

## ENERGY IN TERMS OF EUROPEAN UNION STRATEGY FOR THE DANUBE REGION

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### *Abstract*

*This paper presents energy as an important factor for the development of the Danube Region and all the countries involved in the European Union for the Danube Region. Energy is one of the challenges all confront because of the high prices, unformed markets, low usage of the renewable sources, low efficiency and lack of connection between different countries. Through this paper is highlighted the importance of the Danube Region from energy point of view. The Strategy for the Danube Region is a new way to overcome 20th century division and conflicts in the Region, and as an important impulse for overall socio-economic development. The involvement of non-EU countries in the Danube Region Strategy is a key priority to the macro-regional cooperation.*

**Key words:** energy, Danube Region, cooperation, project, agreements

### INTRODUCTION

Danube, the second largest river in Europe, covers about 2850 km, linking the Black Forest to the Black Sea, across ten countries and has tributaries from other four countries.

An ideal location for placement of hydroelectric power plants, a pan-European transport corridor and a refuge for the rarest species in Europe - the pressures on the river are often in conflict with each other and political changes in the region also influenced the way the difficulties are dealt. Following the example of the EU Strategy for Baltic Sea, which was the first macro-regional approach, the eu strategy for the Danube was based on stakeholder efforts in the region, allowing them to create a region where all 115 million people to enjoy security, prosperity and equal opportunities.

European Union Strategy for the Danube Region refers mainly to 14 countries, of which eight are eu member states (Germany, Austria, Hungary, Czech Republic, Slovak republic, Slovenia, Bulgaria and Romania), and six are non-EU countries (Croatia, Serbia, Bosnia and Herzegovina, Montenegro, Ukraine and Moldova).

European Union Strategy for the Danube region is an internal strategy of the European

Union which has connected all three riparian states respecting the principles applied and the EU Strategy for the Baltic Sea Region - no new institutions, no new funds without changes in legislation.

### MATERIALS AND METHODS

On 16.09.2010 was held in Brussels Plenary Session of the European Economic and Social Committee (EESC) when was adopted the "European Union Strategy for the Danube Region". EUSDR was developed to make better use of the existing EU legislation, financing programs and cooperation structures in order to create a balanced and sustainable development framework for the region.

The Strategy is built around four main pillars: improving connectivity in the Danube Region; protecting the region's environment; building prosperity; and strengthening the local governance systems and improving public security.

As a critical part of any economic and social system, energy has its place in the strategy documents. EUSDR's document mentions energy as one of the complex macro-regional challenges that have to be addressed. High energy prices, fragmented markets, lack of interconnections, low energy supply source

diversification, low energy efficiency are all part of this challenge.

Energy is seen as an opportunity for the Danube region, if renewable energy sources will be increasingly used and if the use of energy can become more efficient, especially in buildings and in transportation.

The new regional energy policy in the frame of the Danube Region Strategy can create more than 1 million local jobs, reduce the risk of fuel poverty, and last but not least improve air quality.

## RESULTS AND DISCUSSIONS

The energy actions and projects are proposed under several headings – energy infrastructure, energy markets, energy efficiency and renewable energy – all of them concentrated in the second Priority Area – ‘to encourage more sustainable energy’ – of the connectivity pillar. In terms of energy infrastructure and markets, the Action Plan has some realistic proposals:

to increase the gas storage capacities in the region

to implement the interconnector and pipeline projects already supported in the Commission’s TEN-E (Trans European Network) policy and in the European Energy Programme for Recovery in the region

to finalise the feasibility study for the New Europe Transmission System (NETS) and implement this regional network integration initiative

to tap potential synergies between the new Strategy and the Energy Community aimed at creating an integrated regional energy market

All the countries of the Danube Region have policies to support the use of renewable energies. Many have large natural potential to develop renewable sources (especially solar and wind).

Natural resources underpin our economy and our quality of life. Continuing our current patterns of resource use is not an option. Increasing resource efficiency is key to securing growth and jobs for Europe. It will bring major economic opportunities, improve productivity, drive down costs and boost competitiveness.”

They also have potential for improvement regarding energy efficiency in residential buildings, and district heating.

In the renewable energy and energy efficiency fields, the Action Plan is laudably proposing the development of a Danube Region Renewable Energy Action Plan, as well as a comprehensive plan for the sustainable development of the hydropower generation potential of the Danube River and its tributaries. Local renewable energy sources should be used to increase the energy autonomy in the region and the Energy Community contracting parties and observers should be encouraged to adopt the Renewable Energy Directive. Finally, rehabilitation of the district heating systems and more combined heat and power capacity in the region should be pursued to create regional networking and cooperation opportunities in energy efficiency and renewable energy.

The value added of EUSDR for the energy sector would be:

- to develop the Danube region into a European Energy Corridor;
- to establish a regional cooperation model for the sustainable use of local conventional and unconventional energy resources;
- to stimulate the development and operation of an integrated and flexible energy transportation system from the energy exporting regions to the consumer markets;
- to create a solid framework for equal access to energy and efficient energy consumption.

As energy provides a supranational, interconnected dimension with impact on all of the strategy pillars, success in the energy sector is critical for the successful overall implementation of EUSDR.

Energy prices are high in the Region. Much energy is imported, its transport is costly, the markets are fragmented. Energy infrastructures are not well interconnected. In addition, the Danube Region is specifically vulnerable regarding security of supply, as demonstrated in January 2009 when gas supplies were cut. Energy production and use is also a significant source of pollution. Investment in infrastructure is a key priority. Cooperation is necessary in relation to planning, funding and implementation.

The Europe 2020 Strategy targeted to save 20% (368 Mtoe) of the European Union's primary energy consumption by 2020 compared to projections made about such consumption back in 2007. However, the continent is not on track to reach this energy efficiency goal set for 2020.

The Danube Region Energy Efficiency Concept for Public Buildings is to investigate the current practice of financing energy efficiency investments in public buildings of the Danube Region countries. The concept is to focus on sharing best practices and based on this, to formulate policy recommendations in order to create a more attractive environment for public building renovation projects.

The Danube Region Gas Market Model is the first tangible result of the Energy Priority Area implementing the Danube Region Strategy. This tool is designed to measure the transnational spill-over effects of gas infrastructure projects and project packages on gas prices. The model identified the six most decisive gas-related investments of the Danube Region. The estimated financing need of EUR 560 million into these interconnectors would result in a EUR 1600 million annual saving on gas bills.

Based on the conclusions of the Danube Region Gas Market Model, the Danube Region Gas Storage Analysis was developed and completed by April 2013 in order to enhance the optimal use of the available gas storage capacities in the Danube countries. The analysis attempted to find answers for two research questions. Firstly, whether there is sufficient natural gas storage capacity in the region as a whole to provide security of supply and necessary flexibility for national markets. Secondly, whether the storage infrastructure missing at national level (if there is any) can be supplemented on a regional basis.

The analysis provided a clear picture on the current state of play, stressing that the region has sufficient, but currently substantially underexploited storage capacities. However, the existing storages are unevenly distributed across countries.

The Danube Region Biomass Action Plan provides a comprehensive analysis of the biomass potential, legal framework and regulatory environment of biomass utilization

in the Danube Region as well as good practice projects. The Action Plan also lists a group of cross-border policy recommendations formulated to extend the use of biomass in the region.

Based on the results, the aim is to create synergies and coordination between existing policies and initiatives of the countries in the region in order to extend the sustainable use of biomass. The Action Plan builds on already existing practices and success stories, which could serve as guidelines for future development.

A demo project website is constantly being developed with the aim to collect biomass projects which are considered as best practices from the countries of the Danube Region.

The general objective of this project is to enhance the sustainable utilization of geothermal energy in the Danube Region by providing systematic and harmonized information about the geothermal potential and the non-technical barriers in front of exploiting it.

The electricity systems and markets of the Danube Region countries are heterogeneous and their electricity networks are facing very different challenges due to specific production and consumption patterns. The goal of the Danube Region Smart Grid Concept is to discover the bottlenecks of smart grid developments in the Danube Region to eliminate infrastructural barriers, foster the integration of the increased renewable supply into the grid and decrease the ratio of non-payment.

The project is based on a series of workshops with key stakeholders (Transmission System Operators, Distribution System Operators, big consumers and suppliers), desktop research and regional survey.

As a result of the project, Danube countries will be expected to have a clear understanding of their own demand for smart grid solutions and the areas for policy and regulatory interventions will be identified.

Structural and Cohesion Funds and the European Agricultural Fund for Rural Development (EAFRD) are the European Commission's most relevant support budget.

The Structural and European Agricultural Fund for Rural Development provide good funding opportunities for projects, in particular for

decentralised production of energy from local renewable sources, and for research networks. Energy efficiency improvements and increased use of renewable energy are important for the whole area. The Danube Region has a high potential for improvement in energy efficiency, e.g. in residential buildings and district heating, as well as in combined heat and power facilities.

The involvement of non-EU countries in the Danube Region Strategy is a key priority to the macro-regional cooperation.

Taking into consideration its specific situation, the Republic of Moldova was chosen as the first beneficiary of the program. Following a Fact Finding Mission in Chisinau in January 2013, four on-the-spot workshops took place in the Republic of Moldova until July 2013 with the active participation of decision and policy makers, as well as lead experts of the relevant public bodies and players in the energy sector of the country. The concept proved to be a great success involving 18 experts from several European countries covering a large number of topics regarding the practical implementation of the relevant EU law.

Romania and China signed two nuclear cooperation agreements expected to give China General Nuclear Power Group (CGN) a role in Romania's sole Cernavoda Plant as it builds extra reactors. The two delegations signed a total of 13 agreements, including on conventional and renewable energy and agriculture.

Two reactors, using the CANDU technology, are currently operating at Cernavoda, providing about 17 per cent of the country's electricity.

The state company Nuclearelectrica, which runs the Cernavoda Power Plant, has signed a memorandum of understanding with China General Nuclear Power Corporation to build the two new nuclear reactors. Meanwhile, the thermal energy producer Complexul Energetic Oltenia signed an agreement with China Huadian Corporation for a new investment at Rovinari, while Complexul Energetic Hunedoara signed a similar agreement with China National Electric Engineering to revamp parts of a power plant at Mintia.

## CONCLUSIONS

The issue of the sustainable energy is a common interest of the whole Danube region whether it is a member state of the European Union or not. Energy efficiency, alternatives, and energy security are key terms.

But how can a citizen be involved or what can we do in order to realize sustainable energy? First of all we need to change our consumer behaviour. Our energy needs have to be reduced by recycling and reusing energy surplus. We need to set a good example and lead the way. This is the reason why I, as the Executive President of the "Ecological Initiative and Sustainable Development Group" Foundation, started organizing debates to promote the EU Strategy for the Danube River, trainings for the civil society, promoting the projects for the Danube River and creating Competitiveness Centers in: Moldova Noua, Orsova, Drobeta-Turnu Severin, Calafat, Giurgiu, Oltenita, Cernavoda, Braila, Galati.

The main purpose of the Competitiveness Centers is to implement the EU Strategy for the Danube Region as well as to support and advice in certain concerns regarding the future projects. The issues covered by the Competitiveness Centers include environment, education, culture, tourism, transportation, disaster protection, energy, labor market, and many others.

We need to start a process of higher organization and to build up a platform for transnational cooperation, consultation and networking.

The activities or the location are not limited strictly to the river Danube, as the EU Strategy is relevant for the entire Danube Basin.

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