

NATIONAL ASSEMBLY OF THE REPUBLIC OF SLOVENIA
Committee on the Environment and Spatial Planning
Committee on the Economy

ENERGY EFFICIENCY IN THE REPUBLIC OF SLOVENIA
- CURRENT STATUS AND FUTURE PERSPECTIVES
Contribution for the Joint Meeting on Energy Efficiency
with representatives of the European Parliament and national parliaments,
Brussels, 24-25 January 2005

1. INTRODUCTION

Being a new EU Member State, Slovenia is well aware of the importance of reaching the strategic goals of the EU energy and environmental policies i.e.: security of energy supply, competitive energy markets, and low environmental impact with particular emphasis on the reduction of greenhouse gas emissions. In addition to that, sustainable energy development has significant positive impacts on regional development and employment, on technological development in energy equipment and services, as well as on improved health and living conditions of the population.

This paper intends to present the use of energy in Slovenia, the country's energy and environmental policy in terms of energy efficiency, the current promotion programmes, and Slovenia's future perspectives.

2. USE OF ENERGY IN SLOVENIA

Having reached the post-industrial stage of development, Slovenia records a relatively high economic growth, resulting in an increasing demand for energy services.

Considering the continuous economic growth and the increasing importance attached to the protection and conservation of the natural environment, security of energy supply features as an essential ingredient of the present development programmes concerning energy supply and consumption. The various parts of the energy sector (coal industry, oil and gas industry, electricity industry) that once developed individually are now forced to prepare joint development plans due to the growing need to consider the possibility of replacing certain forms of energy with others. The joint planning of energy policy takes into account the transformation of the economy, the adjustment to higher prices of energy in real terms, as well as the programmes for an efficient use of energy and increased use of renewable energy. There is also the need for greater diversity of primary energy sources and for an economic use of final energy with limited impacts on the natural environment.

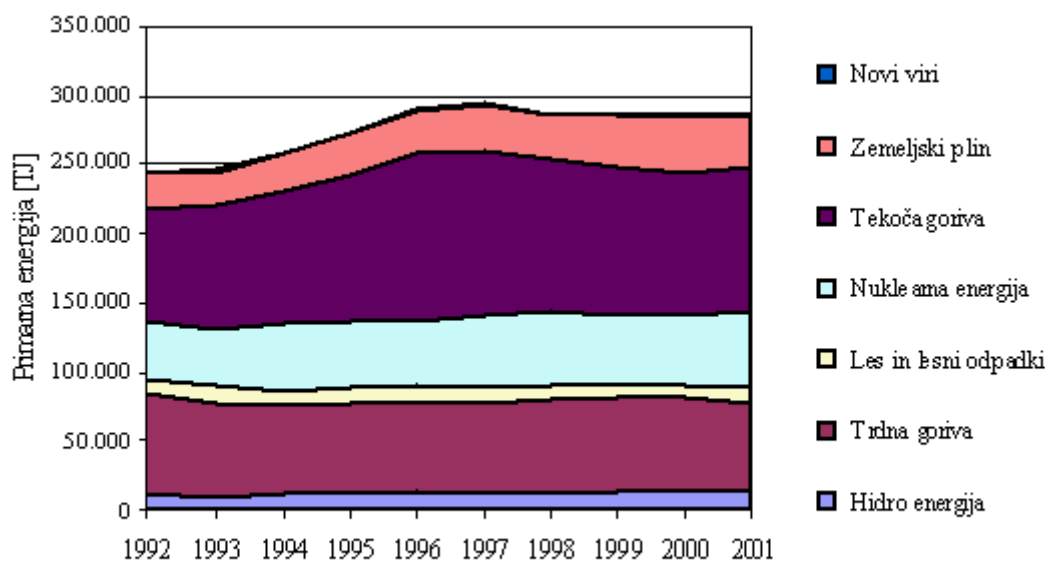
Similarly to the EU, Slovenia is faced with two challenges: 1) how to maintain energy intensity at the current level and 2) how to reduce greenhouse gas emissions. Up to 50 % of Slovenia energy depends on imports (in 2004, imports accounted for 52 % which is by 4 percentage points higher than in 2001), which equals the EU level. Such dependency is

particularly critical in gas and liquid fuels supply (practically 100 %), while the import of electricity is relatively balanced by the exports.

In 2003, the share of renewable energy accounted for 10.8 % in the total energy supply (11.9 % in 2000; only 5.5 % in EU-15), and for 23.2 % in the total electricity generation (28.6 % in 2000)¹. Renewable energy is an important source of primary energy in Slovenia, and increasing the share thereof represents a priority of the energy and environmental policies of the country. Compared to other EU Member States, Slovenia has similar or even better natural potentials for exploiting renewable energy. The use of renewable energy and their several advantages over conventional energy sources may significantly contribute to reducing energy import dependency.

The average annual growth of primary energy consumption in Slovenia between 1992 and 2001 accounted for 1.9 %. In the 2004 primary energy balance, the largest share was recorded by liquid fuels (35.2 %) and solid fuels - coal (21.6 %). The share of renewable energy was divided among hydroenergy (4.5 %) and wood and scrap wood (4.1 %), while new sources accounted for only 0.1 % of the primary energy balance. For district and local heating, wood biomass (scrap wood from the wood industry and wood from the forest) is the increasingly used local energy source, particularly on locations with outstanding natural conditions (forest cover, agriculture, industry, crafts, tourism).

Figure 1: Use of primary energy in Slovenia in 1992-2001



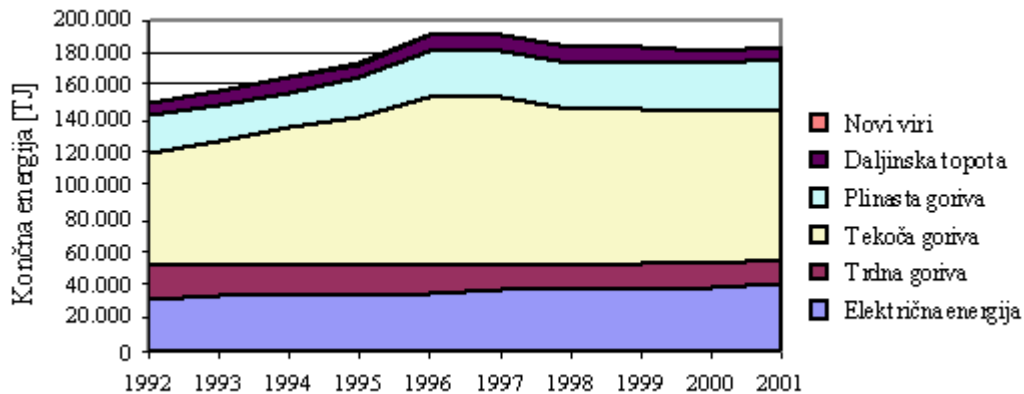
Source of data: Resolution on the National Energy Programme, 2004, p. 7395.

TRANSLATION	
Novi viri	New sources
Zemeljski plin	Natural gas
Tekoča goriva	Liquid fuels
Nuklearna energija	Nuclear energy
Les in lesni odpadki	Wood and scrap wood
Trdna goriva	Solid fuels
Hidro energija	Hydro energy

¹ Statistical yearbook of the Republic of Slovenia 2004, SORS.

The average annual increase of final energy consumption between 1992 and 2001 was 2.2 % and was mostly due to economic growth which accounted for 4 % on a yearly average for the last seven years. In 2001, final energy consumption was 183.7 PJ. A significant reduction was recorded in solid fuels while the use of liquid fuels increased to 51 % which makes them the most important energy source. In recent years, the use of electricity has been recording a rapid increase.

Figure 2: Final energy consumption in Slovenia



Source of data: Resolution on the National Energy Programme, 2004, p. 7396.

TRANSLATION	
Novi viri	New sources
Daljinska toplota	District heat
Plinasta goriva	Gaseous fuel
Tekoča goriva	Liquid fuels
Trdna goriva	Solid fuels
Električna energija	Electricity

In Slovenia, energy supply and consumption are characterised by a relatively high energy intensity which is still about 90 % above the EU-15. This is partly due to the structure of Slovenian manufacturing which still includes a considerable number of energy-intensive sectors, such as the production of aluminium, steel, stone, pulp and paper, with a relatively low value added.

3. ENERGY AND ENVIRONMENTAL POLICY

Slovenia began to implement an active policy in terms of the efficient use of energy and renewable energy in 1991, following the first calls for the promotion of the efficient use of energy in industry and for the creation of small hydroelectric power stations. The legal basis was provided in 1996 with the adoption of the Resolution on the strategy of energy use and supply in Slovenia. The Energy Act was adopted in 1999. The latter provides, *inter alia*, that when the costs for the exploitation of savings potentials in consumption or for the provision of new capacities for the same volume of energy are equal, priority is given to measures promoting the efficient use of energy. The Act also provides the measures and instruments to promote the efficient use of energy and renewable energy, such as: education, informing, raising public awareness, energy advisory networks, energy surveys, local energy concepts, standards and technical regulations, fiscal measures, financial and other incentives. Another important legal act is the Environment Protection Act providing the basis for several other

instruments, including CO₂ emissions trading and the environmental levy on air pollution with CO₂ emissions that was introduced in Slovenia already at the beginning of 1997.

Long-term planning of activities relating to the efficient use of energy and to renewable energy is currently regulated by the Resolution on the National Energy Programme (NEP) adopted by the National Assembly in April 2004. The NEP deals with the supply and use of energy in Slovenia and defines the objectives of energy policy for the next ten years, thus enabling the country to provide for a reliable and quality energy supply as well as for the diversification of various primary energy sources, also ensuring a limited impact of the supply and use of energy on the environment. The NEP devotes particular attention to the promotion of the efficient use of energy and to the use of renewable energy. Another important document is the Operational Programme of Greenhouse Gas Emissions adopted by the Slovene Government in June 2003.

The NEP defines three strategic objectives for the sustainable development of Slovenia in the field of energy: security of energy supply, competitive energy sector, and reduction of negative environmental impacts. Due to Slovenia's membership in the EU, the NEP also takes into account the strategies, action plans, directives and other EU documents as well as Slovenia's obligations to reduce greenhouse gas emissions by 8 % by 2010 which derive from the Kyoto Protocol.

In order to meet the above objectives, the NEP offers several mechanisms and measures to eliminate institutional, administrative, financial, information and other barriers to the increase of energy efficiency and greater use of renewable energy.

As far as the efficient use of energy and the renewable energy are concerned, the NEP defines the following ambitious objectives to be met by 2010:

- increase the efficiency of final energy use by 2010 compared to 2004:
 - in industry, services and transport by 10 %,
 - in buildings (except in industry) by 10 %,
 - in the public sector by 15 %;
- double the share of electricity from co-generation from 800 GWh in 2000 to 1,600 GWh in 2010;
- increase the share of renewable energy to 12 % by 2010, including:
 - increase of the share of renewable energy for heating from 22 % in 2002 to 25 % in 2010,
 - increase of the share of electricity from renewable sources from 32 % in 2002 to 33.6 % in 2010,
 - increase the share of biofuels in transport to 5.75 % in 2010.

In order to promote the efficient use of energy and the use of renewable energy, the NEP provides significantly higher budget incentives, totalling a yearly average of SIT 14 billion in 2004–2010. From these 14 billion, 12 will be spent for investment promotion (subsidies for investment in efficient use of energy up to 30%, investment in renewable energy up to 40%) and for assistance to households with low income through a special package of energy saving measures. The other two billion will be intended for carrying out information and counselling programmes, development and demonstration projects, drafting and implementation of regulations, and implementation of programmes.

4. PROGRAMMES FOR THE PROMOTION OF EFFICIENT ENERGY USE

Several programmes promoting efficient energy use and the use of renewable energy are currently going on in Slovenia. Their development has been particularly influenced by the European Union, under the PHARE programme and other assistance schemes. Such programmes are primarily intended for energy consumers but also concern advisory, planning and engineering organisations, the suppliers of energy and equipment, educational, development and research organisations, financial institutions, etc.

In promoting the efficient use of energy and the use of renewable energy, significant emphasis is given to the informing, education and training of consumers. Promotion campaigns are being implemented; seminars and workshops on energy surveys, energy management, energy technologies and programme preparation and financing are being organised, together with annual meetings of energy managers where awards for the most energy efficient company and project are conferred; information brochures and bulletins on efficient energy use and renewable energy are issued, etc.

The energy advisory network for households comprises 33 advisory offices throughout Slovenia employing about 70 advisors. Such network is the result of cooperation between the state and the local communities. For larger users, multi-dwelling buildings, public institutions and commercial organisations the state offers energy surveys providing the users with instructions to implement priority organisational and investment measures.

Development programmes on energy supply and use for local communities are supported by the state through subsidisation of local energy concepts. Here, special consideration is given to the possibilities to use local energy sources, particularly renewable energy and co-generation, and proposals to increase the energy efficiency of public buildings are presented. The subsidisation of feasibility studies facilitates quality investment projects which reduce the risks normally associated with investment projects. This is a very useful tool for evaluating the feasibility of large projects of energy supply or efficient energy use.

Incentives for natural and legal persons to invest in the efficient use of energy and in renewable energy are provided through subsidies or loans with interest-rate subsidies. Financial incentives are intended for improving the energy efficiency of buildings, for the use of renewable energy for heating and electricity, and for highly efficient co-generation plants.

Qualified power generation - i.e. generation of electricity from renewable sources and highly efficient combined heat and power generation - has been encouraged since 2002 through a system of compulsory purchase of electricity at favourable prices determined by the Government.

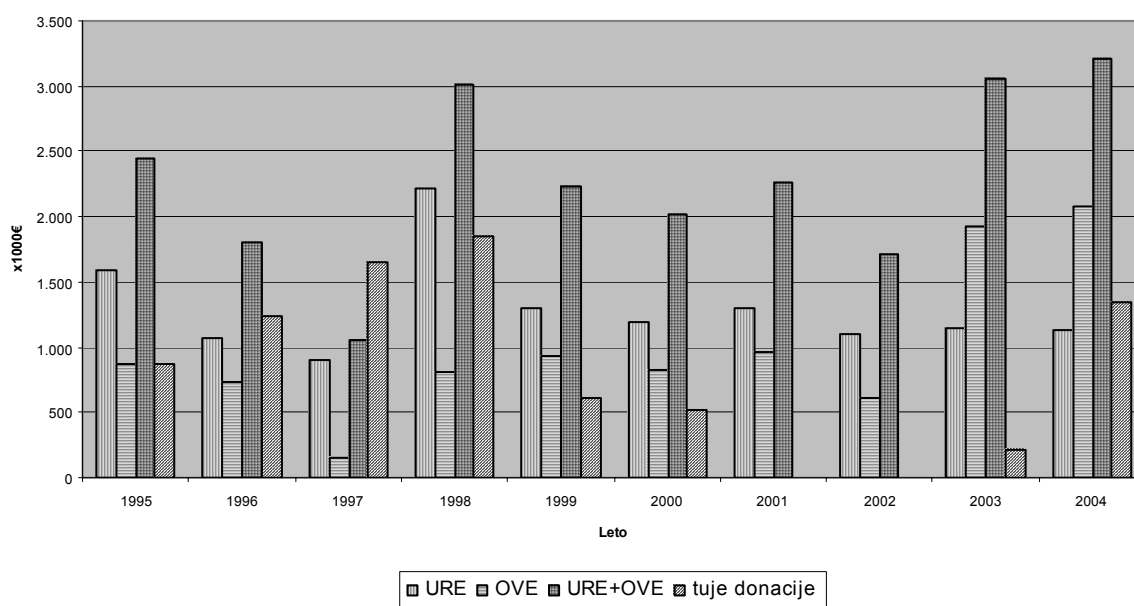
In the last few years, the main barriers have been eliminated and the relevant information activities have been carried out to promote the contractual reduction of energy costs (Third Party Financing), primarily aimed at involving private investors in the implementation of energy saving measures or at providing quality energy supply and services without the direct involvement of the financial resources of the public sector.

Mention should also be made of Slovenia's successful participation in the Commission's »Intelligent Energy Europe« programme intended to promote energy efficiency and renewable energy. Based on the last call for proposals (December 2004), Slovenian applicants will benefit from Commission's co-financing for 21 projects in the total amount of EUR 1.4

million, including the creation of three local energy agencies that will join the already existing local energy agency for NE Slovenia.

Figure 3 indicates the funds available for the development and implementation of promotion programmes between 1995 and 2004. In addition to the state budget, the graph includes funds from the PHARE programme (1995-2000) and the Global Environment Fund (2003–2004). It needs to be specified that most funds for investment were provided from private sources as subsidies accounted for only 10% - 40% of investments.

Figure 3: Funds intended for programmes of efficient energy use and use of renewable energy



TRANSLATION	
URE	Efficient energy use
OVE	Renewable energy
Tuje donacije	Foreign donations

In addition to subsidies, the state also offered favourable loans, totalling about EUR 10.7 million between 2001 and 2004.

Furthermore, funds are provided to encourage qualified power generation, i.e. generation of electricity from renewable sources and highly efficient combined heat and power generation. Such funds are gathered in the form of a supplement to the price for the use of electricity networks paid by all consumers and are intended as operating assistance to qualified power generation plants in the form of favourable purchase prices. Between 2002 (when such instrument was introduced) and 2004 the funds for qualified power generation plants up to 10 MW totalled EUR 28.6 million.

On 1 January 2005, Slovenia - in accordance with a previously prepared national programme of distribution of the rights to greenhouse gas emissions - joined the CO₂ emissions trading scheme. The facilities included in emissions trading are exempt from the tax on air pollution with CO₂ emissions. The same exemption applies to companies that have undertaken - in an agreement concluded with the state - to implement the envisaged measures for efficient energy use and reduce CO₂ emissions.

5. FUTURE PERSPECTIVES

Slovenia is currently preparing the National Development Programme for 2007-2013 (NDP) based on the Development Strategy adopted by the Government in June 2005. At the same time, the Government adopted a list of operational programmes which serves as a framework for the determination of NDP priorities and for the negotiations with the European Commission. One of them is the Operational Programme of Environment Protection and Sustainable Use of Energy, based on the National Energy Programme.

In November 2005, the Government adopted the »Framework of economic and social reforms to increase welfare in Slovenia«, providing a number of measures such as »Support to and implementation of certain large projects of national importance«, including the project »Sustainable synergy« which represents the integration of classic energy supply with supply from renewable sources and places special emphasis on energy efficiency. The project is expected to be specified in more detail in the above operational programme in the part referring to the sustainable use and supply of energy. The programme will also relate to buildings - this will increase the extent and the national importance of the programme including decentralised supply systems, sustainable new construction projects (low-energy, passive buildings), and sustainable renovation of existing buildings. Thus, Slovenia will be able to initiate a new investment cycle in the amount of hundreds of millions of euro per year.

In addition to increasing the amount of funds from the state budget, in the period 2007 – 2013 financing of programmes is expected from the EU budget. Moreover, advantage should be taken of the possibility to finance promotional programmes from the supplement to the price for the use of electricity and gas networks.

6. CONCLUSIONS

Upon EU accession, Slovenia assumed the EU ambitious strategic goals in terms of environment protection and security and competitiveness of energy supply, and defined them in the National Energy Programme. Special attention is given to increasing energy efficiency, particularly in the public sector.

Slovenia welcomes the efforts made by the European Commission, Council and Parliament to determine energy efficiency as the utmost priority in the field of energy. It is particularly important to integrate the principles of sustainable energy development into the policies of other line ministries, for only then all impacts of energy efficiency will be fully implemented, both in terms of combating climate changes and in terms of increasing economic competitiveness and employment in the European Union.

Great expectations are laid on the Green Paper on energy efficiency and the related action plan, whereby in the next few years Slovenia should focus on the implementation of the already adopted EU directives in the field of energy efficiency.

Ljubljana, 11 January 2006