

# Why there are small opportunities for electricity conservation in Estonia -- how to change the situation

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## 1. SYNOPSIS

The paper describes the economic and institutional aspects of electricity utilisation in Estonia. The concept of electricity sector development is outlined.

## 2. INTRODUCTION

In spite of the liberation of the economic development in Estonia as whole the energy sector can still be characterised in great part by large state owned enterprises, trade monopolies, overcentralized management and control, serious deformations in energy price structure, limited rights and responsibilities in management, careless attitude towards the external environment, etc. The vivid example is the electricity sector where all electricity generation, transmission, distribution and sale are on the responsibility of a state owned enterprise and even large consumers do not have a possibility to choose the other supplier (see Figure. 1). The part of enterprise dealing with energy sale has no direct responsibility for electricity supply and the part of enterprise responsible for electricity supply has not interested in the electricity trade. Electricity prices are set up by negotiations between Government and electricity supplier instead of consumers and companies. This has caused the inadequate to the costs electricity prices not responding inside the energy system and between different consumers as well as serious deformations in the investment climate in the whole energy sector and in the Estonian economy. Because of social reasons the electricity prices are kept on a low level that does not allow to collect the means for rehabilitation nor reconstruction. Because of the weakness of state control and overcentralized management, in reality the state can not guarantee efficient use of its property. Concisely, this does not encourage the optimum use of resources, or investment decisions based on real commercial criteria.

### State Enterprise Eesti Energia

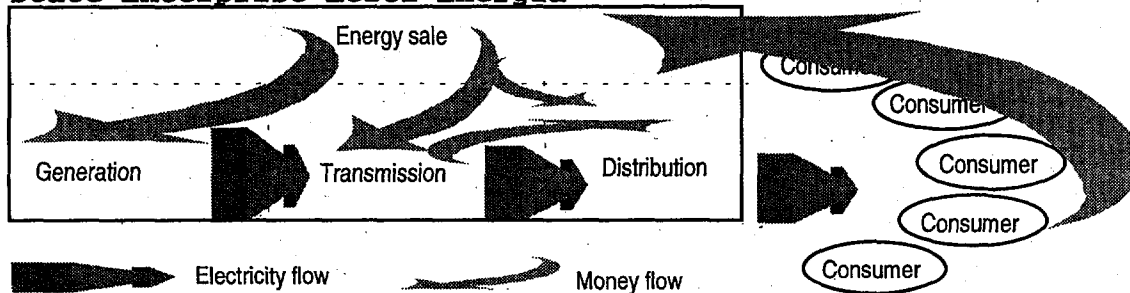


Figure 1. Electricity and money flows in Estonian electricity sector

On the other hand, Estonia interacts with world energy markets and has to liberalise its energy and energy equipment market, to withdraw state restrictions from energy utilisation, etc. Changes in international and internal economical-political environment cause the need to raise efficiency and competitiveness of the electricity system and to transform its operation to consumer friendly and more flexible basis. The Estonian energy sector is facing with lot of serious tasks like restructuring and especially changes in attitudes.

## 3. THE CONCEPT OF ELECTRICITY SECTOR DEVELOPMENT

### 3.1. Main Principles

In Estonian conditions the main direction of transformation is to change the institutional and economic content of the electricity system. The physical essence has to remain unchanged. The main strategic principles for this transformation are:

- implementing the cost related electricity prices in every link from production to final consumption and avoiding the subventions between different sectors and activities, between different regions and consumers;
- launching the market regulation as widely as possible and strengthening the control where the market forces are not decisive enough;
- encouraging the establishment of new companies in the electricity field with favourable taxes, guarantees and loans;
- renewing the institutional and economical structure of energy industry and improving it according to the needs of the society and according to the changes in the international environment;
- initiating wider co-operation between Baltic states in covering electric load and capacity, also to save costs and secure the operation of electricity systems;
- organising financing and establishing favourable circumstances for required modifications in the energy sector.

### 3.2. Recommended scenario for transformation

As a first step present generation-, transmission- and distribution costs as well as the costs for the operation of the whole electricity system should be determined. This means that the electricity price structure has to be transparent. From the economic side there is a need to reduce operational costs and raise electricity prices to accumulate means for rehabilitation and restructuring of the electricity system as a whole.

After that, there is need to transform the economic structure of energy supply system by establishing a cost related price system. It will lead to considerable differences between whole and retail prices for electricity as well as different marginal prices for specific regions and consumer groups. The state has to stop setting electricity and oil shale prices and instead control carefully the economic operation of state enterprises in accordance to the budget principles settled by the owner, that is the state at present. Also, it has to give up solving social problems through electricity prices, i.e., other sectors of the national economy must not be hiddenly subsidised through cheap electricity. While at the same time it is acceptable to use the profit of state enterprises for purposes of social aid.

As for the next step there is a need to decentralize the management of state energy enterprises. To strengthen the competition, a state enterprise has to be reorganised into different stock companies dealing with electricity generation, transmission, distribution as well as with services, repairing, etc. At the same time there is need to work out the system of operation, regulation and legislation for the electricity market as well as a privatization plan for energy enterprises. In principle, the private ownership would be preferred if the state will create clear regulations for the state and local authorities to act in normal or emergency circumstances. Foreign capital is also welcome.

After careful preparatory work the step by step liberation of the electricity trade has to be carried out by passing corresponding legislation, by establishing institutions necessary for electricity market operation, by selling state property, etc. The decisive factor is the successful operation of power pool and correlative changes in the liberation of fuel purchase (especially oil-shale and natural gas) market.

### 3.3. Assumptions and risks

At present there are good assumptions for starting with institutional and economic transformation of the electricity system, because:

- in principle the transformations in the frames of large changes in society and the electricity system operated by a state enterprise are easy to manage;
- there is overcapacity in electricity generation and transmission in Estonia;
- there is considerable opposition to the monopolistic electricity trade inside the society;
- relatively successful privatization process is looking for new areas.

The main priority of the transformation process is to secure the operation of electricity system. The transformations must be carefully prepared and carried out in complex with other sectors of economy because

- one must not give to the monopolistic energy enterprises the chance to improve so that changes make the situation worse;
- the unintelligibility of specialities of electricity system can raise considerable political stress;
- the inevitability rise of electricity price and rising requirements to the staff can cause not only social stress but also stress on national base;
- failure in co-operation between different parts of the energy system or in starting up the electricity pool can collapse the present inefficient system that can lead to the disaster of the whole economic system.

#### 4. EPILOGUE

The main direction of Estonia's (and evidently of other economies in transition) electricity sector would be the transformation of social-economic relations according to rapid changes in the society. Successful and well-coordinated changes in the energy enterprise's operation environment and corresponding institutional-economic transformations would have considerably low cost and higher economic effect than that in the technical level (see Figure. 2). Only after these the traditional methods, i.e. DSM, LCUP would become actual. This in its turn obliges the considerable differences in acting if compare to electricity conservation actions in developed countries.

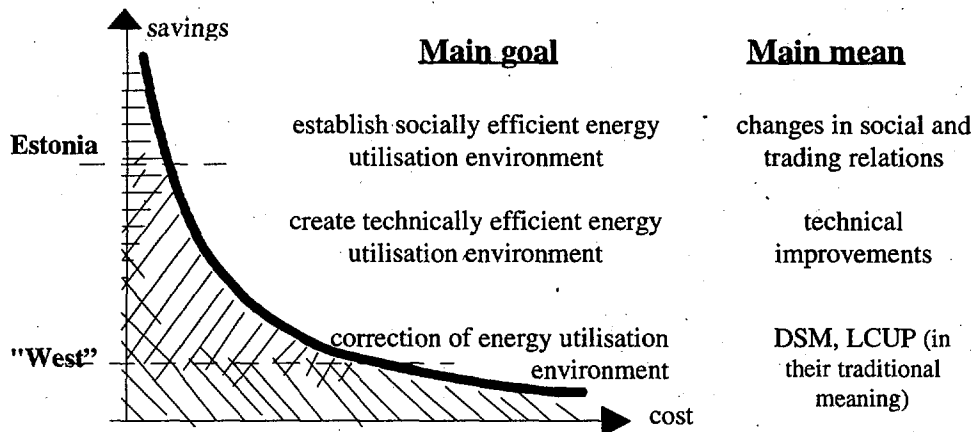


Figure 2. Energy efficiency improvements

#### 5. ACKNOWLEDGEMENTS

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