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EU Internal Energy Market Reforms

Summary: The main aim of this article is to point out the current problems and challenges the EU faces in formulating a common energy policy and evaluate the individual reform proposals of the European Commission. In the first part of the text the author defines the challenges the EU faces from the point of view of energy security. In the second part of the text the author describes the most important reform proposals of the EC and analyzes their potential impact and possible threats they may pose to the competitiveness and energy security of EU member states. In the third part of the text the author analyzes the environmental aspects of the developing EU energy policy and their potential impact on individual member states and particular entities. In the conclusion the author evaluates the interests of Slovakia in his view of the common energy policy and the EU internal energy market.

Even today the internal energy market of the EU still shows signs of high monopolization, which is logical due to the historical development as well as the layout and accessibility of individual energy carriers in Europe, the various bilateral relations and the long-term arrangements of individual EU member states with the greatest producers and suppliers of energy carriers to the EU (first of all Russia, North African states and Norway). The European Union/European Commission is currently unable to guarantee the energy security of individual states which leads to the constant presence of a strong element of state involvement in various energy carrier and energy markets in many of the EU member countries. This presence will probably be permanent and according to further stated factors it is possible, that in the future the involvement of public authorities (a state or a group of states) in

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individual markets may even be higher than it is today, although the European Commission is attempting to achieve the opposite. At the same time, the question of energy security is becoming a crucial security issue and a source of increasing tension and conflict over the world due to ever scarcer sources of energy carriers (oil, natural gas, coal, uranium, etc.). The predictions of energy consumption in the near future will create an even greater pressure on energy security and the search for means to ensure the energy autarky of individual countries.

The issue of climate change and its effects on the environment is emerging parallel to the increase in the need of new energy sources and in energy consumption. This question is also ever more frequented in the sense of its impact on the world or national economies (see e.g. the *Stern Review on the Economics of Climate Change*¹). According to the *International Panel on Climate Change* (IPCC) the greenhouse gases emissions caused a worldwide increase in temperature by 0.6 degrees. If no measures are adopted, the temperature will have increased by 1.4 to 5.8 degrees by the end of the 21st century. All the regions in the world including the EU will have to face dire consequences on their economies and ecosystems. In general the EU is currently confronted with these three key problems: global competitiveness, energy security and the environmental aspects of individual policies, their impact and challenges.

Reforms Proposed by the European Commission

The basic reaction of the EC to the global trends in the energy sector is to form the common EU energy policy and consolidate the internal energy sector of the EU by means of market liberalization. The development and connection of individual networks through TEN-Energy corridors as well as cross-border networks are a part of the EC strategy. At the same time, efficient legal enactments and regulatory frameworks must exist and be enforced in practice, thus the EC is currently trying to strengthen the institutions supervising the competition rules in the EU. The attempt to harmonize and cumulate the investments necessary not only for the support of alternative energy sources but for the reconstruction and building of the energy infrastructure as well, is an equally important initiative.

In the first phase of 'reforms' the EK has primarily focused on the electricity and natural gas markets. A common internal market with electricity and natural gas in the EU is being gradually implemented from 1999 – 2000², but the EC

¹ *Stern Review on the Economics of Climate Change*. http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm.

itself considers the achieved progress be 'insufficient and unbalanced'³. Even though since 1999 the fundamental concepts of the internal energy market have been integrated into the legal framework, the institutional framework and the physical infrastructure a meaningful economic competition is still non-existent in many member countries. The customers often don't have a real choice in selecting an alternative supplier. This is confirmed by the non-fulfillment of the 'secondary' directives on natural gas and electricity adopted in 2003, whose goal was to open up the market (by July 2004 for corporate entities and entrepreneurs, by July 2007 for citizens), which should have brought the freedom to select a supplier of gas and electricity and at the same time ensure the free entry of suppliers to the market. Even the customers that were able to change the supplier are often unsatisfied by the array of offers they are presented with. This of course leads to low trust in the common internal market.

Measures executed so far (even though the EC often suggests there are various improvements, e.g. in the supply of energy) have not delivered the key expected benefits, which the liberalization of the internal energy market should bring: first of all the cutting of energy prices. On the contrary the development of energy prices in the EU holds a negative character, i.e. the prices are growing (see Graph 1). Not even the EC itself can identify whether the prices of natural gas and electricity are the outcome of the real process of economic competition or the direct outcome of a decision adopted by the companies wielding market power. At the same time there is an entire list of causes connected to the higher price levels including higher expenses for primary fuels, a constant need for investment and the extension of commitments linked to the environment as well as the development of

² Initially by the Directive 96/92/EC of the European Parliament and the Council of December 19, 1996 concerning common rules for the internal market in electricity and the Directive 98/30/EC of the European Parliament and the Council of June 22, 1998 concerning common rules for the internal market in natural gas; and subsequently by the Directive (EC) no. 2003/54 of the European Parliament and the Council of June 26, 2003 concerning common rules for the internal market in electricity and repealing Directive 96/92/EC, further by the Directive (EC) no. 2003/55 of the European Parliament and the Council of June 26, 2003 concerning common rules for the internal market in natural gas and repealing Directive 98/30/EC, Regulation (EC) no. 1228/2003 of the European Parliament and the Council of June 26, 2003 on conditions for access to the network for cross-border exchanges in electricity, Regulation (EC) no. 1775/2005 of the European Parliament and the Council of September 28, 2005 on conditions for access to the natural gas transmission networks.

³ Regular yearly 'comparative' report on the implementation and practical outcomes of the implementation of individual directives. European Commission. (2007a).

Box 1: Fundamental Priorities of the EC in the Energy Sector*(An Energy Policy for Europe):*

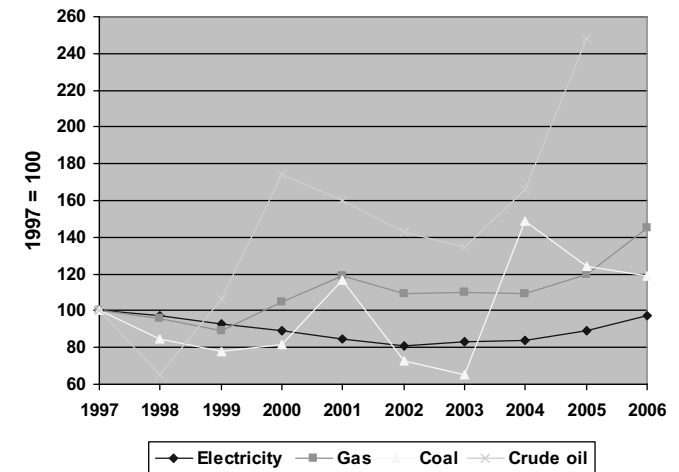
- finalize the internal electricity and gas market with emphasis on the separation of energy production from energy distribution and the improvement of network infrastructure,
- 20% goal for the share of *Renewable Energy Sources* (RES) on the energetic mix of the EU by the year 2020,
- a commitment for each member state to achieve a 10% share of bio-fuels in its transport-fuel mix by the year 2020,
- reduction of primary energy consumption by 20% by the year 2020,
- achieve the 'low-carbon future of fossil fuels' (low emission of CO₂ from the combustion of fossil fuels) with the support of the 'clean coal', the use of carbon capturing and its storage deep under ground and so on,
- development of an external energy policy for the active promotion of EU interests on the international level with the main supplier, transitory and consumer countries,
- develop the European Strategic Energy Technology Plan, which should focus its efforts in research and development on the low-carbon technologies.

Source: http://ec.europa.eu/energy/energy_policy/index_en.htm.

renewable energy sources, which requires substantial investments and brings lower efficiency.

The key argument used by the EC for the further enforcement of reforms is "the ongoing lack of competitive pressure, high level of concentration on dealer markets and the insufficient transparency of individual markets". The natural gas and electric energy markets in most of the member states are dominated by one or two companies and the capacity for cross-border economic competition is insufficient.

Even though the EC claims that retail prices of electricity in the EU during the period of 1997 – 2006 have in average real values stayed relatively stable for all consumers, despite obvious increases in expenses related to primary fuels – which according to the EC clearly indicates the growing efficiency in power supplying – the latest development speaks of a different trend. Paradoxically the countries with the most elaborated liberalization of the internal energy market (Ireland, Great Britain) have witnessed a substantial increase in the prices of electricity during the past 3 years and currently



Graph 1: Average prices of electric energy and natural gas for the end-consumers from the year 1997 (in the price levels of the year 1997) in the EU-15 (Source: EK (2007b)).

belong to the countries with the highest electric power prices in the corporate sector in the EU (notes – tax not included, see Table 1). This demonstrates the fact that the extent of the impact of liberalization on prices does not play such an important role as of yet and the price of electric energy is primarily influenced by world prices and other factors (transportation costs, realized investments etc.).

Specifically in the natural gas sector it is evident that liberalization can so far influence the end-consumer prices only in a very limited manner. Slovakia as an example (*SPP – Preprava, Inc.*⁴) demonstrates the fact that the current liberalization of the EU internal market has only achieved a 4% influence on the final price of the gas supplied to the end-consumer. The price of the energy carrier supplier i.e. the world gas price constitutes 70% of the final price, the regulated prices of distributors and transporters constitute 26% and the market price is thus represented by the mentioned 4% (see Graph 2).

One of the significant arguments of the EC in favor of the liberalization of the internal market is that the internal market not only increases the

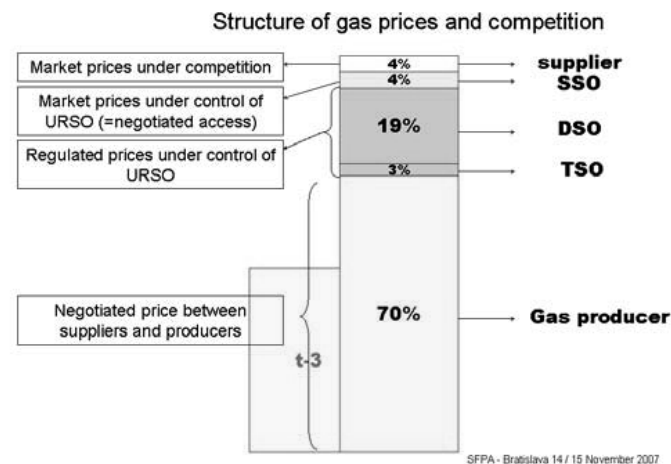
⁴ Report of Mr. Christopher Poillion, Chairman of the Bboard of Directors of *SPP-Preprava, Inc.* delivered at the conference *The Common EU Energy Policy and the Energy Security of*

Table 1: Corporate Prices of Electric Energy, in Euros taxes not included

	1999	2000	2001	2002	2003	2004	2005	2006	2007
EU 25	n.a.	n.a.	n.a.	n.a.	n.a.	0,0623	0,0672	0,0755	0,0825
EU 15	0,0636	0,0625	0,0644	0,0620	0,0648	0,0634	0,0682	0,0766	0,0837
Belgium	0,0739	0,0734	0,0752	0,0760	0,0764	0,0755	0,0695	0,0830	0,0880
Bulgaria	n.a.	n.a.	n.a.	n.a.	n.a.	0,0409	0,0429	0,0460	0,0465
Czech Republic	n.a.	0,0467	0,0473	0,0518	0,0499	0,0492	0,0601	0,0731	0,0783
Denmark	0,0485	0,0504	0,0558	0,0639	0,0697	0,0631	0,0646	0,0724	0,0638
Germany	0,0791	0,0675	0,0669	0,0685	0,0697	0,0740	0,0780	0,0871	0,0946
Estonia	n.a.	n.a.	n.a.	0,0465	0,0455	0,0455	0,0472	0,0511	0,0534
Ireland	0,0662	0,0662	0,0662	0,0768	0,0762	0,0787	0,0896	0,0998	0,1125
Greece	0,0583	0,0571	0,0571	0,0590	0,0614	0,0630	0,0645	0,0668	0,0698
Spain	0,0624	0,0636	0,0550	0,0520	0,0528	0,0538	0,0686	0,0721	0,0810
France	0,0583	0,0567	0,0557	0,0562	0,0529	0,0533	0,0533	0,0533	0,0541
Italy	0,0646	0,0693	0,0919	0,0776	0,0826	0,0790	0,0843	0,0934	0,1027
Cyprus	0,0602	0,0878	0,1050	0,0903	0,0962	0,0818	0,0787	0,1114	0,1048
Latvia	n.a.	n.a.	n.a.	n.a.	n.a.	0,0431	0,0409	0,0409	0,0443
Lithuania	n.a.	n.a.	n.a.	n.a.	0,0550	0,0513	0,0498	0,0498	0,0548
Luxembourg	0,0736	0,0709	0,0632	0,0645	0,0675	0,0690	0,0752	0,0845	0,0963
Hungary	0,0506	0,0510	0,0520	0,0595	0,0604	0,0654	0,0701	0,0753	0,0812
Malta	0,0635	0,0675	0,0683	0,0698	0,0636	0,0620	0,0706	0,0711	0,0897
Netherlands	0,0576	0,0669	0,0640	n.a.	n.a.	n.a.	0,0806	0,0855	0,0920
Austria	0,0763	n.a.	n.a.	n.a.	n.a.	0,0553	0,0621	0,0653	0,0786
Poland	n.a.	n.a.	0,0492	0,0585	0,0566	0,0446	0,0506	0,0543	0,0541
Portugal	0,0646	0,0643	0,0651	0,0665	0,0673	0,0684	0,0713	0,0817	0,0860
Romania	n.a.	n.a.	n.a.	n.a.	0,0405	0,0468	0,0769	0,0773	0,0842
Slovenia	0,0679	0,0604	0,0603	0,0599	0,0582	0,0609	0,0611	0,0651	0,0750
Slovakia	n.a.	n.a.	n.a.	n.a.	n.a.	0,0683	0,0703	0,0773	0,0932
Finland	0,0389	0,0377	0,0372	0,0401	0,0566	0,0543	0,0527	0,0517	0,0542
Sweden	0,0348	0,0375	0,0313	0,0310	0,0666	0,0520	0,0462	0,0587	0,0626
United Kingdom	0,0619	0,0664	0,0661	0,0614	0,0539	0,0478	0,0570	0,0799	0,0950

Source: Eurostat (2007).

Slovakia held on the November 14 – 15, 2007 in Bratislava. Name of the report: *Gas Market Opening in Slovakia*.



Graph 2: Structure of Natural Gas Price and the Possible Extent of Influence by the Market (Source: SPP – Preprava, Inc.).

efficiency but also substantially contributes to achieving the goals of ensuring energy carriers supplies. According to the EC the perspective of a large EU market with common rules in the fields of electric energy and natural gas is a strong stimulus for new investments. Competitive markets also support diversification because they support the flexibility of reactions to market conditions. The integrated market also provides European energy companies with a stronger negotiating position in acquiring sources of energy on the world market, due to a greater scale of options in supply routes and an easier access to the customers.

However, it can be observed that many of the member countries significantly dependent on one source of energy carrier supplies (e.g. also Slovakia in relation to Russia) which have little options of diversification or the alternatives are not financially or technologically accessible, are so far losing their position in negotiations with a strong unitary partner – the supplier of energy carriers. A question is thus raised, whether the liberalization of the EU energy market will not lead to the deterioration of the position of countries that are highly energy dependent on one supplier in negotiations on commodity/energy carrier prices, as far as the common TEN-energy networks and cross-border networks aren't finished, so that the country-consumer can be presented with more options of energy supply diversification.

Another argument of the EC for the liberalization of the market is that competitive markets make the distribution of energy as efficient as possible and eliminate disproportional monopoly profits. The competitive market also enables the producers of renewable sources to have equal access to the customers and supports the use of efficient policy instruments like the system for emission trading and taxation of energies, in order to improve the price-making of energy from fossil fuels. Transparent and liquid energy dealer markets also send much clearer signals in favor of energy efficiency. However as the *Greenpeace report*⁵ shows the ones to benefit from the liberalization of the European energy market so far are primarily the monopolies which are absorbing the smaller competitors. *Greenpeace* also warns of the fact that new companies working with renewable or alternative sources of energy have difficulties in being successful in the so far liberalized EU market, due not only to the lower economic efficiency of energy production from renewable sources as opposed to traditional energy carriers, but due to high expenses for the research and development of new technologies as well.

If the EU is to have a common energy policy in order to ensure the energy security and independence of the EU and to gain more ground in negotiations with energy suppliers situated outside the EU (mainly Russia, central Asian countries, north African countries), it must be united and it must look for simple solutions. The reform proposals of the EC in energy policy and internal market spheres are experiencing not only differing opinions on individual measures but also the problem of being able to ensure their feasibility and the fulfillment of the proposed reform steps in all EU countries. Already the current delay in the implementation and the disregard of the 'second' directives on electricity and natural gas is seriously threatening the finalization of the EU internal energy market as well as making the impact of the measures adopted so far small and insufficient.

Unbundling is an important and discussed issue – the separation of production and transmission capacities ownership for electric energy and natural gas. On September 19, 2007 the EC gave the EU member countries two options of liberalization in the electric energy and natural gas sectors:

- either they will force the big companies to completely separate (unbundling) the transmission electricity networks and the natural gas storages from production;

⁵ *Whose Power is it Anyway?* (Greenpeace, 2005); <http://www.greenpeace.org/raw/content/international/press/reports/WhosePower.pdf>.

- or they will be permitted to keep the ownership, but the management will be subdue to the *Independent System Operator (ISO)*, who will adopt investment and commercial decisions.

The EC also made it very clear that it prefers unbundling. Many of the member countries (France, Germany, Austria, Bulgaria, Cyprus, Greece, Latvia, Luxembourg and most likely Slovakia as well), whose energy sector is not yet completely liberalized disagree with the EC proposals, because they interfere with the ownership rights of big energy companies. On the contrary unbundling is supported by Great Britain, Holland, Belgium, Denmark, Spain, Finland, Romania and Sweden. Estonia, Hungary, Ireland, Lithuania, Italia, Malta, Portugal, the Czech Republic and Slovakia have not yet decided. Regulated unbundling is an alternative option – it anticipates the preservation of the ownership structure, but with a coexisting independent regulator, who will determine the price for the access to the transmission network and evaluate investment decisions. Negotiations on the so-called 3rd package should continue in the first half of 2008 and a political agreement on the third package could be achieved during the French presidency in the second half of 2008.

Environmental Aspects of the EU Energy Policy

Besides the liberalization of the EU internal energy market the EC also broadens the energy policy by proposals with solutions to the relation between the energy industry and the environment, most of all proposal on the production of CO₂ and climate changes. The commitment from March 2007 seems to be the most significant, when EU leaders pledged that the EU would produce 20% of its energy from renewable sources by the year 2020 (from today's 8.5%). The commitment did not contain a decision on the ratio at which individual member countries would contribute to its fulfillment, which stirred a number of discussions.

The discussions are primarily related to the formation of particular energy mixes in individual EU states, which are very different. At the same time these countries have a different starting position, be it political (e.g. the opposition of the public to nuclear power), energetic (e.g. Poland and its vast coal reserves), technological (e.g. progress in research and development in the sphere of renewable sources) or economical (the ability to generate resources to support the 'more expensive' renewable sources of energy).

Linking the commitment to GDP seems to be a solution, possibly with certain exceptions due to existing energy mixes of various member countries. Theoretically a part of the commitment could be 'fixed' – every state would

have to augment the portion of renewable sources by a set percentage and the other part would then be dependent upon GDP with a greater burden on the wealthier countries. Member states with a low potential for the development of wind, solar, water and other renewable sources, could 'buy' certified credits from those member countries who utilize them more. Many companies operating in the sphere of renewable sources state that the possibility of trading would discourage from investing, but particularly the new EU member states claim that they will be unable to fulfill their commitments without the possibility of trading. For example Slovakia only plans to cover 12% of production by renewable sources by the year 2020 (from today's 4%).

It is at the same time a paradox, that the states, which might have a problem fulfilling these goals, belong to the states which are currently fulfilling commitments set by the *Kyoto Protocol* (also by the use of e.g. nuclear energy) and on the contrary large states with a high ratio of renewable sources in their energy mix like e.g. Germany, Austria and others, are significantly exceeding the goals of the *Kyoto Protocol* 2012 (see Table 2).

The EC can however heavily rely on the support of citizens in enforcing the environmental aspects of individual policies (that is including the energy policy). The EU citizens themselves prioritize the focus on the environmental aspects of the EU energy policy, energy security and energy efficiency, which confirms the fact that 83% of EU citizens agree that the EU should set a minimal ratio percentage of renewable sources use in overall consumption, 61% of citizens believe that the ratio of nuclear energy should decrease and more than seven out of ten Europeans are prepared to accept a change in their energy habits within the upcoming decade, if it should help solve the climate changes, which means they are prepared to conserve energy on heating, lighting, air conditioning and other similar devices. The corporate sphere is not as willing and warns that unilaterally set European goals to lower greenhouse gases emissions will 'severely damage the competitive ability of the EU'.

Slovakia and the EU Internal Energy Market

From Slovakia's view, the liberalization of the EU energy market in the short-term horizon is more of a problem than an advantage. The SR market is small although Slovakia is an important transit country. At the same time Slovakia is significantly energy dependent on the Russian Federation (RF) and the liberalization implemented so far has already weakened the negotiating position of the SR in new contracts with the RF on the supply of energy carriers. For companies and consumers in Slovakia, the positive effects of

Table 2: Kyoto Protocol Commitments Fulfillment by the EU Countries

COUNTRY	CO ₂ Emission in Megaton			KYOTO TARGET 2012	% OVER KYOTO TARGET
	2003	2004	2005		
LUXEMBOURG	11.3	12.8	12.7	9.14	38.95%
AUSTRIA	92.5	91.2	93.3	68.68	35.85%
SPAIN	407.4	425.2	440.6	332.79	32.40%
ITALY	577.3	580.5	582.2	485.83	19.84%
DENMARK	73.6	68.2	63.9	54.77	16.67%
PORTUGAL	83.7	84.6	85.5	76.15	12.28%
IRELAND	68.4	68.6	69.9	63.03	10.90%
SLOVENIA	19.7	19.9	20.3	18.6	9.14%
EU-15	4214.7	4227.2	4192	3925.11	6.80%
BELGIUM	147.6	147.6	143.8	135.87	5.84%
NETHERLANDS	215.4	218.4	212.1	201.45	5.29%
GERMANY	1024.4	1025	1001.5	971.67	3.07%
GREECE	137.2	137.6	139.2	138.82	0.27%
% UNDER KYOTO TARGET					
LATVIA	10.7	10.7	10.9	23.82	54.24%
LITHUANIA	16.7	21.1	22.6	46.86	51.77%
ESTONIA	21.2	21.2	20.7	39.23	47.23%
BULGARIA	n.a.	68.9	69.8	121.5	42.55%
ROMANIA	n.a.	160.1	153.7	259.9	40.86%
HUNGARY	83.3	79.5	80.5	114.89	29.93%
SLOVAKIA	51.1	49.5	48.7	67.36	27.70%
POLAND	382.5	396.7	399	531.34	24.91%
CZECH REPUBLIC	147.5	147.1	145.6	180.58	19.37%
SWEDEN	70.9	69.7	67	75.35	11.08%
FINLAND	85.4	81.2	69.3	71.1	2.53%
FRANCE	560.9	556.1	553.4	567.09	2.41%
UNITED KINGDOM	658	660.4	657.4	671.9	2.16%
MALTA	3.1	3.2	3.4	NO TARGET	NO TARGET
CYPRUS	9.2	9.9	9.9	NO TARGET	NO TARGET

Source: European Environment Agency (EEA, 2007).

liberalization of the EU energy market will only manifest themselves in the long-term horizon.

The unfinished energy infrastructure and the need of significant investments to ensure the diversification of energy sources in Slovakia pose a serious question, whether smaller and financially weaker companies will be able to create the conditions for such extensive investments. It should be therefore considered whether the Slovak position on the EC proposals, especially in the area of unbundling, shouldn't be focused on acquiring a transition period, which should then be used for the finalization of networks and the diversification of energy sources (e.g. link the period to the completing of the gas pipeline *Nabucco*). However many of the EC proposals are positive. Thanks to EC initiatives Slovakia can substantially benefit particularly in the area of energy supply diversification, if the EU is successful in precipitating the building of transmission routes for energy carriers (TEN-Energy) as well as the cross-border electric networks. At the same time the vision of a common EU energy policy and the pursuit of common interests in the long-term horizon are also lucrative for Slovakia in relation to the suppliers of energy carriers (better negotiating position) – however this vision will probably entail the loss of competences in favor of the supranational level. The pressure on energy conservation in all areas as well as the enforcement of many environmental aspects into the energy policy is of course also positive. Nevertheless these should in a far greater scale take into consideration the economic interests of the EU so that the competitive abilities of European companies are not threatened. From the view of the environmental aspects it is clear that Slovakia will have to gradually make changes in its energy mix in favor of the renewable sources and will be forced to allocate vast expenses to the support of alternative/renewable sources of energy – which is partially considered in the proposal of the energy security concept of the SR prepared by the Ministry of Economy of the SR in the end of the year 2007. Generally, no matter what and regardless of the environmental aspects, Slovakia needs to change its energy mix in the horizon of 20 – 30 years to be able to cope with the impending energy crisis. This change must come today.

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Selected Web Sites

Euractiv SK (2007): <http://www.euractiv.sk/>

Euractiv EU (2007): <http://www.euractiv.com/>

European Commission (2007a): <http://ec.europa.eu/energy/>