

Environmentally friendly for sustainable growth

By Karlis Mikelsons

Latvenergo Group is the leading energy utility in Latvia and is the leader of energy generation from renewable resources in the Baltic countries and the European Union.

Latvenergo Group has started its business activities in 1939 by construction of Ķegums hydropower plant. Currently Latvenergo Group includes five subsidiaries: Augstsprieguma tīkls AS (TSO), Sadales tīkls AS (DSO), Latvenergo Kaubandus OÜ, Latvenergo Prekyba UAB, and Liepājas enerģija SIA.

Latvenergo Group generates its electricity and thermal power in three Daugava hydropower plants and Riga combined heat and power plants, as well as Aiviekste hydropower plant, Ainaži wind power plant, and Liepājas enerģija SIA facilities.

The Daugava hydropower plants is comprised of Ķegums HPP with a total capacity of 264,1 MW, Pļaviņas HPP, capacity 868,5 MW, and Rīga HPP, capacity 402 MW. Approximately 71% of the total electricity produced by Latvenergo is generated at Daugava hydropower plants. Due to significant portion of the overall power supply amount generated by Latvenergo hydropower plants, the total power supply output depends heavily on the water level in the river Daugava; therefore, the annual volume generated by hydropower plants may vary between 1800 GWh and 4500GWh.

Latvenergo AS has two large combined heat and power plants: Rīga TEC-1 (CHPP) and Rīga TEC-2 generating both electricity and thermal energy. Annually, Riga CHPP produces approximately 30% of the total quantity of electricity generated by Latvenergo and 70% of total heating energy supplied to the City of Riga's centralised heating supply system.

In 2005, the 106 million euros* reconstruction of Rīga TEC-1 was completed. Rīga TEC-1 has two gas turbines, one steam turbine, and two water-heating boilers for centralized heating system. Rīga TEC-1 electric capacity is 144 MWel, and the heating capacity - 377 MWth. Rīga TEC-2 is the largest combined heat and power plant in Latvia, with electric capacity of 330 MWel, and heating capacity of 1148 MWth.

Latvenergo Group invests in modernizing its generating facilities and increasing production volume using state-of-the-art, environmentally friendly technologies.

Since 2007 up to spring 2010 Pļaviņas HPP is undergoing the second largest reconstruction, the total investment for the project amounting to 29,6 million lats. The resulting increased capacity and efficiency of three hydroelectric generating units will allow an average annual increase in electricity generation by 30 GWh and will extend units' utilization period by at least 30 years.

Currently, Rīga TEC-2 is under reconstruction. As a result, a new combined cycle power generating unit will enter service in the middle of 2008 which will be capable of operating in both co-generation and condensation mode. In co-generation mode, (gross) fuel utilisation efficiency could reach 88% and 57% in condensation mode (external air temperature 0°C). This fuel efficiency will allow to triple the amount of electricity generated per unit of heat used, and also will minimize the environmental impact of the plant.

After the reconstruction the electricity generated in cogeneration mode will increase, on average, from 820 GWh to 2200 GWh a year, supplying Latvia with additional 1400 GWh annually.

After the completion of Rīga TEC-2 reconstruction it will become the most modern combined heat and power plant in the Baltic region, enhancing the energy supply independence of Latvia and generating electricity in the most efficient and effective way.

Considering the fact that Latvia is the first country in the Baltics where electricity suppliers face the free-market situation, Latvenergo has become a dynamic company and successfully works in competitive environment; our market share is 96% (of the total electricity consumption in Latvia).

The electricity supply market is quite different in the three Baltic States, as in Estonia it is completely closed, and in Lithuania non-functioning. Therefore, Latvian companies do not have an opportunity to work in the neighboring markets which bars steady development of the electricity supply market in the region.

We have started working at the development of interconnection with Scandinavia because Latvia and the Baltics in general need new interconnections with Western Europe. The new network would open electricity supply from Scandinavia, increasing the safety of electricity system in the region and diversifying the supply.

Especially important for the Baltics would be the interconnection with Sweden, both for the development of electricity supply market and for providing the lacking capacities. Even though a 350 MW cable from Estonia to Finland makes it possible to buy electricity at Scandinavian electricity stock exchange *Nordpool Spot*, the capacity of the cable is insufficient for creating real market with Western Europe.

Launched in 2006, the new under-sea electrical cable *Estlink* connected the electrical supply network of the Baltic States with Northern Europe, allowing Latvenergo Group to buy and sell electricity at *Nord Pool* stock exchange. This created a different outlook for the Baltic States that did not have a direct connection with electric power systems of Central Europe before and were relatively isolated from electricity networks in Western Europe and Scandinavia.

Developing interconnections with Scandinavia, opening up the electricity supply markets in Lithuania and Estonia, and creating a common Transmission System Operator (TSO) for the three Baltic States is crucial for the future development of the Baltic region. Common TSO in the region would facilitate better planning of power systems development and attract new investments, as such TSO would operate on a larger scale and solid financial standing.

By taking these steps the Baltic States would solidify their position in general and would more successfully integrate into the Scandinavian electricity supply market, thus creating a unified region around the Baltic Sea.

Karlis Mikelsons

President, CEO

Latvenergo AS

Latvia

*1 EUR = 0,70 LVL