	24	16	24	16
Accrued interest income	231	288	231	288
Accrued income, balance sheets and system operators	144	476	144	476
Accrued income, other	1	5	-	5
Total	**408**	**794**	**407**	**794**

Note 23 Deferred tax liabilities

	The group	
million SEK	**31/12/2015**	**31/12/2014**
Deferred tax debt	34	32
Total	**34**	**32**

Deferred tax liability is attributable to untaxed reserves.

Note 24 Provisions for pensions

	Group and the Public utility	
million SEK	**31/12/2015**	**31/12/2014**
Fwd. balance	**663**	**681**
Paid pension	-14	-13
Annual enumeration of pension liability	23	35
interest on pension liability	4	4
Provision payroll tax	23	6
Adjustment of pension liability and payroll tax due to change of calculation principle (reduced interest rate assumption)	82	-50
Balance	**781**	**663**

In the annual report for the state, other actuarial bases for the service pension are used. This means that Svenska kraftnät's pension liabilities in the financial statements for the state in 2015 amounted to 636 million SEK, of which payroll taxes were 124 million SEK.

Note 25 Long-term interest-bearing receivables

	Group and the public utility	
million SEK	**31/12/2015**	**31/12/2014**
Fwd. balance	6,202	3,775
During the year, new loans	4,374	7,832
Year's amortisations	-5,489	-5,405
Debt to National Debt Office	**5,087**	**6,202**

Granted loan framework amounted to 10,300 million SEK.

Note 26 Non-interest-bearing receivables

	The group		The public utility	
million SEK	**31/12/2015**	**31/12/2014**	**31/12/2015**	**31/12/2014**
Contributions from landowners	353	159	353	159
Balanced investment grants	267	475	267	475
Capitalised investment grants	700	420	700	420
Settled investment grants	-58	-36	-58	-36
Balanced capacity fees	1,723	1,169	1,723	1,169
Capitalised capacity fees	4,586	3,091	4,586	3,091
Settled capacity fees	-436	-284	-436	-284
Advances from optic customers	25	31	25	31
Debt set aside for skills development	7	6	7	6
Total	**7,167**	**5,031**	**7,167**	**5,031**

Note 27 Other liabilities

	The group		The public utility	
million SEK	**31/12/2015**	**31/12/2014**	**31/12/2015**	**31/12/2014**
Advances from customers	12	15	12	15
Employee-related liabilities	17	17	17	17
Derivatives, negative value change	21	4	21	4
EU grants not conveyed further	-	71	-	71
VAT debt	51	-	51	-
Other short-term liabilities	0	-	0	-
Total	**101**	**107**	**101**	**107**

Note 28 Accrued expenses/Prepaid income

	The group		The public utility	
million SEK	**31/12/2015**	**31/12/2014**	**31/12/2015**	**31/12/2014**
Accrued expenses, balance/system operators	109	369	109	369
Accrued expenses, balance control	27	59	27	59
Accrued expenses, power reserve	17	19	17	19
Accrued expenses, energy crediting	28	31	28	31
Accrued expenses, disruption reserve	6	5	6	5
Accrued expenses, transit compensation	39	58	39	58
Accrued salary costs	12	15	12	15
Accrued maintenance costs	43	29	43	29
Accrued electricity preparedness costs	7	13	7	13
Accrued expenses, investments	0	0	0	0
Accrued expenses, other	48	22	43	19
Prepaid Telecommunications revenues	0	1	0	1
Total	**336**	**620**	**331**	**618**

Note 29 Eventual assets and eventual obligations

Alstom Grid SAS has sued Svenska kraftnät at Stockholm City Court for 8.3 million EUR plus 7.6 million SEK and claimed that the Court determine that Alstom is entitled to compensation for loss of goodwill, interest costs and court costs. Svenska kraftnät has in an appearance disputed Alstom's claims and in a claim for its part, contends that Alstom pay 65 million SEK plus interest and legal costs to Svenska kraftnät. The amount refers to the refund of money paid, damages due to the cancellation and a delay penalty. The main hearing is planned for spring 2016.

Note 30 Future lease commitments

Contracted future lease commitments due for payment are as below. All leases are operational leases. The amounts for the public utility also includes obligations to its subsidiary, Svenska kraftnät Gasturbiner AB.

	The group		The public utility	
million SEK	**31/12/2015**	**31/12/2014**	**31/12/2015**	**31/12/2014**
Within a year	256	275	345	348
Later than one year but within five years	669	763	1,109	907
Later than five years	259	215	859	215
Total	**1,184**	**1,253**	**2,313**	**1,470**

11 Fulfilment compared with reporting requirements in the regulatory letter

Goals	Feedback reporting requirements	Found in chapter
1.1	The public utility Svenska kraftnät shall, for the business called Elmarknad, report on the results achieved in relation to objectives, divided into the areas of Grid and System responsibility. For these areas, the public utility will report and assess the costs, revenues, business volume, quality and impact of the activities and achievements carried out. The result should be reported as much as possible in quantitative terms. The annual report shall show how the costs which are common for both areas are allocated.	Income statement Section: Business segments, Transfer of electricity to the national grid and System responsibility for electricity
	Revenue from capacity fees (so-called bottleneck revenues) that occurs when the electricity market is divided into separate bidding areas, must be shown separately, as well as direct costs caused by cross-selling.	Section: Financial status, capacity fees Section: Business segments, Transmission of electricity on the national grid Notes 3, 7 and 26.
	Ongoing and completed research, development and demonstration activities should be reported and commented on.	Section: Research and Development
	The public utility Svenska kraftnät shall report efforts and results achieved in relation to the given task in the instruction to ensure the feasibility of expanding renewable electricity production and seeing to it that it is facilitated.	Section: Year in review Section: Research and Development

	Operating results at the Nordic level via further development of the cooperation between the Nordic and Baltic system operators shall be reported, among other things, concerning identified needs and implemented harmonisation measures. Operating results at European level should also be reported.	Section: International work
1.2	The public utility Svenska kraftnät should report the business segment called Telecommunications separately from other business segments. For the business segment Telecommunications, the public utility should report the results achieved in relation to targets. The results should be reported in quantitative terms as much as possible. The presentation of the Telecommunications business segment should be in the form of a breakdown of internal and external operations. In this separate report, sales and expenses items shall be included, as well as common expenses and profits.	Section: Business segments, Telecommunications Note 3
1.3	The public utility Svenska kraftnät should report significant activities and results regarding preparedness against serious disruptions.	Section: Business segments, Electricity preparedness
2	The public utility Svenska kraftnät should report targets and goal achievements for skills support in relation to business goals and results. This report must indicate - the extent to which the public utility's goals for human resource management in 2015 have been achieved, - what measures have been taken, and - the applicable goals for the public utility's skills support in 2016 and 2017-2018 Within this framework, the public utility's efforts should be made clear to promote ethnic and cultural diversity and good health, and to realise an appropriate age structure, balance and mobility among personnel. The report should be divided up into gender and made for groups of employees within the three skills categories of management as well as core and support expertise, if appropriate.	Section: Personnel

Feedback reporting of government tasks according to the regulatory letter

Task	Reported on
Electricity market 1 The annual wind power production represents almost 10 % of energy consumption and the share of variable renewable electricity generation continues to rise within the power certificate system. This creates several challenges for the existing electricity market and grid infrastructure. The public utility Svenska kraftnät will investigate how the electricity system needs to be adapted to manage and create conditions for a power system with an increasing proportion of variable electricity production. Suggested financially-motivated actions and changes should be developed to ensure a sustainable and robust electricity system. A long-term coordination for these issues should be created for the concerned authorities. The task includes reporting the major consequences for the electricity network, the electricity price and the electricity market, with a focus on power and balance problems - from a Swedish, Nordic and European perspective. The task shall be carried out in close dialogue with the Swedish Energy Agency and the Energy Market Inspectorate. The public utility Svenska kraftnät should, as much as possible, take into consideration the views raised by the Swedish Energy Agency and the Energy Market Inspectorate. If the public utility Svenska kraftnät in any way does not consider it possible to satisfy the Swedish Energy Agency's and the Energy Market Inspectorate's views, reasons for this shall be especially stated. A summary of ongoing efforts and the most important consequences will be reported to the Cabinet Office (Ministry of the Environment and Energy) by May 15, 2015. Suggestions for possible changes will be reported no later than November 15, 2015. The task may, by special agreement between representatives of the Cabinet Office (Ministry of the Environment and Energy) and the public utility Svenska kraftnät, be reported at other times than stated here.	**Partial reporting** 2015-05-15(25?) Reference number: 2015/929 **Final report** 18/12/2015 Reference number: 2015/929

Task	Reported on
Electricity market 2 The public utility Svenska kraftnät will, together with other Nordic system operator grid companies, report grid development plans for the Nordic electricity network with Nordic economic benefits in mind. The national grid development plans shall include the grid investments required to transmit renewable electricity production. The task's background stems from the notification of a continued development towards a Nordic electricity market without borders which the Nordic energy ministers adopted on October 25, 2010. The third two-year plan will be reported to the Nordic Ministerial Meeting in 2016. A status report on the establishment of the Nordic grid development plan is to be reported to the Nordic Electricity Market Group and the Cabinet Office (Ministry of the Environment and Energy) no later than August 17, 2015.	**Joint Nordic Report** 17/05/2015
Crisis Management 1 The public utility Svenska kraftnät shall, within its area of responsibility, strive so that actors with tasks within society's crisis preparedness join the joint radio communications system called Rakel. The work shall be performed in collaboration with the Swedish Civil Contingencies Agency.	The project started (2015/750) In parallel with this project, approximately 10 reported cases have resulted in a decision regarding Rakel implementation (or strengthening) as preparedness measures (e.g. 2015/827, 2015/1395, 2015/1807).

Task	Reported on
Crisis Management 2 The public utility Svenska kraftnät will, in work with the 2015 risk and vulnerability assessments, especially consider and analyse information security in most parts of the business and the technical systems necessary for the public utility to carry out its work. In this work, information security within the public utility Svenska kraftnät's responsibility should be taken into account and analysed. The public utility Svenska kraftnät will present an assessment of information security and actions taken. The presentation will be part of the summary made in the work with risk and vulnerability assessments in accordance with § 9 of the Ordinance (2006: 942) on crisis preparedness and high alert preparedness.	The task has been reported within the framework of the work with 2015's risk and vulnerability assessment. 30/10/2015 Svk 2015/1763
Dam safety The public utility Svenska kraftnät shall identify needs and develop a plan to implement measures to further stimulate the development of integrated and practised preparedness for dam failures. The task will be carried out with the assistance of the Swedish Civil Contingencies Agency, in dialogue with responsible actors. The task will be reported to the Cabinet Office (Ministry of the Environment and Energy) by March 16, 2015.	Missive 06/03/2015 Reference number: 2014/1936
Innovation Svenska kraftnät public utility shall, after consulting with the Agency for Innovation and Competition, analyse how and in what parts of its business segments there is a need for development and innovation. Furthermore, the public utility shall identify possible ways to address these needs, for example through innovation procurement. The task will be reported to the Cabinet Office (Ministry of the Environment and Energy) by February 16, 2015. The aim is that efforts should increase the public utility's efficiency and utilisation in its business segment and increase its contribution to a sustainable society and a competitive business sector.	26/01/2015 Reference number: 2015/146

12 Proposed distribution of profit

The state's share of retained earnings amount to 5,391 million SEK, of which profit for the year is 1,121 million SEK. In accordance with the dividend policy, it is proposed that 729 million is allocated for dividends and the surplus is carried forward.

The public utility's free equity amounts to 5,499 million SEK, of which profit for the year is 1,105 million SEK.

The Board proposes that the public utility's income statement and balance sheet, as well as consolidated income statement and balance sheet, are determined for 2015.

We certify that the annual report provides a true and fair view of the operations' results, expenses, revenues and the Utility's and Group's financial position.

We believe that the internal governance and control of the utility is satisfactory.

Sundbyberg, February 19, 2016

Bo Netz *Chairman*	Anna-Stina Nordmark-Nilsson *Vice Chairman*	Mikael Odenberg *General Director*
Björn Carlsson	Bo Normark	Charlotte Zackari
Charlotte Bergqvist	Mikael Berglund	Eric Böhlmark *SACO Staff*
Stefan Ekberg *ST Staff representative*		

13 Audit report

Board of Directors

Bo Netz
Chairman
Born May 1962, appointed 2013.
SIDA General Director, Board member of the National Arts Council and the Board of AB Trav och Galopp.

Anna-Stina Nordmark-Nilsson
Vice Chairman.
Born May 1956, appointed 2004.
CEO of Lulebo AB, Advisor and consultant (own company), Board member of Sveaskog AB (publ.), Sveaskog Förvaltning AB and Dedicare AB (publ.).

Mikael Odenberg
General Director
Born May 1953, appointed 2008.
Former cabinet minister. Board member at the Employers Agency, Swedish Defence Directors Group and the government Crisis Management Council. Governor of the Royal War Sciences Academy and Board member of the Royal Academy of Engineering Sciences' Business Council.

Björn Carlsson
Born May 1952, appointed 2010.
CEO of Ackkärrs Bruk and consultant in investment banking.

Bo Normark
Born May 1947, appointed 2010.
Director of Energy Development Board at the Swedish Energy Agency.

Charlotte Zackari
Born May 1954, appointed 2014.
Head Counsel at Swedish Customs.

Charlotte Bergqvist
Born May 1977, appointed 2015.
CEO of Trinda Energy, Chairman of the Board for Power Circle.

Mikael Berglund
Born May 1964, appointed 2015.
Electrician, former moderator of Umeå Energi, Chairman of the Building Committee in Umeå Municipality.

Erik Böhlmark
Born May 1985, appointed 2015. SACO Staff representative

Stefan Ekberg
Born May 1956, appointed 2012. ST Staff representative

Definitions

Definitions - key figures

Return on adjusted equity

Profit after financial net, less standard tax (22 %) in relation to adjusted equity. Return on equity is calculated excluding surplus or deficit from operations with respect to certificates and guarantees of origin. Adjusted equity is calculated as the average of the year's opening and closing restricted equity (state capital and restricted reserves) and 78 % of the average non-restricted equity.

Return on invested capital

Profit after financial net plus interest expense divided by average capital employed. Average capital employed consists of total assets less average non-interest bearing liabilities including deferred flat tax in equity.

Solidity

Adjusted equity at year-end in relation to total capital. The adjusted equity includes adjustments for standard tax.

Operating margin

Operating profit in relation to operating income.

Debt ratio

Interest-bearing net debt divided by adjusted equity.

Self-financing rate

Cash flow before investments divided by cash flow related tangible and intangible investments.

Interest coverage rate

The year's net income plus interest expense divided by interest expense.

Net debt

Provision and interest-bearing liabilities less interest bearing assets.

Capital turnover rate

Net sales divided by average total assets.

Internally generated funds

Cash flow before changes in operating capital and investments, retrieved from the financing analysis.

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