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Latvia's Energy Sector

Latvia' s energy policy is based on competitiveness and it is aimed at strengthening energetic independence, facilitating the use of renewable and local energy sources, diversification of its energy sources and enhancing environmental protection.

History.

Latvian scientists have taken part in the creation and development of energy as a scientific discipline. The year 1862 saw the establishment of Riga Technical University (at that time Riga Polytechnic), which encompassed 8 faculties. Soon after the most progressive form of energy – electricity – was discovered, the use of electricity for lightning was demonstrated in Riga (in 1879), and starting from 1883 electricity generators were assembled in several institutions of Riga. In 1927, already in independent Latvia, an electrification program, for the coming years up to the year 1950, was elaborated. In 1931, the study on "Fundamentals of Latvia's electrification" was published. The development of Latvia's electrification was seen to base on hydropower and other local renewable energy sources. In 1936, a Law was passed on the construction of Ķegums Hydropower Plant (HPP) on the river Daugava and in 1939 the first hydropower unit was put into operation. At that time it was biggest HPP in the Baltic States and the most modern in the Northern Europe. In 1946 the Academy of Sciences was founded in Latvia and the same year saw the establishment of the Institute of Physical Energetics, which has evolved into Latvia's leading research centre in the field of energy science. The Institute, in collaboration with the Riga Technical University and the University of Latvia, carries out relevant research in the frames of National research programs and is involved in many EU research projects.

A vision of our energy future.

In the long-term and medium-term, Latvia intends to further expand production of electrical energy in ecological (green) way. Viewed in a long-term perspective the use of nuclear energy will be necessary to help meet the energy needs. In short and medium term, however, the main energy sources will be hydropower, biofuel, wind energy and other renewable energy sources. As high reliability, 4th generation nuclear power is expected to become available by 2040, in the next 20 to 30 years fossil fuels will continue to play an important role. As regards non-renewable energy resources, it is pleasing that natural gas, the cleanest and the most nature-friendly of fossil fuels, remains the most available energy resource in Latvia. The vision of the development of Latvia's natural gas supply system towards the next 20 to 30 years, therefore seeks to implement our intention to become the largest natural gas storage centre in Europe. Latvia is located in a unique geological setting that makes it possible to develop more natural gas storage sites with the capacity of 50 billion cubic meters (BCM) in addition to the existing Inčukalns Underground Gas Storage Facility (capacity – 4,4 BCM). Apart from this international gas pipeline connections need to be constructed and reasonable efforts shall be made to build a liquefied gas terminal in one of Latvian ports.

As regards the renewable energy sources, our aspiration is to generate more energy from biofuels (wood) and to develop use of biomass gas. In this sense much success has been already achieved, namely 30% of the total energy consumption in Latvia lies on renewable energy sources. Using of biogas for small power generation in combined heat and power plants gives competitive advantages. The fertile agricultural lands of Latvia are usable for growing and harvesting of green mass for biogas and afterwards may be converted to growing food. The balance between growing energy crops and food crops is something that has to be considered carefully. The EU and UN institutions dealing with food supply call for ensuring the balance to avoid increased food prices which are exacerbating food shortages. It refers to growing of any and all biofuel crops. The potential of Latvia's solar, wind and other renewable energy sources has been explored and to harness this potential the technologies are being rapidly developed. Thus, Latvia aspires to meet the requirements of the EU Renewable Energy Directive in terms of the level of the use of energy from renewable sources.

The short-term and medium-term energy projects.

The major energy producer in Latvia, „Latvenergo Group"(LG), and also the biggest producer of clean (green) energy generated by the cascade of 3 hydropower plants on the river Daugava, covers approximately 60-70% of the domestic needs. Presently, Pļaviņas HPP finishes realization of a project on replacing the hydro-aggregates with modern turbines that will increase hydropower generation. Other HPP in Ķegums is preparing a project aimed at building "a fish channel". The aforesaid shows that „Latvenergo Group" has adopted ecological and green approach in its longer-term strategy. The company's latest plans for future energy generation foresee to utilize natural gas. Reconstruction of the combined heat and power plants Riga TEC-1 and TEC-2 (1st stage) is now completed and the project on the 2nd stage of TEC-2 is currently being prepared. The development of energy transmission lines is being designed considering the impact of harnessing

renewable energy sources. It is of particular importance for transmission arc in Kurzeme so that to integrate the wind energy park into the national energy system. In Kurzeme, along the sea coastline, there are the most favourable conditions to produce wind energy.

In accordance with the Action plan 2010-2015, natural gas projects envisage the following:

- development of the Inčukalns Underground Gas Storage Facility;
- development of gas supply pipeline system;
- expansion of gas distribution network.

The above mentioned plan contains also construction works related to realization of these projects.

To reach the required level of the use of energy from renewable sources, set by the EU Renewable Energy Directive, the following activities are envisaged:

- further conversion of the existing heat supply boiler houses to wood chips;
- realization of projects on small-capacity wood chip-fired boilers;
- realization of projects on heating and small-capacity biomass-fuelled co-generation plants;
- development of wind parks;
- projects that harness the power of the Sun.

It has to be noted that the share of renewable energy (in particular biofuel – wood) in the energy mix would considerably increase when Kurzeme coal station project is realized. Biofuel will be partially used as power plant's resource.

To complete one's mission.

The development of energy sector has the leading role ensuring the growth of national economy. The coming years will see the energy companies behave in socially responsible manner, to offer high quality services ensuring the customers permanent uninterrupted power supply for competitive price.

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Riga TEC- 2 is the biggest newly built industrial object in the history of reinstated Latvia. Photo JSC Latvenergo.