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The state significance of energy saving in buildings and principles of support programs in Lithuania

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Abstract

In this paper we analyse by Lithuanian example multiflat houses problem which exists in most Central and Eastern Europe countries. Demand for heating in these houses is two or more times higher than in those in Western countries. Delay with solving of this problem has serious economic consequences. The problem is complicated because of the realisation that heat saving potential is closely connected with the necessity to technical, economic and organisational reconstruction of district heating systems. state support for heat saving in buildings should be co-ordinated with programmes of technical reconstruction and organisational reorganisation of district heating systems. A scenario for preparing district heating reconstruction programmes is proposed in which thermal renovation of buildings should be an integrated part.

Keywords: Energy saving in buildings; Reconstruction of district heating systems; Towns energy programme

1. Introduction

1.1. Formulation of the overall goal

Lithuania has been in transition to a free market economy since the first days of regained independence in 1990 and has started to implement comprehensive reforms. One of the major goals of foreign policy is to join the European Union.

Attention should be paid to the fact that the essential requirement for application to EU is making equal competition conditions to all EU members. In fact, this means formation of a similar economic policy, and this means they will have to keep to rather strict requirements enabling competition in all spheres of economic life. The EU membership of Lithuania must be evaluated not as an oasis, where You can have a rest after straining all attempts, but as a capacity to withstand the strain of international competition.

In 1993, at the symposium "Energy Efficiency and Economic Development in Central and East Europe", arranged in Paris by the Energy Committee of European Economic Commission — the experience of the transitional period in former socialist countries of the last decade was generalised. The dominating conclusion of all experts participating in the symposium may be seen in the performed analysis and recommendations. This document compares state-of-the-art of energy sector in five developing countries — Bulgaria, Hungary, Poland, Romania and Czech Republic – and 12 developed western countries. This comparison gives a very important conclusion: non-efficient consumption of energy resources has catastrophic consequences for economic situation, environment and living standard. Social and economic growth in CEE countries (as well as in all countries experiencing transitional period, Lithuania among them) must be based on implementation of energy efficiency increasing policy in all spheres of life. Energy efficiency is the main energy "raw material", which is to be mastered. Potential possibilities are rather high. If these countries (Lithuania as well) do not manage in less than 20 years to reach the energy efficiency and energy consumption indexes level of the developed countries (in relation to created national product), their social–economical development is hardly possible (Laponsz, 1993).

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That is why the content of seeking to become an EU member in energy sector must mean nearing towards the level of EU countries according to energy and economic indexes. It is difficult to give alternative to this aim as necessary step, after which we can hope to achieve economic competitiveness for Lithuania.

The general formulation of state energy conservation policy oriented towards integration into EU was presented in XXI annual international conference IAEE (Klevas, 1998). In this article, we analyse by Lithuanian example a very important problem, which exist in most Central and Eastern Europe countries (CEEC). This is the so-called multiflat houses problem. Demand for heating in these houses is two or more times higher than in those in Western countries.

In accordance with the edition of "Energy in Lithuania'98", in which statistical Lithuanian Energy Sector activity indexes are presented, the biggest part of final energy in 1998 was consumed by household users (33%), in transport (29%) and by industry (2.2%) (Fig. 1).

Final energy (fuel, heat and electricity) annual demand in 1998 was 4.46 Mtoe (Fig. 2).

Most heat (39%) was produced in urban district boiler houses, in power plants — 35%, power plants and boiler houses of industrial enterprises – 16%, other heat generation facilities — 10%.

Delay with solving of this problem has serious economic consequences. Existing tariffs are a big burden on huge part of citizens with low income. In 1998, the average gross monthly salary in Lithuania was 228 USD and the minimum monthly salary was 100 USD.

Pensions for the bigger part of retired persons were about 60–80 USD/month. Monthly bill for heat and water during heating season months was in the range 40–50 USD and more. It is clear that such a monthly heat bill together with other payments (electricity, gas),

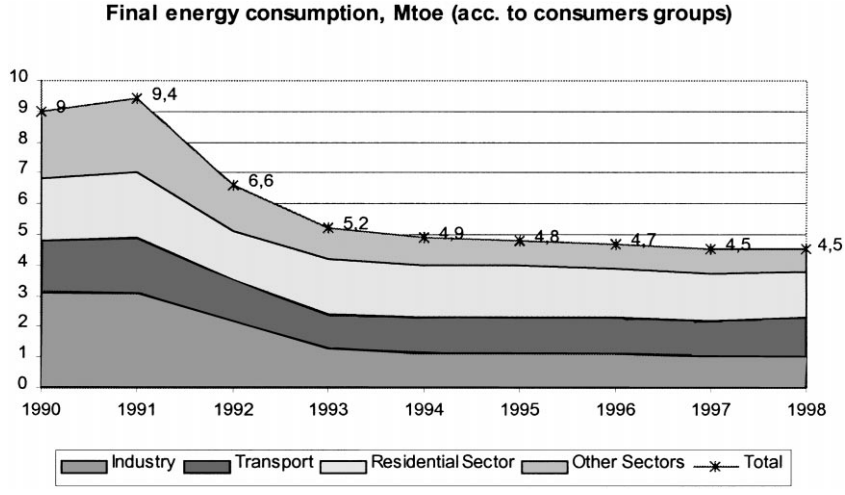

Fig. 1.

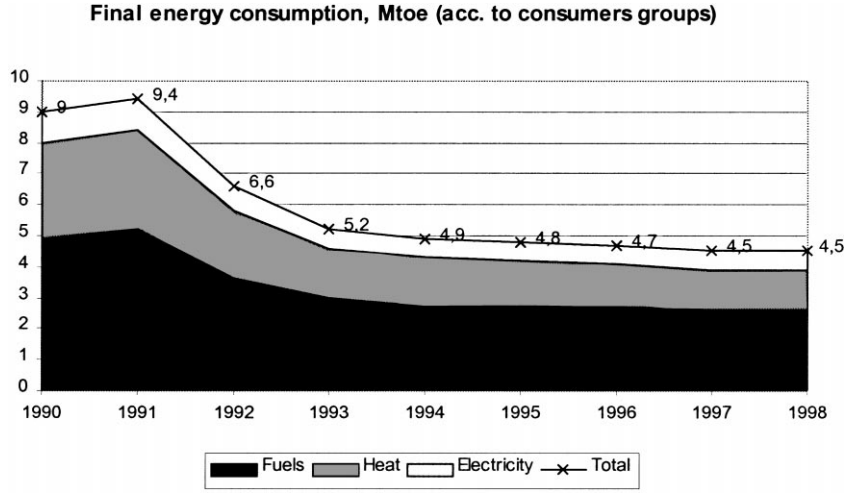

Fig. 2.