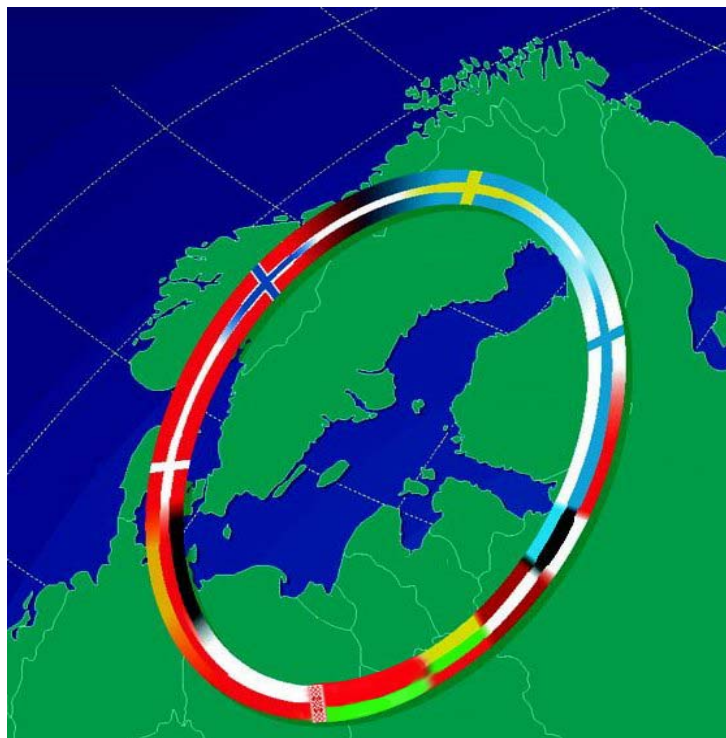




Annual Report

2007



CONTENTS

1.	REPORT FROM THE SECRETARY GENERAL	4
2.	BALTREL IN SUMMARY	5
3.	NATIONAL REPORTS	8
3.1.	Belarus	8
3.1.1.	Energy policy	8
3.1.2.	The electricity market	9
3.1.3.	Power production and consumption.....	9
3.1.4.	Transmission grid.....	9
3.1.5.	The largest investments in the industry in 2007	10
3.1.6.	Emissions trading, allocation of emission allowances and other environmental issues	10
3.2.	Denmark	11
3.2.1.	Electricity market.....	11
3.2.1.	System operation.....	11
3.2.2.	Larger defaults in 2007	11
3.2.3.	Grid development.....	12
3.2.4.	Electricity consumption	12
3.2.5.	Electricity production.....	12
3.3.	Finland	12
3.3.1.	Energy policy	12
3.3.2.	The electricity market	13
3.3.3.	Electricity production and consumption	13
3.3.4.	Transmission and interconnections.....	14
3.3.5.	Environmental issues	14
3.4.	Lithuania	15
3.4.1.	Energy policy	15
3.4.2.	The electricity market	15
3.4.3.	Electricity production and consumption	17
3.4.4.	Transmission and interconnections.....	18
3.4.5.	Environmental issues	20
3.5.	Latvia	20
3.5.1.	Energy policy	20
3.5.2.	The electricity market	21
3.5.3.	Electricity production and consumption	22
3.5.4.	Transmission and interconnections.....	23
3.5.5.	Environmental issues	23
3.6.	Norway	24
3.6.1.	Energy policy	24
3.6.2.	The electricity market	24
3.6.3.	Electricity production and consumption	24
3.6.4.	Interconnections.....	24
3.6.5.	Environmental issues	25
3.7.	Poland	25
3.7.1.	Energy policy	25
3.7.2.	The electricity market	25

3.7.3. Electricity production and consumption	26
3.7.4. Transmission and interconnections.....	27
3.7.5. Environmental issues	27
3.8. Sweden	27
3.8.1. Energy policy	27
3.8.2. The electricity market	28
3.8.3. Electricity production and consumption	28
3.8.4. Transmission and interconnections.....	28
3.8.5. Environmental issues	29
4. STATISTICS	30
4.1. Belarus	30
4.2. Denmark.....	33
4.3. Finland	35
4.4. Lithuania	37
4.5. Latvia	39
4.6. Norway.....	41
4.7. Poland	43
4.8. Sweden.....	46

1. REPORT FROM THE SECRETARY GENERAL

BALTREL – the Baltic Ring Electricity Co-operation Committee - was founded in 1998 and includes mainly power grid companies. Acting in line with the principles of the European Union's policy, the Members of BALTREL agreed that the introduction of a single energy market - in this particular case the energy market of the Baltic Sea Region - will significantly improve both economic development and energy safety, as well as the state of the region's natural environment. It was this idea that led to the creation of BALTREL, which is celebrating its 10th anniversary this year.

During the 10 years of BALTREL's operation, two major studies were accomplished: *The Baltic Ring Study 1996-1998* and *The Baltic Ring Study Phase II 1999-2002*. Another study was prepared in co-operation with Baltic Gas: *Gas and Electricity in the Baltic Sea Region*. The above mentioned analyses were partly financed by the European Commission. BALTREL established various task forces that prepared materials on the current network, generation and market issues.

The 10-year period of BALTREL's activity was a time of great turbulence and changes in the organization of electricity systems, including BALTREL's Member States. Apart from the development of a single energy market, the power industry organizations have shifted their focus of interest towards ensuring security of energy supply and greater stability. Recently, a lot of attention has been given to the impact of the electricity sector, transport and other industries on global warming. In May 2004, 10 new Member States joined the European Union. Undoubtedly, these events, particularly the reorganization processes and the consequences of EU enlargement, must have influenced the work of our organization. Consequently, it became necessary to introduce changes in the way BALTREL has operated.

During the last Committee meeting, held in 2007 in Vilnius, it was suggested that BALTREL should limit its operations to organizing a single seminar per year. It would give the Members an opportunity to share information and opinions, especially on the level of Management Boards of the Member companies. In 2008 the Committee meeting will be held in Warsaw on October 16th and 17th.

Zygmunt Mozer



Secretary General

2. BALTREL IN SUMMARY

What is BALTREL?

A professional association of power companies in the Baltic Sea Region (BSR): transmission system operators, generation companies, energy holdings.

Vision

Interconnected, liberalized and harmonized regional electricity markets in the Baltic Sea Region with a high level of security of supplies and a clean environment.

Mission

To provide a platform for dialogue and promote the interests of the association's stakeholders (creation of benefits).

Strategic goals

- To ensure fair competition in the electricity markets of the Baltic Sea Region;
- To achieve a high level of security of electricity supplies in the BSR, primarily through better coordination and the exchange of information;
- To remove boundaries (barriers) between regional markets and secure compatibility (of market legislation) and physical interconnections;
- To provide steady investment conditions (in the power sector) in the BSR;
- To create an efficient and mutually acceptable interface for parallel operations of the EU and CIS regional electricity markets within the BSR;
- To develop a common, open electricity market of the BSR as a smaller model of (or as an intermediate step to) a pan-European electricity market;
- To coordinate the process of market development (to secure compatibility) with other European regional markets in preparation for the process of integration into the pan-European market.

New challenges of BALTREL

- To ensure stronger influence of the association on political and decision-making processes in the power sector of the BSR and on the European level;
- To attract new stakeholders to the association, including ministries and regulatory authorities;
- To agree upon an appropriate financial model to sponsor future studies and activities of the association in order to achieve the strategic goals.

BALTREL competences

- Regional electricity markets: Nordic, Baltic, Western Europe (Germany), Eastern Europe (Poland), Russia and Belarus.
- Segments: generation and wholesale markets, transmission and system services.

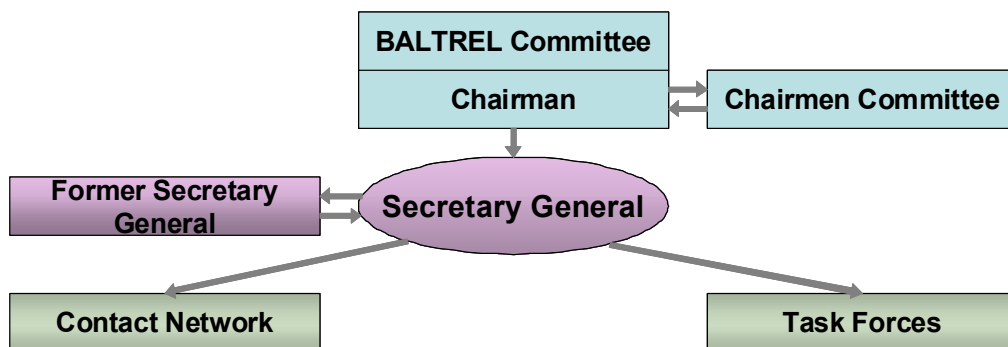
Deliverables

- Annual (Market) Reports on the status of the development of electricity markets;
- Studies on Specific Topics;
- Position Papers, Discussion Papers, Proposals and Recommendations;
- List of prospective interconnection links;
- List of prospective generation projects,
- Organization of seminars or workshops.

Chairmanship

- 1998/2002 - Vattenfal AB
- 2002/2005 - Fortum Power and Heat Oy
- 2005/2006 - AS Latvenergo
- 2006/2007 - AB Lietuvos Energija
- 2007/2008 - PGE S.A.

Organization

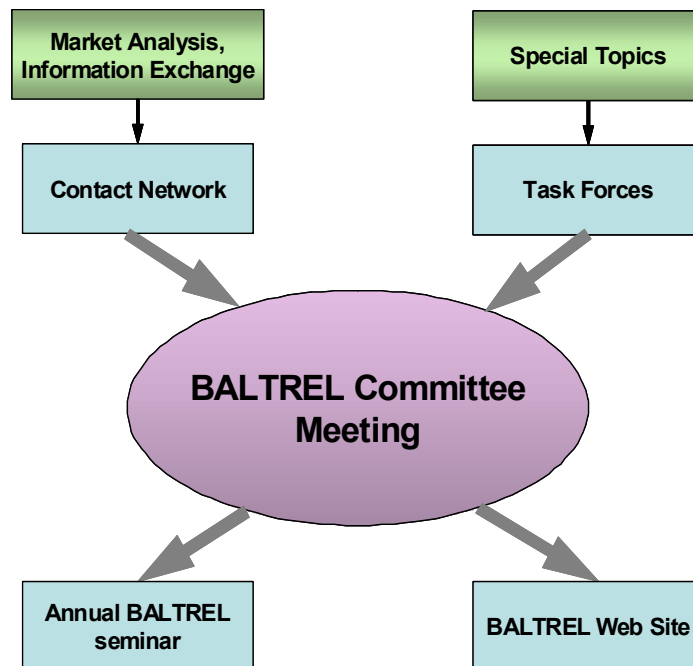


Responsibilities

- **BALTREL Committee:** meets once a year, elects a new Chairman, Secretary General, Chairmen Committee, approves Market Reports, developed materials and Working Program, decides about allocation of resources, tasks and Special Topics for studies, decides on how to use the results, communicates with the EU and CIS institutions and organizations;
- **Chairman:** leads and represents BALTREL;
- **Chairmen Committee:** steers the activities, Chairman + former and future Chairmen;
- **Secretary General:** the secretary of the association, chairs the Contact Network, responsible for the organization of seminars and meetings, cooperation with other organizations responsible for accomplishing the Working Agenda. Supported by the former and future Secretaries;

- **Contact Network:** prepares the Market Report, responsible for the exchange of information between BALTREL Members;
- **Task Forces:** execute the tasks of the BALTREL Committee, conduct studies and analysis on Special Topics and prepare the contributions to the Seminar.

Workflow Chart



Working Program for 2005/2008

2005/2006

The BALTREL Working Program for 2005/2006 includes two complex and essential areas of study. Task Force 1 has analyzed the problems of merging electricity markets in the Baltic Sea Region. The impact of the electricity market on the security of supply is in the scope of this study. Task Force 2 has studied the political and regulatory issues relevant to emission trading that affect the electricity market, particularly the development of the Emission Trading Scheme.

2006/2007

The BALTREL Working Program for 2006/2007 is to analyze the issues concerning the methods to achieve a market-based balance of power supply and demand, as well as the availability of sufficient generating and transmission capacities, including the perspectives of cross-boarder interconnections, the compatibility of environmental regulations, including emissions trading, congestion management in related electricity markets in the Baltic Sea Region.

2007/2008

According to the statement delivered at the Vilnius Committee Meeting, the Working Program focuses on the organization of a seminar that would include the leaders of Baltrel companies and outside experts to discuss significant current and future issues.

3. NATIONAL REPORTS

3.1. Belarus

3.1.1. Energy policy

The electric power industry of the Republic of Belarus (including generation, transmission, distribution and operational-dispatching control) is under government regulation. The tariff policy, which is under government regulation, is controlled by the Ministry of Economy of the Republic of Belarus.

The Ministry of Energy of the Republic of Belarus is responsible for the effective functioning of the power industry, the elaboration of proposals concerning the guidelines in the field of energy policy and their implementation, the provision of measures concerning energy safety, as well the development and implementation of investment strategy.

The State Production Association (SPA) Belenergo is a vertically integrated state-owned power company responsible for power generation, transmission and distribution of electricity in the country. It consists of 37 companies including 6 regional power companies, RUP "ODU" (National Power Control Centre), maintenance and mounting organizations.

SPA «Belenergo» is also the importer and exporter of electric power.

The work on the construction, modernization and reconstruction of the generating and network equipment, carried out according to the State Complex Program for the power sector, approved of by the Republic of Belarus in 2005, is currently under process. The Program provides for the use of local fuels and the development of renewable energy sources, including HYDROELECTRIC POWER STATIONS (HPS) of small and average capacity, wind installations and installations using biomass, biogas and all kinds of waste products.

In view of the above, in the year 2007, 15.3 MW of generating capacities were put into operation, including the CPP (Cogeneration Power Plant), working on wood waste in Pinsk, the second turbo generator on mini CPP in Molodechno, working on local fuel. The construction of the Minichi HPS on the river Shchara was completed. In the Belarusian SDPP (State District Power Plant) the production of wood fuel was put into operation.

In the western part of the Republic, the construction of a network with transmission lines from 220 kV to 330 kV is currently under process.

At present, the electricity market is not included in the process of liberalization.

Within the concept of parallel work of the power supply systems, SPA «Belenergo» acts in close cooperation with Russia and with the Baltic Region. The transmission of electric power from the Russian Federation to EU countries (Latvia, Lithuania) and in the reverse direction, and also from the central part of the Russian power supply system to the northwest region of Russia, including the Kaliningrad area, is carried out through the electric networks of the power supply system of the Republic of Belarus.

3.1.2. The electricity market

In 2007 the Republic of Belarus continued its strategy of a balanced pricing policy with flexible state regulation.

The present legislative and methodological system of creating tariffs and calculating expenditure on electrical and thermal energy from the sources of SPA "Belenergo" corresponds to the existing vertically integrated structure of power industry management, where regional power companies are responsible for the implementation of the complete technological cycle from power generation to delivering electricity to consumers. Within this structure of managing the power industry, the tariffs and primary costs are established and declared to the end users with regard to the actually supplied energy and include in-house generation, purchase of energy from abroad, transmission, distribution and realization.

3.1.3. Power production and consumption

Power production

The structure of power production in 2007 is presented in the following table:

Type of plant	Gas/Oil	Hydro	Others	Total
Power production (mln kWh)	30708.5	23.5	-	30731.9

Power Consumption

The structure of current power consumption in 2007 is presented in the following table:

Consumers	Household	Industrial	Others, including agriculture	Total
Consumption (%)	19.3	60.7	20.0	100

3.1.4. Transmission grid

The transmission grid in Belarus consists of 220 – 750 kV lines. 330 kV lines are the main part of the transmission grid. One line (Substation Beloruskaya - Smolenskaya NPP) operates at 750 kV, another line built for 750 kV (Substation Beloruskaya - Ignalinskaya NPP) operates at 330 kV. 220 kV lines, mainly present in the western part of the country, will be gradually replaced by a 330 kV grid.

In 2007, sections of the reconstructed 220 kV line Bereza SDPP –Baranovichi, with the total length of 42,5 km, were put into operation. The construction of sections of the 330 kV line Ross-Grodno (14,2 km long) on substation 220 kV Grodno - Yznaya (which is transferred to 330 kV) was executed.

Alongside the already existing transmission line 330 kV Baranovichi – Ross - Grodno and the transfer of substation Ross to 330 kV, the strengthening of the network creates preconditions for the development of energy exchange with neighboring power supply

systems of Lithuania and Poland. The transmission capacity of the existing lines is sufficient for the country's supply of electricity.

The main infrastructure problem is the transfer of electricity from Russia to the Baltic countries, the Kaliningrad area and Belarus through the so-called Smolensk section due to the region's deficiency caused mainly by the maintenance of the Ignalinskaya NPP's remaining units.

The problem will become even more urgent after the year 2009 because of the decommissioning of the Ignalinskaya NPP.

The section load flow is limited and is permanently monitored. The section is planned to provide for cross-border trade, however taking into account the above limitations.

3.1.5. The largest investments in the industry in 2007

Capital investments in the energy system made throughout the year amounted to 1031.8 billion rubles, taking into account all the sources of investment.

The index of growth of investments in fixed capital was 108.6% as compared with the corresponding period of the previous year.

734.7 billion rubles of fixed assets have been introduced, which amounts to 96.0% as compared with 2006.

Building and assembly work amounting to a total of 437.3 billion rubles was carried out (95.5% as compared with the year 2006).

3.1.6. Emissions trading, allocation of emission allowances and other environmental issues

The Belarus energy policy provides the following measures for environment protection:

- the improvement of the normative-legislative basis in accordance with the standards of the Republic, as well as international standards;
- providing further reduction of energy-based pollution by introducing technical and organizational measures;
- developing environment monitoring systems and operative management, covering all sources of pollution.

The amount of pollution from the generating sources of SPA "Belenergo" in 2007 is presented in table below.

	SO2	NO2	NO	CO	Solid	Total
Emission of pollutants, thousand t/year	4.2	25.4	4.1	6.9	0.2	41.0

The reduction of fuel consumption and the share of black oil in the annual balance led to the decrease of the total emission of pollutants by 23.5 thousand tones in comparison with 2006.

On the whole, the state of air pools in the cities corresponds to CIS and WHO standards on average annual concentrations.

With regard to the Kyoto Protocol, an Action Plan on the Realization of the Regulations of the Kyoto Protocol in accordance with the UN Framework Convention on Climate Change for 2005-2012, was developed and approved of by the Belarus government. Proposals concerning the implementation of projects of joint realization within the framework of economic mechanisms laid down by the Kyoto Protocol are under preparation, meetings with potential investors are taking place.

The energy sector has implemented the Action Program for the Protection of the Environment and the Rational Use of Natural Resources of the Ministry of Energy of the Republic of Belarus for 2006-2010, authorized by the Ministry of Energy and approved of by the Ministry of Natural Environment.

3.2. Denmark

3.2.1. Electricity market

Market merger initiatives between Denmark and Germany continued in the year 2007. Energinet.dk is co-operating with E.ON Netz, Vattenfall Europe Transmission, Vattenfall and the German power exchange EEX and the Nordic power exchange Nord Pool Spot in order to connect Denmark with Germany through implicit day-ahead auctioning.

The market merger between DK1(Jutland) and GER is expected by the end of September 2008.

The introduction of the Nordic intra-day market (Elbas) took a step forward when Elbas was established in Western Denmark on 12th April 2007.

The next logical step will be to expand intraday trading on the links between DK and Germany.

3.2.1. System operation

Due to higher fuel costs and increased hydro power production, the Danish power production surged by 15% as compared with 2006.

3.2.2. Larger defaults in 2007

The Skagerrak 3 interconnection between Western Denmark and Norway with a capacity of 500 MW was out of operation for several months due to a transformer fault on the Danish side.

Western Denmark and Flensburg were in island operation for approximately four minutes due to a fault in Germany. The transition to island operation caused an immediate demand for downward regulation of approx. 1.100 MW. This was handled partly by activating emergency power available through the interconnections to Norway and Sweden – approx. 360 MW. The rest was handled by the internal regulation of primary power stations combined with a manageable loss of generation by wind turbines and local units.

In December, a reactor exploded in the converter station on the Danish side of the Kontiskan connection, and it was disconnected for a couple of hours.

3.2.3. Grid development

Two of the five prioritized Nordic grid investment projects are directly related to the Danish transmission infrastructure. The projects include:

The Great Belt connection. The project includes a 56 km HVDC link between Eastern Denmark, which is part of the Nordel synchronous area, and Western Denmark, which is part of the UCTE synchronous area. The connection will be a 600 MW conventional HVDC link and the expected cost is 1.3 bn. Energinet.dk signed contracts with converter stations and cable vendors in the spring of 2007. The laying of land cables started on 3rd September 2008 from Funnen toward the great belt and the laying of sea cables is scheduled for the summer of 2009. The new link will be commissioned in the first half of 2010.

Skagerrak 4. The existing Skagerrak interconnection with 1.000 MW capacity connects Kristiansand in Norway with Tjele in Denmark. The expansion of the cable was agreed by the Danish and the Norwegian TSOs in June 2008 and is expected to be in commission in 2014. According to the decision made in June, all of the five prioritized grid investment projects have been agreed upon and are being implemented.

With regard to transmission capacity to Europe, the trading capacity between Western Denmark and Germany was increased from 800/1.200 MW in the northbound/southbound direction to 950/1.500 MW in February 2007. This is only the first step in the joint grid project between E.ON Netz and Energinet.dk, aiming at a considerable increase in the transmission capacity during the next decade.

Energinet.dk has invited Svenska Kraftnät and Vattenfall Europe Transmission to investigate the opportunity of a joint TSO project for combining a new HVDC link between Germany, Sweden and Eastern Denmark with the grid connections of the planned off-shore wind farms at Kriegers Flak.

Furthermore, an investment project in the national grid has been initiated, however, due to inappropriate guidelines and their revalidation, the national grid investment projects are temporarily on stand by.

3.2.4. Electricity consumption

Electricity consumption in Denmark, including losses in the transmission grid, aggregated 37.0 TWh – which is equal to the consumption in 2006.

3.2.5. Electricity production

The overall electricity production amounted to 37.0 TWh – 15% less than in 2006. This was caused by an increase of hydro power production in the Nordic area combined with higher fuel and CO₂ prices.

3.3. Finland

3.3.1. Energy policy

The Finnish government has continued its work on an updated climate and energy strategy for Finland. The strategy is to be presented to the parliament in autumn 2008. The strategy will take into account EU targets on reducing greenhouse gas emissions, increasing the share of renewable energy and improving energy efficiency.

In March 2008 the International Energy Agency IEA published its review on the Finnish energy policy. IEA recommends addressing the energy issues in a sustainable manner. IEA is concerned that the current temporary policies on regulated peak reserve power and peat subsidies do not enhance long-term energy security.

Based on the political agreement with the EU Energy Council on TSO unbundling executed in June 2008, the State of Finland is prepared to buy Fortum's shares (25%) in Fingrid.

3.3.2. The electricity market

The average price of the Nord Pool system in 2007 was € 27.9/MWh (€ 48.6/MWh in 2006). The Finnish area price was € 30.0/MWh. The average total electricity price in Finland for a typical household customer (5000 kWh/a) based on public prices including grid fees and taxes was 11.29 cent/kWh at the beginning of 2008 (10.69 cent/kWh on 1.1.2007).

In February 2007, Nordel accepted the harmonized principles of balance management. Detailed planning has been done by the TSOs together with market participants. The new model of balance management will be put in operation in January 2009. With a one-price system for the consumption balance, it gives further benefits for demand response in the case of tight market situations.

In March 2008 Fingrid published its procurement principles of reserve power capacity for fast disturbance reserve with a maximum activation time of 15 minutes to full power. In 2008 Fingrid also initiated an Environmental Impact Assessment concerning six alternative sites for new fast reserve plants of 100-400 MW.

The 100 MW Olkiluoto fast reserve gas turbine plant was commissioned in November 2007. It was constructed jointly by Fingrid and Teollisuuden Voima, the owner of the Olkiluoto nuclear power plant.

3.3.3. Electricity production and consumption

The power demand in Finland increased in 2007 by 0.4% to 90.4 TWh. The Finnish power generation in 2007 was 77.8 TWh and the net imports were 12.7 TWh. Combined heat and power (CHP) covered 34% of the generation, while nuclear power covered 29%, conventional condensing power 19% and hydropower 18%. The share of wind power was 0.2%.

In February 2007, a new hourly peak demand of 14 914 MW was recorded. The winter of 2007/2008 was mild with the highest peak demand at 13 762 MW recorded on 4 January 2008. According to Nordel's forecast, the Finnish peak load in a cold winter (one in 10 years) will increase to 15 800 MW in the winter of 2011/2012.

The construction of the 1600 MW Olkiluoto 3 nuclear power unit has progressed with a planned start-up of commercial operation in the summer of 2011. Some CHP plants, fired with biomass or natural gas, as well as some wind power projects, are also under construction.

Additional nuclear power projects have been proposed by three companies: Fortum, Teollisuuden Voima (TVO) and Fennovoima. Fortum and TVO presented their Environmental Impact Assessments in spring 2008, and TVO has also submitted its application on a decision in principle to the Finnish government. The government plans to decide upon the projects in 2009, and the parliament is expected to make its decision in 2010.

3.3.4. Transmission and interconnections

In 2007, Finland imported 10.2 TWh of electricity from Russia and 1.9 TWh from Estonia. On the interconnections with Sweden, there was a net import of 1.9 TWh on the northern AC lines, a net export of 1.6 TWh on the Fenno-Skan DC link and an import of 0.2 TWh to the Åland Islands. On the 220 kV line to northern Norway, 202 GWh was imported and 110 GWh was exported.

As the Baltic TSOs joined the ETSO Inter-TSO Compensation (ITC) system for power transits in 2007, Fingrid removed the ETSO perimeter charge on power imports from Estonia in June 2007.

In September 2007, Nordel published its new strategic agenda and action plans for a more efficient functioning of the Nordic electricity market and closer cooperation with the TSOs in the neighboring North European regions.

In March 2008, Nordel published the Nordic Grid Master Plan 2008. It includes a third 400 kV AC connection between northern Sweden and northern Finland. According to Nordel, the project still requires additional analysis before final approval. Nordel has also initiated a multi-regional planning co-operation with the Baltic and Polish TSOs to investigate further HVDC interconnections between Nordel and the above mentioned areas.

Fingrid has started negotiations with the Russian system operator on the possibilities to utilize spot bids to Nord Pool in power imports from Russia. Negotiations have also been launched with the Russian grid company on a possible two-directional operation on one of the converter bridges in the Vyborg DC station allowing 300 MW export to Russia, now used only for power imports from Russia to the Nordic market.

In June 2008 Fingrid decided to construct two series compensation stations on the 400 kV lines in northern Finland. These will increase the transmission capacity inside Finland and improve the availability of the maximum net transfer capacity to Sweden from autumn 2009.

The sea cable and the converter stations for the new 800 MW HVDC link Fenno-Skan 2 between Sweden and Finland were ordered in spring 2008. The link will be ready by the end of 2011.

3.3.5. Environmental issues

In February 2008, the Finnish government allocated the CO₂ emission allowances for the emissions trading period 2008-2012. The reduction coefficients compared to historical emissions are 0.91 for industrial processes, 0.86 for industrial energy production, 0.77 for district heating CHP and heat-only boilers, and 0.31 for condensing power. The total annual free allocation corresponds to 37.6 MtCO₂. It includes a new entrant reserve of an average of 1.4 million tons annually.

The Finnish CO₂ emissions under the EU emissions trading scheme (ETS) were 42.5 MtCO₂ in 2007, while the allocation of CO₂ allowances during 2007 had been 45.9 MtCO₂.

3.4. Lithuania

3.4.1. Energy policy

The rapid development of the Lithuanian economy, the planned closure of Ignalina Nuclear Power Plant in 2009, the dependence on imports of primary energy resources from a single source, and the increased prices of fossil fuels have forced Lithuania to adjust its energy policy. The updated National Energy Strategy, which came into effect on 27 January 2007, provides for the necessity to ensure the continuity, succession and development of nuclear energy and to develop a new regional nuclear power plant in order to satisfy the demand of the Baltic States and the entire region.

Therefore, in 2007 the Lithuanian energy policy underwent significant changes, when the priorities of liberalization were changed to include the concepts of re-consolidation and monopolization of the electricity sector. Lithuanian policy makers decided that the consolidation of energy assets in a single holding could create favorable conditions for national companies, which together with partners from neighboring countries, would be able to construct a new nuclear power plant and interconnections with Poland and Sweden. In order to implement this project the National Energy Strategy was adopted and specific laws were issued. The said documents define the energy policy in the following manner:

- Implementation of the National Energy Strategy in line with the EU energy policy strategy;
- Ensuring security of the energy sector in the country and the development of the Lithuanian energy sector;
- Ensuring energy supply from diversified, safe, efficient energy sources that do not cause emissions of greenhouse gases;
- Replacement of electricity generation capacities which are lost due to the closure of Ignalina Nuclear Power Plant;
- Safeguarding the fundamental interests and national security of the Republic of Lithuania.

Practical steps to implement the policy in 2007 could be summarized as follows:

- 02 03 2007 The Prime Ministers of Poland and Lithuania signed a communiqué
- 10 07 2007 The Law on Nuclear Power Plants became effective
- 26 07 2007 Lietuvos Energija prepared EIA program
- 15 11 2007 The EIA program was approved by the Lithuanian Ministry of Environment

In accordance with the provisions of law, Parliament approved of the construction of a new nuclear power plant in Lithuania and appointed Lietuvos Energija, which had expressed a private initiative to invest in the project, to act as the National Investor for the project.

3.4.2. The electricity market

The year 2007 was the sixth year of functioning of the electricity market. Electricity is traded on the market under the Electricity Trading Rules. The electricity sector has negotiated the state regulated prices. Production prices (electricity and reserve capacity) and independent supply are not regulated except when electricity producers or independent suppliers have more than 25% of share in the Lithuanian electricity market. Prices of electricity transmission, distribution and public supplier services are regulated by setting price caps. The regulated public tariffs apply to all customer categories – residents and small, medium and major businesses. Lietuvos Energija AB is the single Lithuanian national grid company that

performs the function of transmission grid operator. It owns the transmission grid (110-330 kV voltage), and is both the system and market operator. In Lithuania the distribution of electricity is provided by 2 distribution companies: Rytų Skirstomieji Tinklai AB and Vakarų Skirstomieji Tinklai AB. The companies are owners of electricity distribution grids, i.e. low (0.4 kV) and medium voltage (up to 110 kV) electricity grids. They perform the function of distribution network operators and public suppliers (PS). The public supplier is obliged to supply electricity to all customers that wish to get supplies within their territory of operation.

Table 1. The price cap in 2007 for services provided by the two largest distribution companies, ct/kWh

	Rytų Skirstomieji Tinklai AB	Vakarų Skirstomieji Tinklai AB
Distribution in the average voltage networks ct/kWh	6,30	7,37
Distribution in the low voltage networks	10,06	9,17
Public supplier service	0,21	0,19

In 2007, as a transmission system operator, the company transmitted 9.7 billion kWh of electricity for domestic need through its high voltage power lines. The volume of transmitted electricity was higher by 3.1% year-to-year: the volume of electricity transmitted to Rytų Skirstomieji Tinklai AB was higher by 4% year-to-year and amounted to 4.5 TWh, to VST AB – 4.2 TWh or higher by 4.5% year-to-year, to eligible consumers – 1 TWh, or lower by 5.8%. This reduction was mostly the result of the discontinuation of Ekranas AB business and reduced electricity consumption of Mažeikių Nafta AB. As of 1 January 2007, a new transmission price has been set – LTc 3.58 /kWh, which was LTc 0.11 /kWh higher than in 2006 and for the first time nearly reached the price cap set by the NCCPE

AB Lietuvos Energija also operates on the electricity trading market. The company manages the domestic electricity market: registers bilateral agreements of wholesale market players, accumulates assignments for electricity trading at the auction, determines the ranking of sales and registers trade transactions resulting from bilateral agreements and in the auctions, presents information concerning electricity trading to market players and supervisory institutions. Suppliers operating on the Lithuanian wholesale market participate in three types of transactions concerning electricity trading – contractual, based on direct bilateral agreements signed between generators and suppliers; as a result of public service obligation, additional electricity, sold through the auction of generators (when the electricity provided on the basis of a contract or public service obligation does not satisfy domestic needs). In 2007 Lithuania’s wholesale market demand was 10.62 billion kWh (in 2006 – 10.19 TWh). Wholesale market players purchased 6.44 TWh of contractual electricity, 4.18 TWh of additional and public service obligation electricity. Ignalina NPP had the highest electricity sales volume resulting from bilateral contracts and by auction (7.4TWh). Thermal power plants usually supply electricity to the market under public service obligation. The share of electricity sold under public service obligation was approved for 2007 at 20.02% (it was 17.35% in 2006), and the average electricity price was fixed at 19.72 ct/kWh (it was 14.91 ct/kWh in 2006).

In 2007 about 23% of electricity supplied to the market was sold by auction, i.e., almost 2% less than in 2006. This was caused by the purchase of additional electricity by auction at the time Ignalina NPP was undergoing repairs and by the increased consumption of

electricity. Ignalina NPP was also the main auction market player, except when during repairs it was replaced by Lietuvos Elektrinė AB. In 2007 auction prices fluctuated a lot, the lowest price (7.45 ct/kWh) was recorded in April when only Ignalina NPP-generated electricity was available on the market, and the highest price was recorded in October, when the price reached 13.75 ct/kWh because of the repairs carried out at Ignalina NPP. The average auction price was 10.99 ct/kWh in 2007, i.e. it was 1.15 ct/kWh higher as compared to 2006.

Foreign electricity sales amounted to 2.54 TWh in 2007, 0.44TWh more than in 2006. The most significant change in the export structure was caused by the fact that as of 2007, in addition to traditional export links to Russia, Latvia and Estonia, electricity was also exported to Scandinavian countries via the Estlink cable. The share of electricity exports was as follows: Latvia 18%, Estonia 13%, Finland 13%, Belarus 19%, and Russia 37%.

In 2007 the total volume of electricity imports amounted to 1.17 TWh. Electricity was mainly imported at the time of the spring floods in Lithuania and the repairs at the Ignalina NPP unit. The Ignalina Nuclear Power Plant, which operated only one unit in 2007, produced and supplied 9,1 TWh to the market.

In the retail market 7 companies are licensed as public suppliers, 20 companies – as independent suppliers, but in 2007 only 3 public suppliers and 5 independent suppliers were active in the market. In 2007 the first foreign supply company was established in Lithuania.

The main public suppliers delivering electricity to consumers within their territory of operation are Rytų Skirstomieji Tinklai AB and VST AB, which have the biggest share in the electricity supply market. It amounts to approximately 86% of electricity sold to national consumers. According to the law, all consumers are free to change the supplier, but no such case was recorded in 2007. This is caused by the fact that public suppliers, being a separate department of distribution companies, sell electricity at relatively cheaper prices than those offered by independent suppliers working under market conditions.

3.4.3. Electricity production and consumption

In 2007, the installed capacity of Lithuanian power plants amounted to approx. 5 GW, with the capacity of nuclear plants amounting to 26% and thermal plants - 53%. Domestic electricity needs are basically met by Ignalina Nuclear Power Plant (Ignalina NPP). In the case of medium system load electricity is supplied both by Ignalina NPP and thermal power plants. At the time of electricity consumption peaks the system including Ignalina NPP and thermal power plants is supported by Kruonio HAE that provides operational reserves.

The total generated output in Lithuanian power plants was 12937.6 GWh and increased by 487.6 GWh. National electricity production prices increased just by 1.41 ct/kWh, from 8.58 in 2006 – to 9.99ct/kWh in 2007

Electricity production in 2007 distributed by different energy sources:

- Hydro power -7.38%
- Nuclear power - 70.14%
- Thermal power - 19.36%
- Wind power - 0.82%
- Others renewables - 0.5%

Domestic demand in 2007 was 11464 GWh and increased by 1124GWh

Final energy consumption of 8558 GWh distributed to different user categories:

- Households – 28.8%
- Industry – 30.5%
- Services - 35.9%
- Construction – 1.5%
- Transport – 0.8%
- Agriculture – 2,4%

3.4.4. Transmission and interconnections

The Lithuanian power system is strongly connected with Latvia (4 lines of 330kV), Belarus (5 lines of 330 kV) and with the Kaliningrad region of Russia (3 lines of 330kV). Physical import / export from and to Latvia was 1.4 / 3.2 TWh. From Belarus 3.6 / 2.0 TWh, from Russia 0 / 1.1 TWh.

Approx. 60 million Lt. was invested in the rehabilitation and development of the transmission grid in 2007.

The construction of the following substations (SS) was completed:

- 110 kV Benaiai SS
- Connection of 110/10 kV Smeltė SS to the 110 kV network.

The Panevėžys power plant was connected to the 110 kV network.

In 2007, the construction of the 110/20 kV Benaiai SS was completed. This substation connected the 16 MW wind park to the transmission grid. At present, the total installed capacity of all wind power plants connected to the transmission grid equals 46 MW.

The construction of substations in progress:

- 110/10 kV Nemunas SS
- 110/10 kV Šventininkai SS
- 110/10 kV Lypkiai SS
- 110/10 kV Ažuolynė SS, 2nd transformer
- 110/10 kV Sudėnai SS

The following substations were reconstructed:

- 110/35/10 kV Šilutė SS
- 110/35/10 kV Molėtai SS
- 110/35/10 kV Joniškis SS
- 110/10 kV Žiežmariai SS

The following substations are under reconstruction:

- 110/35/10 kV Ukmergė SS
- 330/110/10 kV Vilnius SS
- 110/10 kV Centras SS
- 110/10 kV Šilkas SS
- 110/10 kV Noreikiškės SS
- 110/10 kV Taika SS
- 110/10 kV Migla SS
- 330/110/10 kV Šiauliai SS
- 110/35/10 kV N.Akmenė SS
- 110/35/10 kV Šakiai SS
- 110/35/10 kV Pabradė SS
- 110/10 kV Ignalina SS
- 110/10 kV Gargždai SS
- 110/35/10 kV Kuršėnai SS
- 110/10 kV Merkinė SS
- 330/110/10 kV Klaipėda SS
- 110/10 kV Savitiškis SS

Electricity transmission lines under rehabilitation:

- Kaunas – Jonava – Kėdainiai – Panevėžys
- Jurbarkas – Raseiniai – Kelmė – Šiauliai

Electricity transmission lines under construction:

- 110 kV overhead line Kretinga – Palanga
- Vilnius – Vilnia – Neris
- Panevėžys – Múša
- Telšiai – Klaipėda

Unfortunately, the physical connections between Lithuania and the UCTE or Nordel grid are still missing, but significant steps in the Lithuania-Poland link were made in 2007. A feasibility study was carried out and various preparatory steps were taken in order to establish the company responsible for the implementation of the project. The estimated preliminary cost of the project is EUR 237 million, and including the cost of reinforcement of Lithuanian and Polish electricity grids it may reach approximately EUR 700 million. The most complicated issue concerning the project is the legalization of the use of land. The estimated length of the interconnection – 154 km (approximately 100 km in Poland and 54 km in Lithuania). A study including an overview of the entire route of the Alytus-Elk power line should be completed by spring 2009. This study will serve as a basis for further implementation of the project.

In April 2008 a joint venture LitPol Link was established. It is planned that LitPol Link will employ around 15 people who will coordinate the activities of the consultants.

Additionally, it was decided that Lietuvos Energija and PSE-Operator S.A. will each delegate a coordinator to coordinate the work of the Lithuanian and Polish power systems, which does not fall within the scope of the LitPol Link project.

A lot of attention was paid to the sea cable connecting Lithuania and Sweden. This project started in 2004 with the pre-feasibility study. According to the recommendations included in the study, in 2007, Swedish consultants SWECO International prepared a feasibility study on the connection of the Lithuanian and Swedish electricity systems. In September 2007, the study was delivered to Lietuvos Energija and Svenska Kraftnät, which operate their respective national grids. The study evaluated the possibility of linking the electricity grids of the two countries via a 350-kilometer cable under the Baltic Sea. Three capacity levels: 500, 700 and 1000 MW were discussed in the study. The proposed construction of wind turbines linked to the underwater cable would require a capacity of 1 000 megawatts. The 500 MW is too small for intraday trading. Preliminary estimates have shown that the link with the appropriate capacity would cost from € 400 to € 700 million and could be completed by 2015. The results of the calculations indicate that the expected financial benefits from the cable during its life span of 30 years, would amount to around € 900 million.

Furthermore, appropriate steps were taken with regard to the Synchronization Project. In 2007, the Prime Ministers of Lithuania, Latvia and Estonia signed a Communiqué thereby obligating the transmission system operators of the Baltic States to prepare a feasibility study on the synchronous interconnection with the UCTE by the end of 2008, and to present the report on the schedule and costs of the interconnection. The Cooperation Agreement among the transmission system operators of the Baltic States – Lietuvos Energija AB, Põhivõrk OÜ (Estonia), Augstsprieguma Tīkls AS (Latvia) and PSE-Operator S.A (Poland) – for the assessment of the feasibility of the synchronous interconnection with the UCTE was signed on 30 October 2007. In accordance with the four-party Cooperation Agreement, Lietuvos Energija shall represent the power systems of the Baltics as the country holding the chairmanship. The pre-feasibility study is to be completed at the beginning of 2008.

3.4.5. Environmental issues

The Lithuanian National Allocation Plan (NAP) for the second trading period (2008-2012) was prepared in 2006. The plan provides for a significant increase of allowances due to an estimated increase of electricity production in the thermo power plants substituting the nuclear power plant which will be closed at in that period. Unfortunately, the plan was rejected by the EU Commission due to the fact that additional allowances related to NPP are not consistent with relevant directives. Therefore, a new version of the NAP was prepared in 2007 which included a significant reduction of allowances. An additional 3.17 million of annual allowances is required to compensate for the cost of additional CO₂ emissions from thermal power plants related to the closure of Ignalina NPP. It could increase the electricity generation price by approx. 8ct/kW.

3.5. Latvia

3.5.1. Energy policy

The Electricity Market Law was approved of on 25 May 2005. It stipulates the relationships between market participants and system operators, their rights and responsibilities, defines the main principles of trading, public service obligations, power system auxiliary services, authorization procedures for new generation and transmission

capacities, change of supplier, etc.

3.5.2. The electricity market

“Latvenergo”, a joint-stock company, still plays the dominant role on the Latvian electricity market. It is a holding company that comprises several joint-stock companies responsible and licensed for electricity (2013 MWel) and heat production and trading, as well as telecommunication services. In addition, Latvia’s electricity sector includes about 15 other companies that have trading licenses, 9 companies, which are licensed for distribution services and about 205 small electricity producers with the total capacity of 192 MWel. At the moment, “Latvenergo” has about 65%-70% of shares in electricity production in the Latvian electricity market, which amounts to 98% of power supply.

The reorganization of the Latvian electricity sector is implemented in line with EU Directive 2003/54/EC on the minimum requirements of introducing a legal separation of transmission and distribution system operators. “Latvenergo’s” subsidiary responsible for transmission was legally separated from “Latvenergo” in 2005. The reorganization of seven regional electricity distribution subsidiaries of “Latvenergo” into one, legally independent joint-stock company “Sadales tikls” was completed by 1 July 2007. Currently, “Latvenergo” is dealing exclusively with electricity generation and trading.

Starting from 1 July 2007, all consumers in Latvia have the right select the supplier. In this respect the market is fully liberalized. However, at the current stage it would not be entirely correct to characterize the situation on the electricity market in Latvia as similar to that on developed electricity markets (for instance in Scandinavian countries). It still relies on price regulation at the retail level, the provision of non market-based support to priority generation (cogeneration and renewables), as well as the absence of liquid day-ahead, forward, intra-day and balancing markets. Moreover, only a few of the consumers have exercised their right to change the supplier. In fact, at the moment they have only informed about their wish to do so. The major reasons of poor liquidity are as follows: the small size of the Latvian electricity market (currently, the annual electricity demand is only 7 TWh), a high level of concentration and significant intervention of the state by means of different support schemes and public service obligations. Apart from “Latvenergo”, other producers operate mostly on the regulated (subsidized) market via different support schemes (cogeneration, renewable energy).

Taking into account the size of the Latvian electricity market, artificial removal of the dominant player is not recommended; the recommendation is that the Latvian electricity market should be broadened by its integration into the Common Baltic Electricity Market (CBEM) and later, by the merger of the CBEM and other regional markets of the Baltic Sea Region (BSR).

In the open sector of the electricity market, the currently available alternatives include foreign suppliers: Eesti Energia AS (Estonia), AB Lietuvos Energija (Lithuania), Belenergo (Belarus) and InterRAO (Russia). For export supplies Ignalina NPP cooperates with AB Lietuvos Energija. Following the reconnection of Belarus’s and Ukraine’s power systems, some possibilities of electricity exchange with Ukraine are being considered. The initiation of the Estlink cable at the end of 2006 has opened new possibilities for electricity exchange with the Nordic market.

At the moment, an Estonian company is also in operation – an electricity trader licensed for business in Latvia. Also “Latvenergo” has created a new company- an electricity trader in

Estonia. Both companies concentrate their activities on acquiring new customers - large electricity consumers.

At the moment, there is no day-ahead and forward price approach on the power exchange in Latvia. That is why there are no officially published wholesale electricity price indexes. When electricity traders conclude bilateral electricity purchase agreements, they use fixed prices or references to the price indexes of neighboring power exchanges, for example NordPool. Currently, wholesale electricity prices on the Baltic (and Latvian) electricity market are lower than that in PolPX, Nordpool and EEX Phelix, but higher than on the Russian Power Exchange ATS.

The major drivers that have caused the increase of wholesale electricity prices in Latvia in the last few years, include: the growth of fuel prices, the decommissioning of the first unit of Ignalina NPP and the introduction of the CO₂ emission allowance market. The lowest electricity prices in Latvia are expected during the season of spring floods, when Latvia has a surplus of power produced by Daugava Hydro Power Plants.

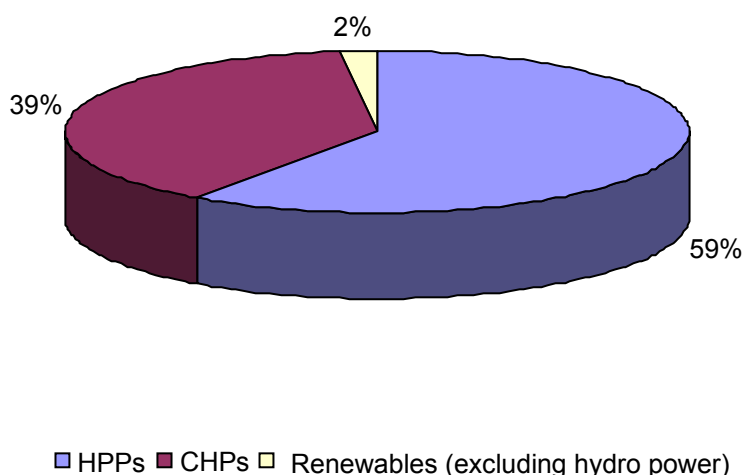
The first interconnection between the Baltic States (Estonia) and the Nordic electricity market (Finland) is the Estlink DC submarine cable. It is the first step towards market coupling, which is devised to increase cooperation between the two markets.

Being under an obligation of RES-E is not favorable for Latvia. The proposed non-market based support schemes for RES-E and cogeneration might limit the development of the liquid electricity market in Latvia. The announcement of the tender for new generation capacity to safeguard the security of electricity supply is an ultimate measure, which will further reduce competition in the electricity market. The expected growth in electricity consumption will require more energy and more CO₂ quotas; these two aspects may create additional costs for electricity producers. Taking the above into consideration, the Latvian NAP2 should in advance weigh up the perspective of new entrance, which would be a good preventive measure and a long-term approach to solving the problem in the future. The reallocation of CO₂ emission allowances among countries, taking into account import/export exchanges during the reference year, was never considered by the EU trading scheme.

3.5.3. Electricity production and consumption

Total electricity production in Latvia in 2007 was 4536 GWh. 59% of electricity was produced by HPPs and 39% - by CHPs. 2% of electricity was produced by wind power plants and other renewables (excluding HP).

Electricity production in Latvia in 2007



Net electricity consumption in Latvia in 2007 was 6726 GWh. The largest consumer sector is the commercial sector (services) – 40.1%. In last years in Latvia, there has been a very stable increase in the demand for electricity, and the year 2007 was no exception: electricity consumption increased by 6.9 %.

3.5.4. Transmission and interconnections

The reconstruction of the 330/110 kV substation Rezekne in the east of Latvia was implemented. A new 110 kV substation Zunda (2x25 MVA) was commissioned in July 2007. Construction works of new 330 kV substations at Plavīnu HPP and at Rīga CHP-2 are under way. These substations are to be commissioned in 2008.

There are no new interconnections between Latvia and the neighboring countries.

3.5.5. Environmental issues

On 31 October 2006 the Latvian Cabinet of Ministers issued Order No 835 “Substantive Provisions for the Use of Renewable Energy Sources in 2006-2013”.

The main focus is on the optimization of the potential use of Latvian RES, taking into consideration economical, geographical and technical aspects, as well as plans for the development of the energy sector. EC Directives, goals and requirements concerning RES are to be fully observed.

According to Directive 2001/77/EC of the European Parliament and Council as of 27 September 2001 “On the promotion of electricity produced from renewable energy sources on the internal electricity market”, the goal set for Latvia is as follows: by the year 2010 the percentage of energy produced with the use of RES should equal 49,3% of the total capacity produced in the country. It seems a very ambitious goal for Latvia and may be difficult to achieve.

The year 2007 was the second full year of operation of the newly built combined cycle Rīga CHP-1. This modern gas-fired power plant has proved the efficiency of modern equipment: the reduction of specific CO₂ emissions per kWh of electricity produced in 2007

(as well as in 2006) was 48% as compared to those of the previous years when the old power plant was in operation. The reduction of specific NO_x emissions equals 40%.

3.6. Norway

3.6.1. Energy policy

Today, the integrated Nordic electricity market functions better than any other regional electricity market in the world. Norway is part of this market and hence the Norwegian market also operates efficiently. Even though Nordic authorities agree that the market functions well, there is still room for improvement. This calls for closer co-operation between the authorities.

Important issues that need to be further discussed include, among others, the need to develop the market structure in generation and wholesale supply, transmission infrastructure and congestion management and a common Nordic retail electricity market.

3.6.2. The electricity market

The Nordic Power Exchange Nord Pool also provides a carbon market, being the first exchange in Europe to offer standardized contracts for emission allowances (EUA) and carbon credits (CER).

3.6.3. Electricity production and consumption

In 2007, the total electricity generation in Norway amounted to 137,7 TWh, 0,9 TWh of which was wind power and the rest hydropower. This represents a production growth of 13% as compared to 2006. Wind power figures rose by 34%.

Norway lost its case in the EFTA court and is obliged to amend specific clauses in the Industrial Concession Act in order to abolish discriminating practices between privately and publicly owned hydropower plants and waterfalls. The Government has proposed a new law that denies new private licenses for the ownership of waterfalls and hydropower plants. The existing private concessions expire after a period of 60 years and the property will then be transferred to the State without compensation. Publicly (state, county, municipalities) owned plants and waterfalls are granted unlimited licenses.

Net export in 2007 was 10 TWh as compared to net import of 0.9 TWh in 2006. The improved figures are a result of heavy rains and high water reservoir levels.

Total net consumption of electricity in Norway in 2007 was 110,8 TWh, which is about 3 TWh more than the year before.

3.6.4. Interconnections

The opening of the NorNed cable between Norway and the Netherlands was delayed (opened May 2008). It has been designed and is owned by the transmission system operators (TSOs) Statnett in Norway and TenneT in the Netherlands. NorNed will be an open interconnection, utilized via market coupling of the Dutch and Nordic markets, handled by the power exchanges APX and NordPool.

3.6.5. Environmental issues

All the directives proposed in EUs Green Package are considered EEA relevant and final directives will probably be incorporated into the Norwegian law.

3.7. Poland

3.7.1. Energy policy

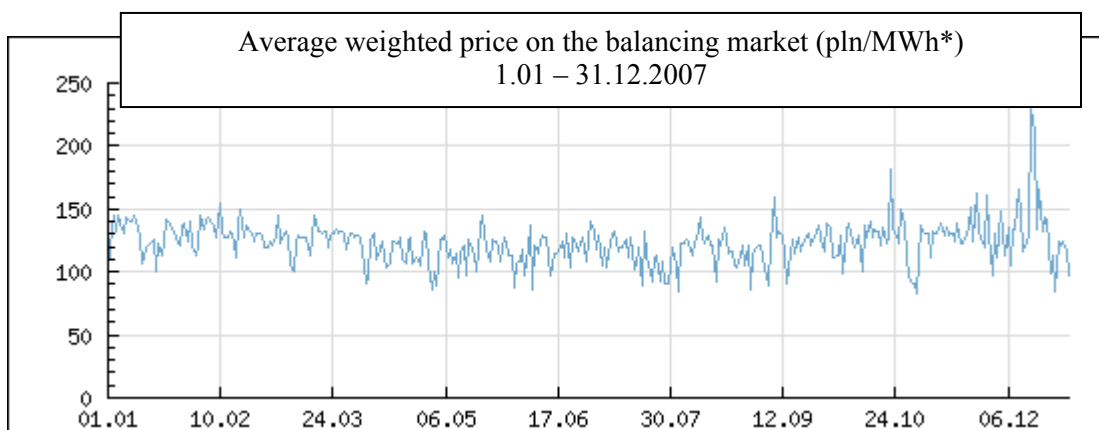
The year 2007 was marked by the successful completion of the ownership unbundling process of Polish TSO. This process was performed in two steps. The first step, completed at the beginning of 2007, included the transfer of 100 % of company ownership from the parent company (PSE SA) to the Ministry of the State Treasury. The second step, completed at the end of 2007, included the transfer of transmission assets ownership from the previous parent company (at present the biggest Polish Power Group – PGE S.A.) to PSE-Operator. As a result in 2007, Polish TSO met the requirements of ownership unbundling as defined in the 3rd EC Package launched on 19 September 2007. Also, from 01.06.2007 the Distribution System Operators have been legally unbundled on the Electricity Market.

3.7.2. The electricity market

According to the Polish Energy Law as of 01.06.2007, the electricity market is open for household consumers and all customers are eligible to change the electricity supplier. In 2007 the works concerning the modification of the law on the termination of national long-term supply contracts in Poland were completed and approved by the European Commission. The termination of long-term contracts will take place in the first half of 2008.

In 2007, the coordinated auction procedure for cross-border capacities, started in 2006, was continued in accordance with multilateral rules and EU legislation. In auction processes TSOs allocated yearly, monthly and daily available transmission capacity on profiles between PSE-Operator, CEPS, SEPS, VE-T and E.ON Netz. Regional cooperation in the field of congestion management between eight TSOs from Central and Eastern Europe was further developed and work on the methods of Flow Based Capacity Allocation was continued in 2007.

The examples of electricity prices traded on the balancing market and offered by generating companies are presented below.



Source: <http://www.cire.pl/RB/ceny/index.php>

The table below presents average electricity prices of generating companies over the period of 2003 -2007

Market segment	Average price [in pln/MWh*]					Change [%]
	2003	2004	2005	2006	2007	2007/2006
Total	143,83	139,08	137,78	138,46	142,79	3,1
Long-term contracts	166,68	160,29	183,64	170,69	176,63	3,5
Beyond long-term contracts	123,84	118,69	116,44	119,20	127,20	6,7
Including:						
– sales to distribution companies	120,10	118,48	116,97	118,76	127,57	7,4
– sales to trading companies	118,48	112,57	111,23	116,65	125,32	7,4
– sales on the Power Exchange	114,80	113,42	117,38	136,60	124,99	-8,5
– sales on the balancing market	153,67	133,68	135,62	133,24	132,83	-0,3

Source: The Energy Regulatory Office

*/ Average rate of exchange as of 31.12.2005: 3,58 pln/eur

3.7.3. Electricity production and consumption

National Energy Data	Annual net values in
	2007
Net Generation per primary source	
Nuclear Power	0,000
Fossil Fuels	145,127
<i>of which, Lignite</i>	47,511
<i>of which, Hard Coal</i>	93,832
<i>of which, Gas</i>	3,784
<i>of which, Oil</i>	0,000
Renewable Energy Sources (other than hydro)	0,622
<i>of which, Wind</i>	0,505
<i>of which, Other RES</i>	0,117
Hydro power	2,684
Net Generation	148,433
Physical Imports	7,752
Physical Exports	13,110

Exchanges	-5,358
Pumped Storage	0,871
Consumption	142,204

Source: UCTE, PSE-Operator

3.7.4. Transmission and interconnections

There were no new substations, international tie lines, national lines, new generating units put into operation in 2007.

The capacitor-banks with total capacity of 335 MVAR were put into operation in 7 substations to reinforce the transmission system.

3.7.5. Environmental issues

The main instrument for supporting RES development in Poland is based on trading in property rights under the RES guarantees of origin. The year 2007 was the second year of the system's functioning.

The total capacity of RES-E increased in 2007 by 20% as compared to 2006, including wind capacity - by 77% and biomass – by 52%. Production of electricity from RES increased by almost 30%.

In March 2007 the European Commission adopted a decision on the Polish National Plan for allocating carbon dioxide emission allowances (NAP) for the 2008 – 2012 trading period of the EU Emission Trading Scheme (EU ETS). The annual allocation for Poland for 2008 – 2012 was fixed at 208.5 million tones of CO₂ allowances.

In May the Polish Government sued the EC decision to the European Court of Justice due to an almost 27% reduction of the Government's proposed cap of allowances.

Until the end of 2007, the Government has not distributed carbon allowances to the installations, in accordance with the EC decision on NAP, and the legal case has not been closed at the European Court of Justice.

Sources: PSE-Operator SA, UCTE, The Energy Regulatory Office, Ministry of Economy

3.8. Sweden

3.8.1. Energy policy

The Swedish Government has chosen to prioritize the issues concerning climate as one of the most important questions. The EU Commission's third package for energy is setting the agenda for work. In Sweden, the highest priority remains the challenge to implement renewable energy into the power system. Especially the introduction of wind power generation and the attempts to overcome the barriers in order to facilitate a larger amount of wind power into the Swedish power system have had a high priority in the country's energy policy.

Another important part of the energy policy includes measures for more efficient use of energy in the future. The energy policy should give long term rules for the players on the energy market.

3.8.2. The electricity market

The year 2007, like 2006, showed an all time high level of turnover in the NordPool market increasing the figure from 251 TWh in 2006 to 292 TWh in 2007. This corresponds to a record high of 68.9% market share of Nordic consumption, which constitutes an increase from 61.4% in 2006.

In the financial market, Nord Pool ASA reached the highest volume ever traded with a volume of 1,060 TWh, up from 766 TWh in 2006.

The price of electricity in the Nordic system is highly dependent on the hydro situation in the Nordic countries, the temperature (the demand) and the price of the CO₂ allowances. Following the increased power exchange between the Nordic system and Continental Europe the prices in Europe also have an impact on the prices in the Nordic system.

The year 2007 was characterized by high inflows in the hydro system leading to rather low electricity prices. During the summer the precipitation was heavy resulting in record low prices in August. Autumn was characterized by increased carbon prices and emission rights leading to higher electricity price.

The average price in Sweden for 2007 was 28.0 EUR/MWh as compared to 44.5 in 2006 and 27.6 in 2005

As a result of low winter temperatures and a good hydrologic situation the prices have decreased at the beginning of this year.

3.8.3. Electricity production and consumption

The electricity production in Sweden is dominated by hydro and nuclear power. The installed capacity of wind power has increased (with about 45%) the last year but is still only about 1% of the total amount of electric energy produced.

The total electricity generation in Sweden in 2007 was 145.0 TWh compared to 140.3 TWh in 2006. 2007 was a wet year resulting in high hydro power generation in Sweden, 65.5 TWh compared to 61.1 in 2006. The nuclear power generation was lower 2007 than in 2006, 64.3 TWh compared to 65.0 TWh in 2006. One reason for this is rather large refurbishments and upgrading of the capacity in several nuclear plants.

13.8 TWh was generated by other thermal power plants (fossil and bio fuels) compared to 13.2 TWh in 2006. **97%** of the power generation in Sweden is free from CO₂ emission.

The Consumption was about the same in 2007 and 2006, 146.3 TWh. The net import was 1.3 TWh in 2007 compared to 6.1 TWh in 2006. The figure was a result of a power export from Sweden to the neighbouring countries of 17.2 TWh and an import of 18.5 TWh.

3.8.4. Transmission and interconnections

Three of the five large projects that were the result of the common Nordic System Development Plan in 2004 are located in Sweden. Two of them are interconnections to Norway and Finland. The projects have progressed rapidly and are now in the phase of construction.

The third one was an internal 400 kV link from the central part of Sweden to the south of the country. This project has now been changed to include an interconnection to Norway. The project has been approved in Sweden and will be partly constructed with the use of the

HVDC VSC technique.

A feasibility study for an interconnection between Sweden and Lithuania has been performed.

The vast project including the restructuring of the grid around Stockholm is currently in progress and the first projects entered the construction phase in 2007. The program for rebuilding the 400 kV substations is continued with two substations per year.

In addition to the above mentioned projects, there are plans for a significant number of large projects that will result in the largest investment plan in the history of the Swedish transmission grid.

3.8.5. Environmental issues

In 2007 the main focus was on climate changes and the impact of the electricity industry. The EC "Green Package" specified the requirement to increase the level of renewables in Sweden from 39.8% today to 49% in 2020. The Government will therefore continue to work hard to increase the amount of renewable energy sources in the Swedish power system. The work will particularly focus on a larger introduction of wind power. The goal is to have 10 TWh of wind power in 2015. A planning target has also been set up to have 30 TWh wind power in 2020. A decision concerning the above issues is expected this year.

In 2003 the system of green certificates was introduced. The aim was to increase the annual production from renewable energy sources to 17 TWh until 2016 as compared with the 2002 level. Up to 2006, the estimation is that it has resulted in an increase with 5 TWh.

4. STATISTICS

4.1. Belarus

Installed capacity

Installed capacity	MW	Change 2007 vs. 2006, MW
Hydropower	9,32	+ 0,2
Nuclear power	–	–
Thermal power	7649,6	- 63,9
• Condensing power – Coal	–	–
• Condensing power – Natural Gas	3489,5	–
Renewables	–	–
Industrial generation	–	–
Total	7658,92	- 63,9

The list of new capacity taken into operation in 2007

Name of plant	Location	Type of plant	MW ¹⁾	GWh / per annum	Fuel
Installation of turbo set	Pinsk CPP	CPP (Cogeneration Power Plant)	2,7		waste wood
Installation of turbo set	Mini CPP on the base of local boiler-house -3 of Molodechno electric network	Mini-CPP	2,4		domestic fuel
Reconstruction of turbo set No 1	Grodno CPP-2	CPP	10,0		natural gas
Putting into operation the hydropower unit	HPS on the river Shchara	HPS	0,2		water

The list of capacity under construction or agreed upon

Name of plant	Location	Type of plant	MW	GWh / per annum	Fuel	Year
Modernization of power unit No 4 of Lukoml State District Power Station	Vitebsk Region	SDPP(State District Power Plant)	15	80	Gas, black oil	2008-2009
Modernization of the boiler-house in Zlobin with the installation of gas-reciprocating engines	Gomel Region	CPP (Cogeneration Power Plant)	26,1	195,7	Gas	2006-2008

Gomel CPP-2. Installation of expander - generating installation	Gomel Region	CPP	4,0	15,92	Gas	2006-2008
Construction of the Grodno HPS on the river Neman	Grodno Region	HPS (Hydroelectric Power Station)	17	84,4	Water	2006-2010
Modernization of Lida CPP with the installation of a gas turbine	Grodno Region	CPP	25	209	Gas	2006-2008
Reconstruction of the Minsk CPP-3 with the installation of a combined-cycle plant	Minsk Region	CPP	230	1686	Gas	2006-2008
Modernization of power unit No 5 of Bereza SDPP with the superstructure with gas turbines	Brest Region	SDPP (State District Power Plant)	230	682	Gas, black oil	2008-2010
Construction of power module in Pruzany city	Brest Region	CPP	3,7	17,9	Peat, fire-wood	2008-2009
Construction of power module in Rechitsa city	Gomel Region	CPP	7,0	43,2	Lignin, peat	2008-2009

Existing interconnections between neighboring countries, Rated Capacity

ADJACENT COUNTRY Belarus s/s – Adjacent country s/s	U, kV	Transmission capacity, MW		Thermal capacity, MVA	Length, km
		Import (To)	Export (From)		
RUSSIA					
Smolensk Section		1000	1200		
Belorusskaya – Smolenskaya NPP	750			996	418
Vitebsk – Talashkino	330			787	132
Kritchev – Roslavl	330			940	102
Polotsk – Novosokolniki	330			570	160
LITHUANIA					
Grodno – Alitus	330			787	75
Molodechno – Vilnius	330			787	119
Smorgon – Ignalinskaya NPP	330			810	159
Polotsk – Ignalinskaya NPP	330			1080	159
Belorusskaya – Ignalinskaya NPP	750(330)			810	343
UKRAINE					
Mozyr – Chernobyl NPP	330			940	112
Gomel – Chernigov	330			787	103
POLAND					
Ross – Białystok	220			230	99

Imports and exports of electricity (physical energy flows) in 2007, GWh

Country	Imports GWh	Exports GWh
Russia	2,654	0
Lithuania	0,905	0
Latvia	0,034	0
Moldova	0,062	0
Ukraine	0,689	0
Total	4,344	0

Electricity production and consumption

Annual net values in GWh	2007
Hydro power capacity	23,5
Nuclear power capacity	–
CPP (Cogeneration Power Plant) power capacity	30 708,5
Fossil fuel power capacity	
<i>including lignite sources</i>	
<i>including hard coal sources</i>	
<i>including gas sources</i>	30 708,5
<i>including oil sources</i>	
<i>including mixed oil / gas sources</i>	
<i>including non attributable sources</i>	
Renewable energy sources capacity	
<i>including wind farms</i>	
<i>hydro power</i>	23,5
Not Clearly Identifiable Energy Sources Capacity	
Net Generating Capacity	30 731,9
Physical imports	4,344
Physical exports	-
Physical exchanges balance	
Pumped storage	
Consumption	36 141,7

Population (million)	10
-----------------------------	-----------

4.2. Denmark

Installed capacity

Installed capacity	MW	Change 2007 vs. 2006, MW
Hydropower	9	-1
Nuclear power	0	0
Thermal power	9.899	+345
• Condensing power – Coal	9.159	-88
• Condensing power – Natural Gas	741	+434
Renewables	3.124	-11
Industrial generation	0	0
Total	13.032	333

The list of new capacity taken into operation in 2007

Name of plant	Type of plant	MW ¹⁾	GWh / per annum	Fuel
Thermal		131		Oil/gas
Wind		3		
Thermal		-29		Oil/gas
Wind		-13		
Total				

1) Maximum net output

Existing interconnections between neighboring countries, Rated Capacity

Country / Stations	Rated Voltage [kV]	Transmission Capacity Currently available [MW]		Length of line [km]
Denmark (DK1) / Norway (NO1) Tjele-Kristiansand	250/350	From DK 1000	To DK 1000	240
Denmark(DK1) - Sweden Teglstrupgård - Mörap Gørløsegård - Söderåsen Hovegård - Söderåsen	132 400 400	From SEE 1350	To SEE 1750	23 70 91
Denmark(DK2) - Sweden Vester Hassing - Lindome	2x285	From SEE 740	To SEE 680	149
Hasle (Bornholm) - Borrby	60	60	60	48

The list of interconnections:

Under Construction

The Great Belt cable between Jutland (DK1) and Zealand (DK2). Capacity of 600 MW (HVDC). The construction of transformer stations started in autumn 2007 and the construction of land cables started in September 2008. The construction of the sea cable is expected to start in summer 2009 and the cable is to be commissioned in 2010.

Planned

The Skagerrak cable between Denmark(DK1)-Norway(NO1). Capacity of 600 MW (HVDC). The decision was taken in June 2008 and is expected to be commissioned in 2014.

Imports and exports of electricity (physical energy flows) in 2007, GWh

Country	Imports GWh	Exports GWh
Norway	3974	1159
Sweden	5039	2462
Other	1465	7807
Total	10.478	11.428

Electricity production and consumption

Annual net values in GWh	2007
Hydro power Production	30
Nuclear power Production	0
Fossil fuel power Production(*)	27.700
<i>including lignite sources</i>	0
<i>including hard coal sources</i>	20.300
<i>including gas sources</i>	6.800
<i>including oil sources</i>	300
<i>including mixed oil / gas sources</i>	0
<i>including non attributable sources</i>	300
Renewable energy sources (excl. hydro power) capacity	9.600
<i>including wind farms</i>	7.200
Not Clearly Identifiable Energy Sources Capacity	
Net Generating Capacity	37.200
Physical imports	
Physical exports	
Physical exchanges balance	+754
Pumped storage	
Consumption	36.446

Pumped storage	
Consumption	36.446

Population (million)	5,5 mill
-----------------------------	-----------------

4.3. Finland

Installed capacity

Installed capacity	MW	Change 2007 vs. 2006, MW
Hydropower	3031	- 13
Nuclear power	2651	- 20
Thermal power	8417	8
• Condensing power – Coal		
• Condensing power – Natural Gas		
Renewables	2801	381
Industrial generation		
Total	16900	356

The list of new capacity taken into operation in 2007

Name of plant	Location	Type of plant	MW ¹⁾	GWh / per annum	Fuel
Tornio CHP plant	Tornio	Industrial back-pressure	40		Peat, wood, waste, carbon monoxide
Olkiluoto GT plant	Eurajoki	Fast reserve gas turbines	100		Light fuel oil
Total			140		

1) Maximum net output

The list of capacity under construction or agreed upon

Name of plant	Location	Type of plant	MW ¹⁾	GWh / per annum	Fuel	Year
Kymi	Kuusankoski	Industrial CHP	90		Black liquor	2008
Porin Prosessivoima	Pori	Industrial & municipal CHP	65		Bio, peat, waste	2008
Ajos	Kemi	Wind park	30		Wind	2008
Suomenoja	Espoo	Municipal CHP	234		Gas	2009
Kerava CHP	Kerava	Municipal CHP	21		Bio, peat	2009
Keljonlahti	Jyväskylä	Municipal CHP	200		Bio, peat	2010
Kaukaan Voima	Lappeenranta	Industrial & municipal CHP	125		Bio, peat	2010
Olkiluoto 3	Eurajoki	Nuclear	1600		Nuclear	2011
Haapaniemi 3	Kuopio	Municipal CHP	46		Bio, peat	2011

1) Maximum net output

Existing interconnections between neighboring countries, Rated Capacity

Country / Stations	Rated Voltage [kV]	Transmission Capacity Currently available [MW]	Length of line [km]
SE / Petäjäsoski - Letsi	400	1600 from SE, 1200 to SE	230
SE / Keminmaa - Svartbyn	400	Included above	134
SE / Ossauskoski - Kalix	220	Included above	93
SE / Rauma - Forsmark	400=	550	233
SE / Tingsbacka - Senneby	110	80	81
NO / Ivalo - Varangerbotn	220	100	228
RU / Yliskälä - Viborg	400	1400 from Russia	2 x 67
RU / Kymi - Viborg	400	Included above	132
RU / Imatra – GES 10	110	100 from Russia	20
RU / Nellimö - Kaitakoski	110	60 from Russia	50
EE / Espoo - Harku	150=	350	105

The list of interconnections (a) put into operation in 2007, (b) under construction or (c) planned

- (a) The Estlink cable (Espoo – Harku) was put into commercial operation in January 2007.
- (b) A second HVDC link (Fenno-Skan 2) with a rated voltage of 500 kV DC and a capacity of 800 MW between Sweden and Finland is under construction. The 300 km link between Rauma and Finnböle will be commissioned by the end of 2011.
- (c) Nordel's Grid Master Plan 2008 includes a third 400 kV AC connection between northern Sweden and northern Finland. According to Nordel, the project still requires additional analysis before final decisions are made. Nordel has also initiated a multi-regional planning co-operation with the Baltic and Polish TSOs to investigate further HVDC interconnections between Nordel and the above mentioned areas.

(d) Imports and exports of electricity (physical energy flows) in 2007, GWh

Country	Imports GWh	Exports GWh
Sweden	4213	3690
Norway	202	110
Russia	10171	-
Estonia	1921	21
Total	16507	3821

Electricity production and consumption

Annual net values in GWh	2007
Hydro power capacity	13971
Nuclear power capacity	22496
Fossil fuel power capacity(*)	30600
<i>including lignite sources and peat</i>	6600
<i>including hard coal sources</i>	13400
<i>including gas sources</i>	10300
<i>including oil sources</i>	300
<i>including mixed oil / gas sources</i>	
<i>including non attributable sources</i>	
Renewable energy sources (excl. hydro power) capacity	10700
<i>including wind farms</i>	191
Not Clearly Identifiable Energy Sources Capacity	2
Net Generating Capacity	77769
Physical imports	16507
Physical exports	3821
Physical exchanges balance	12686
Pumped storage	-
Consumption	90434

Population (million)	5.3
-----------------------------	------------

4.4. Lithuania

Installed capacity

Installed capacity	MW	Change 2007 vs. 2006, MW
Hydropower	1027	
Nuclear power	1300	
Thermal power	2544	+23 ¹⁾
• Condensing power – Coal		
• Condensing power – Natural Gas/Oil	1800	
Renewables	83	+18
Industrial generation	75	-25
Total	5029	5013

1) Panevezio CHP of 35 MW was constructed, and a unit at Vilnius CHP- 2 of 12 MW reconstructed for biomass

The list of new capacity put into operation in 2007

Name of plant	Location	Type of plant	MW ¹⁾	GWh / per annum	Fuel
Panevezio CHP	Panevezys	CHP	35	235	Gas
Biomass and wind			18	60	

power plants					
Total			53	295	

1) Maximum net output

The list of capacity under construction or agreed upon

Name of plant	Location	Type of plant	MW ¹⁾	GWh / per annum	Fuel	Year
Lithuanian TPP	Elektrenai	CCGT	400	2800	Nat. gas	2012

1) Maximum net output

Existing interconnections between neighboring countries, Rated Capacity

Country / Stations	Rated Voltage [kV]	Transmission Capacity Currently available [MW]		Length of line [km]
		Import	Export	
<i>Lithuania-Latvia</i>	330	1,170	1,540	
Klaipeda-Grobine	330	789	789	119
Siauliai-Jelgava	330	789	789	88
Panevezys-Pliavine	330	789	789	127
Ignalina NPP-Liksna	330	943	943	60
<i>Lithuania-Belarus</i>	330	970	1,850	
Alytus-Grodno	330	789	789	74
Vilnius-Molodecno	330	943	943	119
Ignalina NPP-Smorgan	330	943	943	158
Ignalina NPP-Belarus	330	1,143	1,143	343
Ignalina NPP-Polosk	330	1,091	1,097	168
<i>Lithuania-Russia</i>	330	680	680	
Kruonis-Sovietsk	330	1143	1143	197
Jurbarkas-Sovietsk	330	943	943	53
Klaipeda-Sovietsk	330	789	789	100

The list of planned interconnections

Lithuania - Poland

Lithuania - Sweden

Imports and exports of electricity (physical energy flows) in 2007, GWh

Country	Imports GWh	Exports GWh
Rusia	0	1100
Latvia	1400	3200
Belarusia	3600	2000
Total	5000	6300

Electricity production and consumption

Annual net values in GWh	2007
Hydro power capacity	955.0
Nuclear power capacity	9074.8
Fossil fuel power capacity(*)	
<i>including lignite sources</i>	
<i>including hard coal sources</i>	
<i>including gas sources</i>	
<i>including oil sources</i>	196.6
<i>including mixed oil / gas sources</i>	2309.0
<i>including non attributable sources</i>	231.0
Renewable energy sources (excl. hydro power) capacity	171.2
<i>including wind farms</i>	106.2
Not Clearly Identifiable Energy Sources Capacity	
Net Generating Capacity	12937.6
Physical imports	1130.6
Physical exports	2502.6
Physical exchanges balance	1372.0
Pumped storage	760.9
Consumption	11464

Consumption equals total electricity supply less distribution losses

Population (million)	3.376
-----------------------------	--------------

4.5. Latvia

Installed capacity

Installed capacity	MW	Change 2007 vs. 2006, MW
Hydropower	1563	0
Nuclear power	0	0
Thermal power		
• Condensing power – Coal	0	0
• Condensing power – Natural Gas	0	0
• CHP	605	0
Renewables	37	0
Industrial generation	0	0
Total	2205	0

The list of capacity under construction or agreed upon

Name of plant	Location	Type of plant	MW ¹⁾	GWh / per annum	Fuel	Year
Riga CHP-2 renovation	Riga	CHP	+200	1000	Gas	2009

1) Maximum net output

Existing interconnections between neighboring countries, Rated Capacity

Country / Stations	Rated Voltage [kV]	Transmission Capacity Currently available [MW]	Length of line [km]
Latvia-Estonia/2	330	Import = 1200, Export = 900	Σ=193
Latvia-Lithuania/4	330	Import= 300, Export = 300	Σ=386
Latvia-Russia/1	330	Import = 900, Export = 900	Σ=175

The list of interconnections (a) taken into operation in 2007, (b) under construction or (c) planned

Imports and exports of electricity (physical energy flows) in 2007, GWh

Country	Imports GWh	Exports GWh
Estonia	1525	195
Lithuania	3239	1392
Russia	200	377
Total	4964	1964

Electricity production and consumption

Annual net values in GWh	2007
Hydro power	2703
Nuclear power	0
Fossil fuel power (*)	
<i>including lignite sources</i>	0
<i>including hard coal sources</i>	0
<i>including gas sources</i>	1747
<i>including oil sources</i>	0
<i>including mixed oil / gas sources</i>	0
<i>including non attributable sources</i>	0
Renewable energy sources (excl. hydro power) capacity <i>including wind farms</i>	86
Not Clearly Identifiable Energy Sources Capacity	0

Net Generating	4536
Physical imports	4964
Physical exports	1964
Physical exchanges balance	3000
Pumped storage	0
Consumption	7536

Population (million)	2.291
-----------------------------	--------------

4.6. Norway

Installed capacity

Installed capacity	MW	Change 2007 vs. 2006, MW
Hydropower	28606	132
Nuclear power	0	0
Thermal power	635	635
• Condensing power – Coal	0	0
• Condensing power – Natural Gas	635	635
Renewables	414	81
Industrial generation	265	0
Total	29935	848

The list of new capacity put into operation in 2007

Name of plant	Location	Type of plant	MW ¹⁾	GWh / per annum	Fuel
Kårstø	Hordaland	CCGT	420	0 - 3500	Gas
Snøhvit	Finnmark	Gas	215	1700	Gas
Hundhammerfjellet	Nord-Trøndelag	Wind	53	150	
Bessakerfjellet (part1)	Sør-Trøndelag	Wind	28	80	
Small hydro plants	Norway	Hydro	132	500	
Total			848		

1) Maximum net output

The list of capacity under construction or agreed upon

Name of plant	Location	Type of plant	MW ¹⁾	GWh / per annum	Fuel	Year
Bessakerfjell (part2)	Sør-Trøndelag	Wind	27	75		2008
Sauda	Rogaland	Hydro	174	450		2008
Leirfossene	S-Trøndelag	Hydro	23	43		2008
Kjøsnesfjord	Sogn og Fjord	Hydro	83	250		2010
Mongstad	Hordaland	CHP	280	2240	Gas	2011

1) Maximum net output

Existing interconnections between neighboring countries, Rated Capacity

Country / Stations	Rated Voltage [kV]	Transmission Capacity Currently available [MW]	Length of line [km]
Norway↔Sweden		3150 / 3350	
Norway↔Finland		100 / 100	
Norway↔Denmark		1000 / 950	
Norway↔Netherland		700 / 700	

The list of interconnections:

a) Put into operation:

- Norway - the Netherlands, 700 MW, (to operate in May 2008)

b) Planned, but not agreed upon:

- Norway – Denmark 600 MW, year 2014

- Norway – Germany 2 different links (NorGer, NordLink)

- Norway – Sweden 1100 MW, year 2016

Imports and exports of electricity (physical energy flows) in 2007, GWh

Country	Imports GWh	Exports GWh
Sweden	3800	11100
Denmark	1100	4000
Finland	100	200
Russia	200	0
Total	5200	15300

Electricity production and consumption

Annual net values in GWh	2007
Hydro power capacity	121400
Nuclear power capacity	0
Fossil fuel power capacity	5100
<i>including lignite sources</i>	
<i>including hard coal sources</i>	
<i>including gas sources</i>	5100
<i>including oil sources</i>	
<i>including mixed oil / gas sources</i>	
<i>including non attributable sources</i>	
Renewable energy sources (excl. hydro power) capacity	1100
<i>including wind farms</i>	1100
Not Clearly Identifiable Energy Sources Capacity	1000

Net Generating Capacity	128600
Physical import capacity	20000
Physical export capacity	20000
Physical exchanges balance	
Pumped storage	
Consumption	126900

Population (million)	4,7
-----------------------------	------------

4.7. Poland

(TSO's data)

Net Generating Capacity on 31 December 2006 and 2007, GW

National Power Data	End of December 2006	End of December 2007
Net Generating Capacity per primary source		
Nuclear Power	0,000	0,000
Fossil Fuels	29,810	29,818
<i>of which, Lignite</i>	8,094	8,094
<i>of which, Hard Coal</i>	20,974	20,976
<i>of which, Gas</i>	0,742	0,748
<i>of which, Oil</i>	0,000	0,000
<i>of which, Mixed Fuels</i>	0,000	0,000
<i>of which, Non Attributable Fossil Fuels</i>	0,000	0,000
Renewable Energy Sources (other than hydro)	0,168	0,318
<i>of which, Wind</i>	0,141	0,287
<i>of which, Other RES</i>	0,027	0,031
Hydro power (total)	2,324	2,327
<i>of which, Storage Hydro</i>	0,154	0,154
<i>of which, Run-of-River Hydro</i>	0,392	0,395
<i>of which, Pure Pumped-Storage Water</i>	1,406	1,406
<i>of which, Mixed Pumped-Storage Water</i>	0,372	0,372
Not Clearly Identifiable Energy Sources	0,000	0,000
Net Generating Capacity	32,302	32,462

The list of new capacity put into operation in 2007

No power plants have been commissioned in 2007.

There has been an increase of net wind generating capacity in the year 2007 at the level of 100%, but the total wind generating capacity in Poland amounts to 0,9% of total NGC and is still negligible.

The list of capacity under construction or agreed upon

Name of plant	Location	Type of plant	MW	Fuel	Year
Łagisza	Łagisza	Condensing power	460	Hard Coal	2009
Bełchatów II	Bełchatów	Condensing power	789	Lignite	2010

Existing interconnections between neighboring countries in 2007

Country / Stations	Rated Voltage [kV]	Length of line [km]
PL – DE		
Krajnik - Vierraden	220~	26
Krajnik - Vierraden	220~	26
Mikulowa - Hagenwerder	400~	15
Mikulowa - Hagenwerder	400~	16
PL – CZ		
Dobrzeń - Albrechtice	400~	157
Wielopole - Nošovice	400~	87
Kopanina - Liskovec	220~	85
Bujaków - Liskovec	220~	85
PL – SK		
Krosno Iskrzynia - Lemešany	400~	122
Krosno Iskrzynia - Lemešany	400~	122
PL - UA		

Rzeszów – Chmielnicka ¹⁾	750~	396
Zamość – Dobrotwór ²⁾	220~	99
PL – BY		
Białystok – Roś ¹⁾		96
PL – SE (Słupsk – Stårno)	450=	254 (DC cable)

1) Interconnections not in operation

2) Radial connection

The list of interconnections (a) put into operation in 2007

No interconnections put into operation in 2007.

Imports and exports of electricity (physical energy flows) in 2007, GWh

	Imports	Exports
DE	4 891	48
CZ	20	9230
SK	0	3599
UA	632	0
BY	0	0
SE	2 209	230
Total	7 752	13 110

Electricity production and consumption

National Energy Data	Annual net values in
	TWh 2007
Net generation per primary source	
Nuclear Power	0,000
Fossil Fuels	145,127
<i>of which, Lignite</i>	47,511
<i>of which, Hard Coal</i>	93,832
<i>of which, Gas</i>	3,784
<i>of which, Oil</i>	0,000
Renewable Energy Sources (other than hydro)	0,622

<i>of which, Wind</i>	0,505
<i>of which, Other RES</i>	0,117
Hydro power	2,684
Net Generation	148,433
Physical Imports	7,752
Physical Exports	13,110
Exchanges	-5,358
Pumped Storage	0,871
Consumption	142,204

Population (million)	38,116
-----------------------------	--------

4.8. Sweden

Installed capacity

Installed capacity	MW	Change 2007 vs. 2006, MW
Hydropower	16209	29
Nuclear power	9074	109
Thermal power	8005	-89
• Condensing power – Coal		
• Condensing power – Natural Gas		
Renewables	19883	161
Industrial generation	12294	-5
Total	34076	257

Existing interconnections between neighboring countries, Rated Capacity

To other Baltrel countries only

Country / Stations	Rated Voltage [kV]	Transmission Capacity Currently available [MW]	Length of line [km]
Poland / Stårn-Slupsk	450=	600	256
Germany / Vstra Krrstorp-Herrenwyk	450=	600	269
Finland / Kalix-Ossauskoski	220		93
Finland / Letsi-Petjskoski	400		230
Finland / Svartbyn-Keminmaa	400	1600 (in total on these three lines)	134
Finland / Dannebo-Rauma	400=	550	233

The list of interconnections under construction

- Finland / Fenno-Skan 2/ Finnböle-Rauma 500 kV= 800 MW 303 km

Other statistics

New Capacity: 257 MW (net value)

Interconnections: approx 9000 MW (> 30% of peak demand)

Imports/exports: 18.5/-17.2 TWh

(net value = 1.3 TWh import)

Generation: 145.0 TWh

Consumption: 146.3 TWh

Population: 9.18 million (2007-12-31)

Published by the Baltrel Secretariat

Warsaw
October 2008