

## **Energy Policy and Strategy of the EU - Present State and Future Perspectives**

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### **1. Introduction**

The concept of EU's energy policy has been developed in the light of those general economic policy objectives, which are based on market integration, deregulation, sustainable development, limiting government intervention, as well as economic and social cohesion. In addition to these goals, competitiveness, security of supply and environmental protection as fundamental objectives were also laid down, which require the existence of a number of conditions and completion of tasks.

### **2. Present State**

At present, Directive 2003/55/EC [1] forms the basis for the European Union's energy regulation. The legislation emphasizes that the major obstacles for a perfectly viable and competitive internal market are, inter alia, network access, storage access, tariffs, co-operation between networks and the different level of the member states' market opening. The Directive states that competition can only work if there is a non-discriminatory, transparent and fairly priced network access. According to the directive, in order to implement the internal market of natural gas and electricity, the priority is non-discriminatory access to the network of transmission and distribution system operators. It is a serious problem that Europe is becoming increasingly dependent on imported hydrocarbons, and the dependence is expected to continue to grow. From the three basic starting points [2] of the European energy policy, therefore, one is to reduce

the vulnerability of the EU regarding imported hydrocarbons [3], as well as to increase the security and efficiency of supply, respectively, to promote competition [4]. The European Union's energy production, according to the latest figures, is 895.45 million toe [5], which is only a fraction of the total internal energy consumption reaching 1806.38 million toe [6]. The produced energy commodity distribution is shown in Table I.

TABLE I  
ENERGY PRODUCTION IN THE EU [7]

Energy commodity	Million tons	Percentage
Solid fuel	187,78	21,85
Petroleum	121,62	14,15
Natural gas	167,36	19,47
Nuclear energy	241,26	28,07
Renewable energies	138,83	16,15
Other	2,6	0,3
Total	859,45	100

### 3. Perspectives

The problem is that the EU covers more than 50% of its energy needs from import, and if current practices continue, within the next 10-20 years the import demand is expected to increase by up to 70% [8]. Until 2030, fossil fuels will certainly have a decisive role, they will account for 77% of primary energy consumption. Fact is that during the current economic crisis demand for them declined, but after recovery, a new wave of growth is expected. In case of petroleum 24%, as for natural gas 42% increase is forecasted by 2030. In the short and medium term the world, including the EU, can rely on fossil fuels, coal, natural gas, and petroleum; of course, along with the reduction of damage to the environment, as well as increase of the use of alternative energy. The energy used consist of 23.9% natural gas and 36.4% petroleum. 34% of petroleum imports and 40.8% of natural gas imports originate from Russia. Without changes the degree of dependence on Russia for natural gas will increase up to 60% by 2030, the total external value is expected to increase to 80%, in the case of petroleum it can already reach 90% by 2020 [9].

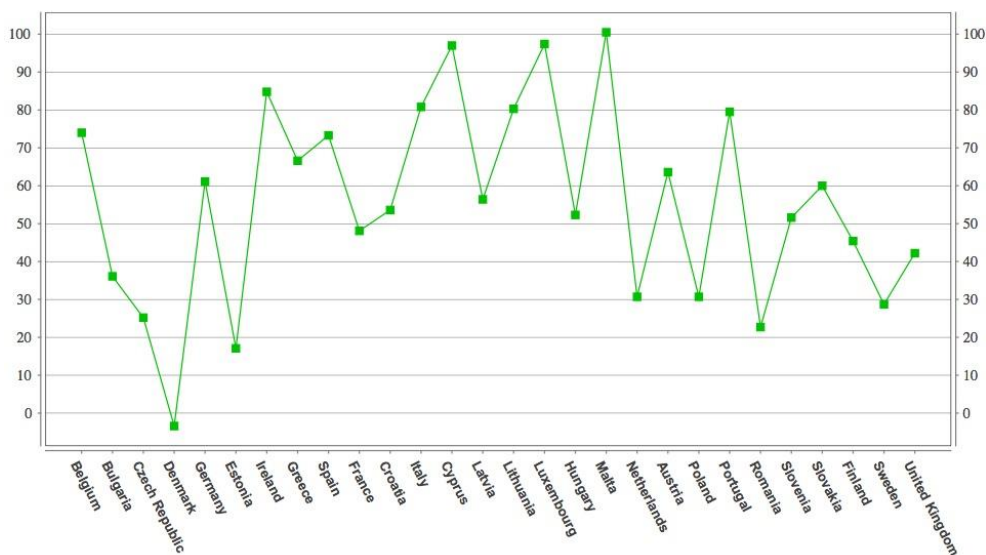
## 4. Alternative Energy Source

The recognition of finiteness of traditional, hydrocarbon-based fuels is increasingly forcing countries to reassess their energy policy, by growing emphasis on the use of alternative, renewable energy sources. The intensified price pressure and the parallel giant gains evoke critical comments in more and more places - not just among populist politicians - accusing the industry that it misuses the monopoly-oligopoly market structure - close to the natural monopoly market situation - where distorted conditions for market competition are dominant. In response, co-operation between more and more states and various organizations appear in order to discuss issues in the energy sector. Accordingly, in the near future greater emphasis should be on catching up with alternative energy sector at European level. However, it is very difficult to predict how a domestic, other policy-based distortion effect can get involved in this European framework. Although the debate on the harm of nuclear energy started again after the Japan earthquake and nuclear accident in March 2011 (in Germany, a number of nuclear power plant decommissioning was decided), for most European countries this is currently the best energy source both in environmental and economic terms for the production of electricity. Nuclear power plants appear to be as good solution both in terms of energy security and climate change.

## 5. Energy Efficiency

The European Union is facing unprecedented challenges resulting from increased dependence on energy imports and on scarce energy resources, and from the need to limit climate change and to overcome the economic crisis. (The distribution of imported energy dependence among EU member states is depicted in Fig. 1.) Energy efficiency is a valuable means to address these challenges. It improves the EU's security of supply by reducing primary energy consumption and decreasing energy imports. It helps to reduce greenhouse gas emissions in a cost-effective way and thereby to mitigate climate change. Shifting to a more energy-efficient economy should also accelerate the spread of innovative technological solutions and improve the competitiveness of industry in the Union, boosting economic growth and creating high quality jobs in several sectors related to energy efficiency. Most energy can be saved the fastest by reducing energy demand of buildings. Their energy needs amount to 40% of the EU's total energy consumption. The European Union has issued joint guidelines to ensure that the design of buildings better reflect the energy aspects, and to improve the lighting, heating, cooling and hot water systems efficiency. Therefore the European Parliament adopted a new Energy Efficiency Directive in 2012 [10].

Figure I  
Energy import dependence of the EU in 2012 [11]



## 6. Conclusion

The main goal of the EU is to be able to ensure the sustainable and accessible energy resources in the long-term future for the EU citizens. Also the dependence of the Central and Eastern European countries has to be decreased from the Russian energy carriers. The alternative energy carriers play an important role in the building of new infrastructures.

## 7. References

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