

# 2011

## POWER DIVISION



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# Power Division in 2011

**Fortum's Power Division is responsible for power generation and sales in the Nordic electricity markets and for providing expert services to electricity and heat producers globally. The division's production is strongly focused on hydropower and nuclear power. About 93% of the production was carbon dioxide-free and 43% was based on renewable energy sources.**

## KEY FIGURES

EUR million	2011	2010	Change %
Sales	2,481	2,702	-8
power sales	2,353	2,580	-9
other sales	128	122	5
Operating profit	1,476	1,132	30
Comparable operating profit	1,201	1,298	-7
Comparable EBITDA	1,310	1,398	-6
Net assets (at end of period)	6,247	5,806	8
Return on net assets, %	24.6	19.5	26
Comparable return on net assets, %	19.9	22.3	-11
Capital expenditure and gross investments in shares	148	122	21
Number of employees	1,847	1,819	2

The Power Division's approximately 270 power plants in Finland and Sweden produced 48.1 terawatt-hours (TWh) (2010: 46.3) of electricity in 2011. The division is responsible for a significant part of Fortum's financial result. Its good financial performance is based on strong know-how in the production and sales of electricity in competitive markets.

## The long-term refurbishment programme will add 100 MW of hydropower by 2020

Fortum has 260 fully- or partly-owned hydropower plants in Sweden and Finland. The majority of the electricity is

generated by 211 hydropower plants in central Sweden; the plants with the largest capacity are on the Ljusnan, Indalsälven and Dalälven rivers. A significant share of Fortum's 50 hydropower plants in Finland is located on the Oulujoki and Kemijoki rivers and the waterways of Vuoksi. The Power Division's investment programme includes a sizable, long-term hydropower plant refurbishment programme that aims to enhance the production, efficiency and safety of the hydropower plants. The investment programme will boost Fortum's hydropower capacity by about 100 megawatts by 2020. In 2011, Fortum refurbished the Skedvi hydropower plant located on the

## DIVISION'S NORDIC ELECTRICITY SALES VOLUME

TWh	2011	2010	Change
Total	50.0	51.5	-3%
of which Nordic			
Power sales volume (1)	44.3	42.5	4%

## DIVISION'S NORDIC SALES PRICE

EUR/MWh	2011	2010	Change
Power's Nordic power price (2)	46.1	49.7	-7%

1) The Nordic power sales volume does not include thermal generation, market price-related purchases or minorities (i.e. Meri-Pori, Inkoo and imports from Russia).

2) Power's Nordic power price does not include sales income from thermal generation, market price-related purchases or minorities (i.e. Meri-Pori, Inkoo and imports from Russia).

## DIVISION'S POWER GENERATION BY SOURCE

TWh	2011	2010
Hydro	21.0	22.0
Nuclear	24.9	22.0
Thermal	2.2	2.3
<b>Total in the the Nordic</b>	<b>48.1</b>	<b>46.3</b>
Thermal in other countries	1.2	1.1
<b>Total</b>	<b>49.3</b>	<b>47.4</b>



Dalälven river in Sweden and the Montta hydropower plant on the Oulujoki river in Finland.

### Fortum participating in French hydropower concession bids

At the end of 2010, Fortum announced its participation in the upcoming tender process for hydropower concessions in France, which provides an opportunity to grow the share of hydropower at the core of the European electricity markets. In 2011, Fortum established a country organisation in France, Fortum France SNC, which was a significant step towards Fortum's long-term goal to participate in the development of renewable energy in the country.

### Safety at Fortum's nuclear power plants is at a good level

In addition to the two Loviisa nuclear power units fully owned by Fortum, the company also has an approximate 26% ownership in Teollisuuden Voima Oyj's (TVO) two existing Olkiluoto power plant units. In Sweden, Fortum has an

approximate 26% holding in the Forsmark nuclear power plant unit and an approximate 46% holding in the Oskarshamn nuclear power plant unit. Fortum is also participating in the next two nuclear power plant projects in Finland through its share of ownership in TVO: the construction of Olkiluoto 3 and the financing of the bidding and engineering phase of Olkiluoto 4. In the latter, Fortum's stake is about 78 million euros, which corresponds to Fortum's share of ownership in Teollisuuden Voima Oyj's share capital. The Swedish nuclear power plants have ongoing investment programmes that will improve safety and availability as well as increase the capacity of the existing nuclear power plants.

In March 2011, in the wake of the nuclear power plant accident in Japan, Finland's Ministry of Employment and the Economy requested the Radiation and Safety Authority Finland (STUK) to carry out an assessment of safety at nuclear power plants in case of a loss of power supply and in case of exceptional weather and environmental conditions. According to STUK's assessment, no new risks or deficiencies that would require

immediate safety improvements were identified in Finnish nuclear power plants. In December 2011, Fortum submitted to STUK the further analyses that were requested on the basis of the safety assessment. Based on the specific safety assessments, safety at the Loviisa power plant has been found to be at a good level also in the safety areas now assessed.

In the wake of the nuclear power plant accident in Japan, also the European Council decided to implement a Europe-wide re-assessment of safety at nuclear power plants. In October, Fortum submitted to STUK a final report regarding the nuclear power plant safety assessments, i.e. the so-called stress tests, within the EU. The stress test carried out for the Loviisa power plant did not introduce any specific new issues that

weren't identified in the safety assessment conducted in spring and submitted to the Ministry of Employment and the Economy. The assessment also addresses preparedness for serious accidents. The safety assessment notes that the design basis of the Loviisa power plant is right and the existing solutions and safety margins are sufficient. In Sweden, the Swedish Radiation Safety Authority has implemented corresponding assessments.

### Wave and wind power projects proceeding

At the end of 2011, Fortum and Seabased AB signed an agreement on the construction of a joint wave power park in Sotenäs, Sweden. After completion, the wave power park will be the world's largest, full-scale demonstration project of its kind. The total budget for the project is about 25 million euros, of which Fortum's share is about half. In the first half of 2012, Seabased will start serial production of buoys, generators, substations and converters at a factory to be established in the Lysekil municipality in Sweden. In France, Fortum France SNC and the French naval defence and energy company DCNS are developing wave power in accordance with a recently signed letter of intent.

Fortum and the Swedish Skellefteå Kraft will purchase 60 wind turbines from Nordex for the Blaiken onshore wind farm that is under construction in northern Sweden. Fortum's share of the turbines to be ordered is 12. Blaiken Vind AB, a joint venture of Fortum and Skellefteå Kraft, will have a maximum of 100 wind turbines on its wind farm and the total capacity will be 250 megawatts. Fortum's share of the wind farm is 40%.

The division's most notable achievements in 2011 in long-term research and development work include a new type of lean gas burner. Fortum will supply the lean gas burners to Vaskiluodon Voima's 140-megawatt biogasification plant in Vaasa, Finland.



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