

## TOWARDS A COMMON ENERGY POLICY IN THE EUROPEAN UNION?

András Inotai\*

**Abstract.** *Energy policy issues have got increasing relevance in the strategic orientation of the European Union (EU) in general, and in identifying specific economic policy tasks, in particular. Steadily high energy (oil and gas) prices in the last years constitute one factor. However, global political and security issues of growing degree of uncertainty, the level of dependence on imported energy and, not less importantly, the forecasts of growing external dependence of the EU in this field have substantially contributed to the upgrading of the energy question. Finally, the liberalization of the single market, not least in the crucial area of energy supply and the enlargement of the EU by 12 new members, with specific composition of production and not less specific pattern of imports of energy, enhanced the importance of energy in the enlarged EU, with a view to shape and implement a common energy policy.*

**Keywords:** *EU energy policy, energy consumption, energy security*

The idea of creating a common energy policy is anything but new. Two out of the three basic documents of the Rome Treaties (1957) addressed the energy question. One of them focused on the European Coal and Steel Community, while the other gave birth to the Euroatom. One and a half decade later, the first oil price explosion and related uncertainties of continuous and reliable supply happened to raise political and economic policy attention to the necessity of creating a common energy policy. The key answer was constrained to the increase of the obligatory national (not community-level!) reserve rate to cover 90 days of regular demand. The Delors plan of creating a single market, started in the mid-eighties, aimed at dismantling protectionist national barriers in all sectors, not least, in the field of energy. Initiatives to design a common energy policy obtained additional impulse in the nineties, in connection with the strengthening of environmental priorities. Despite all supporting elements in the last decades, member countries have not yet been able to agree on a common energy policy, and not even to eliminate national barriers or to transfer

national decision-making competence to community level. On the one side, a number of fundamental Commission documents, although with different policy relevance, have been dealing with energy policy objectives (see the Amsterdam and Maastricht Treaties and the renewed version of the former). Still, energy policy issues have predominantly remained in member country competence, because no member was ready to give up national competence and let it upgrade to community level.

This is the current situation, despite the fact that, in the last years, energy became one of the key elements of sustainable development, both regarding production, import dependence and environmental policy. Today, the EU is the most important oil and gas importer of the world (representing about 16 to 18 per cent of global imports), while its consumption amounts to 14 per cent of the world. Despite its determining role in world imports of energy, it has a rather modest influence on shaping global production and supply conditions. The most effective instrument can be identified on the demand side, by formulating and implementing policies

\*András Inotai is Director general of the Institute of World Economics, Budapest, Hungary, e-mail: [ainotai@vki.hu](mailto:ainotai@vki.hu)

with limited impact on the EU's position in the global energy market (energy saving, gradual transformation of the pattern of energy production). Longer-term prospects are by no means more promising, since the EU's dependence on imported energy (mainly natural gas) may raise from 50 % at present to about 70 % by 2030. At the same time, it seems already obvious that the original environmental targets set in Kyoto are far from being achieved.<sup>1</sup> As a result, the share of renewable energy will fundamentally fall short of the 12 % target of primary energy consumption by 2012/2020.

The current and future energy situation of the EU is aggravated by the fact that the specific energy consumption of the new members of 2004 and 2007 is generally higher than the average of the EU-15. In addition, their import dependence is stronger and, in most cases, they reveal a unilateral dependence on Russia. Let alone the fact that, in the next years, they will have to carry out a strong coordination and harmonization process with EU directives both in the field of energy and of environmental/climate change policies.

### **Some global features**

In 2004, the determining weight of global primary energy production was represented by three sources. Oil accounted for more than

one-third, coal had a share of one-quarter and natural gas participated with 21 per cent. In addition, 6.5 per cent was produced in nuclear plants. The total share of 13 per cent of renewable energies was dominated by hydroelectricity, while other new energy sources (wind, geotermic, solar or those based on the tides of the seas) altogether were responsible for hardly more than 0.5 per cent of total energy production.<sup>2</sup>

Although some experts still nourish hopes that the share of renewable energy can be substantially raised in the next decade(s), forecasts until 2030 remain characterized by the dominant role of fossile energy carriers within the global energy demand. Between 2005 and 2030, global energy demand is expected to rise by 1.8 per cent a year, or by 55 per cent in a quarter of century. Above average demand increase characterizes natural gas (68 per cent), mainly supported by the rapid increase of energy demand and structural change of energy consumption in one part of the developing countries (emerging economies). Similarly, the demand for coal is estimated to rise by 73 per cent, hopefully accompanied by strict implementation and higher efficiency of environment-friendly technologies. In 2030, oil, natural gas and coal are expected to cover 82 per cent of world energy demand (see Table 1.).

<sup>1</sup>One of the latest official documents of the European Commission wants to reduce the emission of contaminating materials by 14 per cent in the EU-27 group until 2020. *Világgazdaság*, January 24, 2008.

<sup>2</sup>Figures taken from official documents of the International Energy Agency.

Table 1

**Global energy demand by dominant energy carriers  
(in mn tons oil-equivalent and in per cent)**

Energy carrier	Demand 2005	Demand 2030	Demand growth between 2005 and 2030 (in per cent)	Demand structure 2005 in per cent	Demand structure 2030 in per cent
Oil	4.000	5.585	39.6	35.0	31.5
Coal	2.892	4.994	72.7	25.3	28.2
Natural gas	2.354	3.948	67.7	20.6	22.3
Biomass	1.149	1.615	40.6	10.1	9.1
Nuclear	721	854	18.4	6.3	4.8
Hydroenergy	251	416	65.7	2.2	2.3
Other renewable energies	61	308	404.9	0.5	1.7
Total demand	11.429	17.721	55.1	100.0	100.0

Source: International Energy Agency and World Energy Outlook, 2005 and 2007.

In the last years, several new developments with longer term impact have emerged in the energy market in general, and in some specific segments of the market, in particular.

First, figures characterizing specific energy consumption and environmental impacts reveal big cross-country differences. The United States generates 27 per cent of world GDP by consuming 25 per cent of the global oil consumption.<sup>3</sup> In turn, the EU produces 30 per cent of world GDP by using only 18 per cent of the world oil consumption. More significantly, China contributes by 6 per cent to the global GDP by registering 9 per cent of global oil consumption. Differences concerning environment-contaminating

emission are even bigger. The share in global emission of the USA amounts to 21, that of China to 19 per cent, while the EU is „only“ responsible for 15 per cent.<sup>4</sup>

Second, significant changes have been occurring in the geographic pattern of oil production and consumption. In 2006, the share of OPEC amounted to 42 per cent of total oil production, while 58 per cent was provided by non-OPEC oil-producers. In case that the membership structure of OPEC remains unchanged, by 2015 both groups are expected to have equal share in total production. However, by 2030, based on already proved reserves and on expected global demand, the OPEC group is likely to represent 52 % of total production. In other

<sup>3</sup> The above figures do not only indicate that the EU has a lower specific energy consumption but also calls attention to the fact that the EU is making higher use of other energy carriers than the USA (particularly coal and natural gas).

<sup>4</sup> Based on UN statistics, see: Androsch (2008), Turbulences in the world economy and financial markets. What Europe could do. The Central and Eastern European Forum. Euromoney Conference, Vienna, January 15-16.

words, global dependence on OPEC seems to be rising. More important shifts can be forecast in the geographic pattern of consumption. The still dominant position of the OECD countries (56 per cent in 2006) will dramatically diminish by 2030 (to about 45 per cent), while other parts of the world will represent 55 per cent of total consumption. In this context, China's share of 8.4 per cent in 2006 is expected to reach more than 14 per cent and that of India to rise from 3 to 6 per cent.

Third: several countries will not be able to keep pace with domestic consumption (e.g. China), or, even worse, domestic production is predicted to fall, accompanied by rising consumption (as in the EU) while the share of imported energy in total consumption will be growing. According to our current level of knowledge, the basic problem is not whether, in physical terms, the required amount of energy can be obtained, an issue many experts and politicians were afraid of during the first oil crises 35 years ago. Proved resources are at disposal, even if at higher prices. A more important risk factor consists in the gradual concentration of production (and reserves) in the hands of a big producer, in general, and in politically unstable countries, in particular.<sup>5</sup> Based on figures from 2006, almost three-fourths of the proved global oil reserves (1.2 trillion barrels) is located in seven countries, out of which six belong to the OPEC (plus Russia). If the current growth rate of oil production is maintained, oil reserves of the USA and China will be depleted in 12 years, those of Canada in 14 and those of Russia in 22 years. On the contrary, the reserves of Iraq and Kuwait will last for more

than 100 years, those of the United Arab Emirates for 90, those of Iran for 87 years (similar figures for Venezuela point to 78, and those of the by far largest producer, Saudi Arabia, to another 67 years, respectively). It means that the uneven time horizon of depletion of reserves may dramatically increase global dependence on some (mostly Middle Eastern and Central Asian) countries with huge oil reserves within the next one or two decades.<sup>6</sup> Concerning natural gas, the geographic pattern seems to be a bit more favourable (better balanced). By far the highest reserves have been registered in Russia. However, the combined natural gas reserves of the Near and Middle East are 27 per cent higher than the proved reserves of Russia and of other CIS-countries.<sup>7</sup>

Fourth: security of supply does not only depend on the geographic concentration of production and transportation routes but also on the institutional and company-level frameworks that control strategic movements and policy steps related to key energy carriers. In fact, the latter does not reflect a lower degree of concentration of political power and market dominance. To be sure, at present most of the currently leading oil and natural gas companies of the world are located in the USA and in Western Europe. However, it cannot be ignored that the influence of firms located in the Middle East and elsewhere, many times either in state ownership or at least under strict state control has started growing in the last years. As far as Europe is concerned, particular importance has to be attached to the Russian Gazprom. In the global context, the role of Petrochina, that in the summer of 2007, following its

<sup>5</sup> This statement holds not only for large part of energy carriers (oil and natural gas), but for most of the raw material market. For an outstanding analysis of concentration on politically risky countries and its consequences, as well as of the available economic policy instruments in order to have access to basic resources, see the 2007 annual report of UNCTAD. UNCTAD (2007), *World Investment Report 2007*, New York.

<sup>6</sup> Forecast of British Petroleum, as reported by *The Financial Times*, 2007.

<sup>7</sup> RWE Weltenergiereport (2007), Eon Ruhrgas, Bundesverband der Energie- und Wasserwirtschaft

introduction into the Shanghai stock exchange, suddenly became the world's leading company, has to be emphasized.<sup>8</sup>

### Energy situation and outlook of the European Union

Between 1990 and 2005, the energy consumption structure of the EU experienced substantial changes. The share of coal decreased by one-third, while oil consumption grew in line with total consumption (16, vs. 15 per cent, respectively), consumption of natural gas skyrocketed by 63 per cent. In addition, nuclear energy production grew by 26 and

that of other, mainly renewable energy carriers, from a very low initial level, by 31 per cent. In the next 15 years no such radical shifts have been predicted. However, the relative role of natural gas will keep on increasing. In the next one and a half decades, growth rate of natural gas consumption is expected to be around 19 per cent, as compared to the overall consumption increase by 6 and that of oil by 4 per cent. In turn, nuclear electricity production may be reduced by more than 10 per cent as a result of previously approved closing down of several plants, particularly in Germany).<sup>9</sup> Basic figures are contained in Table 2.

Table 2

### Composition of EU energy consumption by key energy carriers (at million tons of oil-equivalent)

Energy carriers	1990	2005	2020	Change 2005/1990 1990=100	Change 2020/2005 2005=100	Share 2005 %	Share 2020 %
Total	1314	1509	1608	114.8	106.6	100.0	100.0
Coal	301	201	218	66.8	108.5	13.3	13.6
Oil	545	632	658	116.0	104.1	41.9	40.9
Gas	222	363	431	163.5	118.7	24.1	26.8
Nuclear	181	228	199	126.0	87.3	15.1	12.4
other	65	85	102	130.8	128.4	5.6	6.3

Source: Eurostat.

As a result of continuing energy savings, the total energy consumption of manufacturing will remain practically unchanged, meaning that specific energy consumption will keep on

declining across different industrial sectors. In turn, energy consumption by transportation, but particularly that of the residential sector (private consumption for heating, cooling,

<sup>8</sup> Petrochina's market capitalization trebled in the first day of its presence on the stock exchange. Although the introductory value has dropped in the meantime, the company is still not only the leading global firm (according to market capitalization) but as big as the two following US firms together (Exxon-Mobil and General Electric).

<sup>9</sup> This forecast does not take into account the construction of new nuclear plants already announced or started in some EU member countries (from Finland to Bulgaria). Neither does it reckon with the potential change in the energy strategy of some member countries in order to let nuclear plants continue functioning or fundamentally revising the energy strategy, due to the changing evaluation of external dependence (e.g. Germany for nuclear energy and EU strategy towards Russia concerning dependence).

cooking, etc.) will maintain its increasing trend. What is more important is that in the consumption structure of the residential sector, the importance of natural gas is dominant and its share keeps on growing.

Against the moderate increase of energy consumption, opposite development can be identified in EU production of energy. Taking into account all energy carriers, EU domestic production reached its peak level around 2000. Until 2010, the current production volume can be maintained or will only insignificantly start decreasing. However, after 2010, the process of reduced production will gather momentum and this trend is expected to last in the next two decades. In consequence, domestic energy production in 2020 may fall short of about 10 per cent of its current level and of one-third in 2030.

Based on diverging production and consumption trends, even a moderate increase of consumption enhances the EU's dependence on external energy supply. Between 1990 and 2000, new energy sources both in the EU and in Norway have allowed the growth of domestic consumption to be completely covered by the expanding domestic (and Norwegian) production, while extra-EU imports of energy remained unchanged or even indicated modest decrease. This trend is turning around between 2000 and 2020, so that growing domestic demand cannot be covered any more by stagnating production until 2010 and

decreasing output after this date. This development does not only result in increasing imports but also in the fact that by 2020 energy imports are likely to exceed domestic energy output (as expressed in mn tons of oil equivalent). Until 2030, the gap between steadily rising imports and declining domestic production will be constantly widening. Imports that accounted for less than half of total EU consumption in 2000, will represent 55 per cent in 2010 and 63 per cent by 2020. Nevertheless, it is important to mention that imports of different energy carriers will reveal very different dynamics. Largest increases are expected in the imports of natural gas and coal, being the latter easily available from reliable partners and in unlimited quantities. Imports of coal represented 47 per cent of total coal consumption in 2000, with rapidly growing shares for 2010 and 2020 (52 and 70 per cent, respectively). Natural gas sector reveals an even more dynamic growth of imports in total consumption. The import share of 40 per cent registered in 2000 will exceed 50 per cent by 2010 and almost 70 per cent by 2020.<sup>10</sup> A fundamental difference between coal and natural gas is that the former can be purchased from stable (reliable) countries, while the latter, at least according to some energy experts in the EU, cannot avoid supply from less or definitely unstable and politically „difficult” countries. The main supply sources based on geographic and sectorial breakdown, are summarized in Table 3.

<sup>10</sup> Energy import dependence of the new member countries is even higher, since already today they cover half of their energy demand from imports. This share will reach 63 % in about 15 years. However, their consumption and energy import structure differs from that of several large (and smaller ) EU-15 countries. On the average, they are less dependent on coal imports (below 50 per cent of coal consumption), while their dependence on oil imports in total oil consumption will increase from the already very high 80 per cent to almost 90 per cent. Again, the most fundamental change is predicted in their natural gas balance. While in the last 15 years, natural gas imports did not reach half of total natural gas consumption, its share will rise to 60 per cent in 2010 and to around 75 per cent in 2020.

Table 3

**Geographic and sectorial pattern of the energy demand of EU-27  
(2004, in per cent of total coal, oil and natural gas consumption)**

<b>Geographic origin of supply</b>	<b>Coal</b>	<b>Oil</b>	<b>Natural gas</b>
Domestic production	54	18	37
Imports	46	82	63
- developed countries	24	13	17
-South Africa	13		
- Australia	7		
- USA	4		
- Norway		13	17
- Russia	8	26	29
- developing countries	14	43	17
- Colombia	6		
- Indonesia	3		
- others	5	10	2
- Saudi Arabia		9	
- Libya		8	
- Iran		5	
- Algeria		3	13
- Kazakhstan		3	
- Nigeria		3	1
- Iraq		2	
- Qatar			1

Source: European Commission, as quoted by André Sapir (ed., 007), *Fragmented Power: Europe and the Global Economy*. Bruegel, Brussels.

It can be seen that on the one hand, the EU's oil imports are rather diversified, particularly the diversified supply structure from the OPEC countries. On the other hand, however, natural gas imports are more concentrated on one country, namely Russia. As a result of growing demand and depleting resources both in the EU and in Norway, the imports are likely to substantially increase in the next two decades. Moreover, supply security is influenced by the fact that the natural gas business is managed and

controlled by state monopolies in practically all countries. This does not apply for Gazprom only, but holds true for Statoil of Norway, as well as for Sonatrach of Algeria, BBOC of Nigeria or Qatargas of Qatar. In the above cases, direct state ownership varies between 65 and 100 per cent.

In spite of the dynamic growth of energy imports in general and of natural gas imports in particular, as predicted for the next years and decades, there are several options regarding how to try to achieve a decrease of

dependence, at least in relative terms. One is import substitution by different energy carriers either already available in the EU or to be developed in the next period. Another possibility is offered by further reducing specific energy consumption. Third, the creation of the really unified energy market of the EU could obviously contribute to the savings capacity of the European integration. Finally, increasing imports can be diversified in geographic terms by discovering new supply sources.

If fossil energy carriers will be excluded from the potential sources of substituting imports (oil because of the already high degree of import dependence and coal due to environmental reasons), two basic scenarios can be outlined. One is the intensive construction of nuclear energy plants, the other is huge investments into the generation of renewable energy. However, all options hide a clear handicap against natural gas. They cannot be stored or can only be stored with substantial loss (nuclear, hydro or wind energy). In addition, and with the exception of nuclear energy, the energy volume to be generated is definitely insufficient to substitute for larger amounts of natural gas imports. As a new trend, several EU member countries started to reexamine their previous opposition to nuclear energy. Emerging supply uncertainties, compared to previously dominant negative attitude towards nuclear energy (technological risks and the likelihood of terrorist attacks), seem to rewrite the balance between different options. Some countries started to build new nuclear plants

(e.g. Finland, Bulgaria). In Germany, a new debate has started about the already approved timetable of shutting down nuclear plants. In turn, Austria still insists on its opposing behaviour.

In 2006, there were more than 150 nuclear energy generating blocs in operation. More than 40 % were located in France, 15 % in the United Kingdom and 11 % in Germany. New member countries added 23 blocs, the same amount as the number of plants operating in the United Kingdom only.<sup>11</sup> In several cases, nuclear energy production represents a relevant to predominant share in the total electricity production of the respective countries. In addition, sometimes they generate huge export revenues (France, and until the closure of two blocs in Bulgaria). Nuclear plants produce 78 % of electricity in France, 40 % in Hungary, 32 % in Germany, 27 per cent in Finland, 20 per cent in the United Kingdom. Even in Romania, one nuclear bloc contributes with 10 % to electricity production.<sup>12</sup>

Another alternative energy source is the production of bioenergy. This purpose had been accompanied by high hopes in the last decade, hopes that, according to recent developments, appear to be to a large extent excessive.<sup>13</sup> At first glance, high oil prices and environmental considerations seemed to give priority to the rapidly growing production of bioenergy, because the production costs of ethanol, if produced from sugar cane, amounts to one-third to one-half of the oil prices stabilized on a high level.<sup>14</sup> In the direct sense, utilization of ethanol, particularly if

<sup>11</sup> Der Standard, July 23, 2006.

<sup>12</sup> Statistical data released by the International Atomic Energy Agency, as quoted in Világgazdaság, January 17, 2006.

<sup>13</sup> In 2005 global production of bioenergy was equal to 20 mn tons of oil, or about 3 % of the total oil consumption of the EU. Leading producers were Brazil (8.2 mn tons) and the USA (7.7 mn tons). In turn, the bioenergy produced in the EU reached 3 mn tons (in oil equivalent).

<sup>14</sup> In turn, ethanol extracted from maize has a cost advantage of 20 % only. In case of biodiesel the cost difference is



gained from sugar cane, has a much lower environmental burden than the utilization of the same amount of oil. However, our environment can be burdened in very different ways, including by enhanced bio-plant production. Experience of the last years indicates that companies have started massive deforestation in several parts of the world in order to create land for bio-plant cultivation. This process was geographically concentrated on tropical zones that definitely play a key role in maintaining the climatic balance in our globe. In other words, short-term economic (cost-oriented) rationality became quickly confronted with longer-term considerations based on sustainable development. Let alone the fact that, excluding sugar cane, the production of bioenergy is far from being economical, while it gives rise to relevant negative spillover effects. One of the best examples is that in 2007 the USA used one-third of its maize cultivation to get ethanol and this, together with other factors, had a significant impact on the rapid rise of global food prices and probably also on the stabilization of food prices at a high level. Arguments in favour of alternative energy production did not take into account secondary impacts that, in many cases, have vital and adverse consequences for large part of the world population. Last but not least, renewable energy production (sometimes by creating a non-renewable environmental situation) has been accompanied by substantial financial support from the central budget of the respective governments. Budgetary and income redistribution aspects of a state subsidy policy

remained outside the framework of impact studies (provided such studies were carried out at all). Moreover, unfavourable economic and social consequences originating from the emergence of a new and highly influential „rent-seeking” group have not been considered. (If state-level or other subsidies rise on the horizon, a wide range of „entrepreneurs” appear very quickly, including those who don't have even the slightest insight regarding the given activity, but who would like to make themselves rich by means of the subsidies.) It has to be added that both in political and economic terms, it is easy to create a subsidy and rent-seeking mentality, but it is very difficult to eliminate it if the respective subsidized policy targets prove to be erroneous and economically unsustainable.

Finally, generating wind energy enjoys widespread EU- and government-level financial support. Largest capacities have been installed in Germany (18.000 MW), followed by Spain (10.000 MW). More modest production is reported in Denmark, Italy, the United Kingdom and in the Netherlands.<sup>15</sup> As already mentioned, the electricity generated by wind is irrelevant in the overall national energy balance, while its area and duration of utilization remain very much limited.

The second major opportunity consists in the improvement of energy efficiency (savings). In this context, substantial progress has been made in the last decades. Still, new areas of savings can be identified, not least in the new member countries. Despite the disappearance of large part of energy-eating ex-socialist factories and, in some countries, as a result of the development of less energy-

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minimal. Evidently, further rise of oil prices could change the above comparative cost structure, particularly in potential bioenergy producing countries that either use US dollar as their domestic currency or adjust their national currency to the US dollar (mainly producers in Latin America). Different natural endowment substantially influences comparative costs of substitution. One hectare of sugar cane provides 3000 to 6000 litres of gasoline, while one hectare of maize only enables production of 1500 to 3000 litres.

<sup>15</sup> The Financial Times, September 10, 2007.

intensive sectors, the average of specific energy consumption (per capita consumption compared to per capita GDP) is still (much) higher than the average of EU-15. While the difference amounts to 25 to 30 per cent for Slovenia or Hungary, in 2004 Slovakia used 75 per cent, the Czech Republic and Romania 60 per cent more energy for producing one unit of GDP.

We are far from underestimating the importance of the above mentioned policy options. Evidently, each and every reasonable opportunity has to be seized in order to reduce energy dependence and specific energy utilization. However, a much larger positive impact could be expected from the establishment of a common EU energy market. The topic has been on the agenda for two decades at least, and its relevance can be supported by a series of arguments. Some of them are as follows:

- keener competition improves efficiency and reduces producer and consumer costs of energy,
- in consequence, global competitiveness of the EU can be enhanced, for the price of most commodities (and services) allocated on different markets includes certain (generally rather different) shares of current energy prices,
- price differences among countries, a competition distorting factor at the moment on the otherwise unified market could be eliminated,
- basic objectives of energy production and environmental protection could be better coordinated,
- in contrast to national projects, joint initiatives could be implemented with lower investment costs,

- the currently compulsory national storage figures could be reduced,
- last but not least, a common energy market could fundamentally support the united representation of the EU's interests on the international energy market (in fact, this is one important institutional condition of reducing the risk factors originating in the high-level dependence on imports).

Unfortunately and despite a large number of rational arguments, we cannot speak of a common and united European energy market, and even less of a common EU energy policy. To be sure, some countries have already liberalized their domestic energy markets (either for electricity, for natural gas or for both). In turn, other member countries only allow very limited competition (if any). According to the figures published by the European Commission, the Netherlands and Slovenia take the lead in liberalizing national energy markets, followed by Denmark, Hungary and Lithuania. Interestingly, the first group of five countries includes three new members. Other countries indicate substantial delay, not least France that tries to keep its state monopoly with a number of legal and policy instruments. Most likely, the biggest barrier to EU-wide liberalization is that the energy market in the EU is dominated by big monopolies, characterized generally by (majority) state ownership shares. An obvious example is Electricité de France (EDF), with market capitalization of about Euro 150 bn. But others, as Eon from Germany (over Euro 90 bn), Suez from France, Iberdola from Spain, RWE from Germany, Enel from Italy and Gas de France can also be mentioned.<sup>16</sup> A further obstacle in the way of market-conform

<sup>16</sup> The Financial Times, November 22, 2007.

liberalization consists in the fact that the above mentioned companies are not ready to accept the principle of the „four freedoms” that should regulate the smooth functioning of the internal market. It is evident that barriers that do not enable mergers and acquisitions of and by leading (state) energy companies within the EU fundamentally contradict and violate the principle of free circulation of capital. Some steps have been done in the last years, but the really large acquisition plans got shipwrecked on short-sighted national opposition. The most quoted example is the failed attempt of Eon at buying Endesa of Spain (ultimately, the latter entered a partnership with an Italian company). In fact, obstacles in the way of establishing the common energy market largely explain why no common EU-level energy policy could be implemented until today.

Some experts nourish the hope that, similar to other areas, the really vital impact in this direction may not be produced by protracted intra-EU developments but by inevitable external pressure. In this context, we have to be aware of the obvious fact that, in the next decades, the EU's dependence on energy imports will keep on increasing, whatever alternative option or options will be implemented. Thus, security of energy supply is a key strategic interest of each member country. No wonder that most analyses consider energy supply security as the decisive factor of overall economic security.<sup>17</sup> In fact, energy supply security essentially includes four factors:

(a) physical availability of the given energy carrier (meaning that the respective

energy carrier will not be depleted within the period of forecast),

- (b) price of the energy carrier (whether the potential buyer is ready or able to pay the price demanded by the producer or supplier/transporter),
- (c) supply dependence on political developments: to what extent can sellers use or abuse of their monopolistic position towards the buyers and subordinate the guaranteeing of supply security to criteria that are independent from fundamental economic indicators, as price and quantity (such criteria can be of political or cultural, value-transmitting character but also linked to pursuing non-energy-related economic interests),
- (d) transportation security of the respective energy carrier between the producer and the user.

As for the first security problem, it practically does not exist for the EU and other energy users and net importing economies of the world. In physical terms, the necessary resources will remain available on the global scale.

Although oil and gas prices (the latter with some time gap, as usual) have been significantly increasing in the last period, and the price of one barrel of oil has been above USD 100 for a longer time now, this did not constitute a major financial burden for the EU to pay for the higher sum of the energy import bill. This is due in part to the fact that higher oil prices were accompanied by continuous and substantial devaluation of the US dollar (in which oil prices are denominated) against

<sup>17</sup> In our view, it is a rather one-sided approach, since economic security, most probably the key security factor in the 21st century (ruling out wars with catastrophic consequences), has a number of other components as well (market access, exchange rate and monetary, environmental, social, technological security, etc.). In more detail see: András Inotai (2007), *A gazdasági biztonság kihívásai (Challenges of economic security)*, in: Gábor Fóti Tamás Novák (eds.), *A biztonság gazdasági vonatkozásai (Economic aspects of security)*, Budapest, Institute for World Economics, pp. 152-201.

the Euro. In fact, as expressed in Euro, the increase of the import bill remained modest. Of course, how competitive are the EU exports, as a compensating item against oil and gas imports on markets accounting in or with currencies tied to the US dollar, is another question.

The picture becomes much more contradictory once we start to address the issue of the geographic map of dependence. If basic physical and technical possibilities are available, it is a natural effort of all countries to sufficiently diversify their energy (mainly oil and gas) imports and obtain the necessary volume for domestic consumption (sometimes for re-exports as well) from as many producers as possible. From the point of view of the importer, the ideal market situation is based on two factors. On the one hand, the more potential suppliers appear on the market, the higher is the degree of selecting the best suppliers. On the other hand, the more reliable suppliers are present, the easier is the decision-making process of the buyer. As already indicated, at present, the international oil and gas market does not fulfil any of these conditions. The number of potential suppliers is limited, and due to the different degree of depletion of resources in these countries, the circle of suppliers may become even more restricted in the next decades. In addition, an ever larger share of production and exports is shifting towards politically unstable and more or highly unreliable countries. In such a situation, „ideal geographic diversification” of import dependence has serious constraints. Thus, a new (and sometimes constantly changing) balance has to be established between the highest possible geographic diversification and the lowest possible security risk. Thus, there must be a point, where giving priority to geographic diversification may be

accompanied by additional political, economic and other risk factors that, regarding the longer term import and supply strategy seem to represent a higher level of uncertainty than a choice based on a small number of (more reliable) countries but with a higher geographic concentration of import dependence. In effect, this is *the* dilemma the EU is confronted with today. Moreover, this is the context in which Russia has a key position. To put it a bit simplified: which strategy is likely to offer higher degree of supply security for the European integration for the next 20 to 25 years? The highest possible geographic diversification of all potential sources, and, as a consequence, the reduction of dependence on Russia at any price, or the consideration of the political, security and economic risks related to (partly unreliable and unstable) potential exporters? Preferring the second option, the EU has to get prepared for a relatively significant degree of „dependence” on Russian energy supplies. In fact, it would be rather difficult to find convincing arguments in favour of several oil exporting countries, from Iran through the Middle East to Nigeria and Algeria that they would be definitely more stable, predictable and reliable partners than Russia. (The recent events in Georgia do not change this statement. Just the opposite, they underline strong geopolitical realities the EU has to reckon with in its future strategy towards Russia in general, and in shaping its energy strategy, in particular.)

Strategic decisions upon shaping the best possible dependence structure are heavily influenced by the transportation routes of oil and gas. First, it generally involves additional players into the seller-buyer relation (all those through which countries the transit occurs). Second, the establishment of fixed transportation routes (pipelines, electricity

grids) requires long-term contracts (sometimes covering several decades) in order to guarantee the security of the seller and of the buyer simultaneously.

In this context, oil and natural gas have to be approached differently. Oil being a product sold on the „free market“ and mainly transported by large fleets of tankers, direct dependence on the producer or the seller is modest. In addition, geographic orientation can be modified within a short period of time (necessary supply is regularly available on deep sea) and with a sufficient level of flexibility. (For example, oil imports from Nigeria can easily be substituted by oil imports from Libya, or viceversa.) The natural gas picture is different, for a large part of the gas used to be delivered through pipelines. Certainly, some EU countries (first of all Italy but also Spain and France) have been importing substantial quantities of liquified natural gas (LNG), mainly from Libya and Algeria. However, the transportation costs are higher, and the development of the necessary technical infrastructure and of the special port capacities is extremely costly. In addition, further (technical) bottlenecks have to be considered, since only part of the natural gas physically available can be transformed and transported in liquified form.

In sum, natural gas supply of the EU represents *the* core issue in the shaping of the future energy policy of European integration. The underlying reasons are the following:

- in the next quarter of century, natural gas indicates the highest consumption increase among all energy carriers,
- as a result of decreasing domestic production and shrinking possibilities of importing gas from Norway, this area reveals the highest level of dependence from third countries,

- the international gas market is characterized by relatively few suppliers,
- the circle of reliable and long-term suppliers is even narrower,
- transportation of gas is mainly linked to pipelines that cross the geographic territory of several countries and, as a result, may incorporate additional players with enhanced supply security risks on a multi-player market (or in a multi-player deal).

The EU's potential and rational energy strategy options have to be evaluated in this framework. Existing East-West gas pipelines had been working satisfactorily during decades. Continuous delivery was only disturbed once newly independent transit countries (previously part of the Soviet Union), more precisely their price disputes with the Russian supplier became part of the previously bilateral „game“. Delivery cuts of a few days towards the Ukraine and a year later towards Belarus aimed at achieving higher but still substantially less than world market gas prices to be paid by these countries to the Russian supplier. Understandably, the management of this problem by Russia produced a much more negative psychological impact on the Western European policy-makers and societies than its (irrealistic) impact on supply security. In fact, the reliability of Russia as a major gas exporter was questioned. This situation contributed to strengthening the search for alternative sources and pipelines. Russia's response was twofold. First, it announced plans to build new pipelines not crossing the territory of other (politically uncertain) countries (both the North and the South Stream fall into this category). Second, it has signed long-term bilateral contracts with the

gas importers (mostly state or state-controlled monopolies) of more than one leading EU member country. The North Stream will start from Russian territory to Germany, crossing the Baltic Sea. For several reasons, this project had been facing serious opposition by the neighbouring countries, first of all by Poland and Lithuania, but also by Finland. Still, it is unlikely that the project were not implemented. The original itinerary of the South Stream was modified, because Turkey was left out of the project. Energy is expected to come directly from Russia through the Black Sea to Bulgaria and from there, the pipeline would be directed to Central and Western Europe crossing several EU member countries (including Romania and Hungary). As a competitive project, Nabucco had been in discussion for a long time (well before the South Stream idea was announced). In this case, the pipeline would cross Turkey and arrive to Bulgaria (and further to Romania/Serbia and Hungary).

The decision concerning which pipeline should be built strongly divides the EU. The fundamental considerations are the following:

(a) There is no doubt that, in the next decades, the EU badly needs natural gas imports through one or both pipelines. However, it is far from clear which country's gas will be pumped into the pipeline. The South Stream is based on gas produced in Russia as well as in Uzbekistan, Turkmenistan and Kazakstan, all of them under Russian control. In turn, but in principle only, Nabucco would get gas from Iran. The first project has already left behind the first stage of planning (including the signing of some contracts based on this pipeline), while the second is still waiting for a clear initial step. In addition, the

source of gas seems to be clarified in the first case but is far from this stage concerning Nabucco. At the same time, preliminary but not necessarily reliable calculations indicate that South Stream would cost more than Nabucco.

- (b) It is an evident and desirable strategic objective of the EU to avoid „unilateral dependence” on Russia and, to eliminate this obvious dependence in case of several new member countries. This is a realistic approach provided that the risk factor of dependence from alternative sources is not higher than that of dependence on Russian deliveries. At present, we can hardly find rational arguments supporting the first option. Iran's appearance in this game did certainly not provide convincing arguments for avoiding Russian deliveries.
- (c) It is not difficult to identify important US interests behind Nabucco. These interests are hidden behind the argument that Nabucco would substantially decrease Europe's dependence on Russia. The key question is, whether and if yes, to what extent can US and EU interests be coordinated? The driving force of US strategy is not its own energy supply security but clear foreign policy considerations (keeping and strengthening its presence in the Middle East, regional stabilization, growing influence on the Central Asian republics, as well as supporting Turkey's membership in the EU). Moreover, fundamental production and marketing interests of US oil monopolies working in the Middle East and in Central Asia have to be added to the „strategic

framework".<sup>18</sup> In turn, the EU's key strategic interest consists in the security of energy supply by taking the relatively lowest level of additional risks (including non-energy-related ones). A relevant uncertainty stems from the unclear (or missing) common foreign and security policy of the EU. Regrettably, as things stand today, it is not able to clearly define the geographic boundaries of the enlarged and perhaps further enlarging integration. In addition, the EU has hardly any meaningful influence in shaping politics in the region from which, apparently, Nabucco would be filled with gas. Not less problematic is the relationship between the EU and Turkey. While the USA, following both its strategic interests and its hidden or at least ambiguous aim of weakening the EU, firmly supports Turkey's quick EU membership, the EU is much more divided on this issue, let alone the clear opposition to Turkish membership by several (large) member countries within the foreseeable future. Nevertheless, this issue contains a very realistic „technical" component, regrettably never mentioned or deliberately concealed in overall discussions on the potential itinerary of the new pipeline(s). In effect, current Turkish legislation gives priority to domestic energy supply under all circumstances, including international pipelines crossing Turkish territory. If, based on domestic demand, these pipelines might always be cut or tapped by Turkish authorities, the external

conditions of the EU's energy supply security could hardly be improved.

- (d) Without taking into account several factors, it is hardly convincing to talk about unilateral „dependence on Russia". In fact, gas delivery through pipeline(s) makes both exporter and importer interested in long-term cooperation. If the exporter does not deliver and it does not have any interconnected pipeline ready, it could hardly market its gas (of course, it can cut back production, but not without significant additional costs). In addition, it would not get the important financial transfers. Finally, such a situation would have a very negative impact on its reliability, with negative impacts on all other fields of EU-Russian bilateral relations. It cannot be realistically believed that this would be the strategic interest of Russia.<sup>19</sup>
- (e) The evolving Russian gas business requires a deeper survey regarding two aspects. First, the security of the EU's natural gas supply does not primarily depend on the reliability of the Russian partner but on the amount of gas that would be available to be transported through the new pipeline over several decades. In the last years, the exploration of new gas fields lagged behind the growth of gas output, so that the total volume of „easily" exploitable reserves has been falling. In order to have Russia as a reliable exporter of gas over a longer period, the first precondition is not political will but the

<sup>18</sup> Miklós Hegedűs (2008), Mindörökké Nabucco?! (Nabucco, for ever?!), Világgazdaság, March 19.

<sup>19</sup> In some EU circles, the „geopolitical tunnel vision" rooted in the period of the Cold War can still be experienced. The most recent developments in Georgia have certainly not mitigated this approach. On the other hand, influential circles keep on supporting the strengthening of strategic cooperation between the EU and Russia. For a balanced analysis see: Andreas Goldthau (2008), Russia's energy weapon as a fiction. Europe's World, Spring, pp. 36-41.

availability of the necessary quantity of gas. Thus, new exploration is urgently needed. Of course, the falling output in the Russian gas fields can be compensated by the rich gas fields in Central Asia. However, they are controlled mostly by the same Gazprom whose power and influence is dreaded by a number of politicians in the EU in general, and in some new member countries, in particular. In addition, the manoeuvring margin of the Russian gas delivery strategy is determined by the existence of other pipelines and their transportation capacity. At present, pipelines that are to be built to India, China or to the Pacific Ocean are on the drawing table or in the initial stage of implementation. Therefore, currently, the reorientation of the available gas volume following political purposes is not yet possible. Even if different pipelines were filled from natural gas available in different geographic areas (countries), this option is unlikely as long as the main production fields are not interconnected and incorporated into an integrated gas pipeline network. In this context, the fundamental interest of the EU is to contract the required volume of Russian gas production before the Russian manoeuvring margin will be widened and, in consequence, the Russian bargaining power would be enhanced.

- (f) From a strategic point of view, narrowing the time required between constructing the pipeline and serving the gas import needs of the EU deserves special attention. Therefore, the decision on making the choice of which pipeline should be built, cannot be delayed any more. We have to admit that, at the

moment of this decision, some questions are likely to remain unclear and, based on our current knowledge of future development, these questions cannot be clarified in a satisfactory way. The EU has to launch a several billion Euro investment and sign a contract of long-term (bilateral) commitments whose real advantage and security degree will be possible to determine only after about one decade has passed. However, the highest degree of supply insecurity, in other words the predictable massive energy deficit in the EU, would be the consequence of further delaying the decision and neglecting the importance of the time factor. As compared to this element, the country risk (supply risk) seems to be secondary. In principle, both South Stream and Nabucco can be built, if financing is secured, the available energy to be transported makes both investments profitable, and the supply side as well as the European demand are guaranteed for a longer time. It should not be ruled out that Europe would need both pipelines in order to cover its natural gas import needs in a reliable and predictable framework.

- (g) Finally: the EU should not address its natural gas supply separately from its strategic relationship with Russia. EU-Russian relations have to be firmly based on the adequate and deeper and wider level of interdependence. Relations should be driven by giving priority to seizing the advantages of strategic cooperation according to the requirements of the global challenges and opportunities of the 21st century. In this framework, the security of gas supply represents a very important but



by far not the exclusive, and perhaps not even the most dominant factor.

Whatever supply security pressure the EU will be facing in the next period, the establishment of a common energy policy cannot automatically eliminate some basic obstacles, such as:

- member countries have different energy production structures,
- the proportion between domestic production and imports, or the dependence on imported energy carriers is different from country to country,
- import dependence shows different cross-country geographic priorities (Norway, Southern Mediterranean area, Middle East, Russia),
- the degree of geographic diversification of imports (how many countries participate in the domestic consumption, broken down to different energy carriers),
- opposing interests of energy monopolies in leading EU member countries, many times enjoying effective „patriotic“ support by the respective state,
- predominance of short-term interests against a joint European energy strategy, as clearly proved by recent long-term bilateral treaties of Eon from Germany or ENI from Italy with Gazprom.

**Concluding remarks, with special reference to the new member countries**

Most new member countries are fundamentally interested in shaping and

implementing a common energy policy of the EU. The arguments varied from the current unilateral dependence on Russian imports, to the basic interest in deepening the process of European integration and to the geographic situation of the new member countries (direct or indirect borders to Russia). It is justified to expect that a common energy policy could essentially contribute to the geographic diversification of the one-sided import dependence in several countries and could, in the case of emergency, create access to alternative European reserve sources. The full-fledged implementation of the European energy market, as a relevant part of the full liberalization of the internal market, could generate production costs advantages for all (new) member countries. At the same time, it would strengthen the decision-making process at community level. In this way, smaller countries could find a better forum to protect, identify or implement their interests than the traditional framework of inter-governmental decision-making, almost always dominated by the big(gest) member countries. Finally, substantial advantages can be derived from the geographic position, if the planned pipeline(s) were crossing the territory of several new member countries. This fact would not only increase the security of gas supply, but, although indirectly, it would significantly reduce unilateral dependence (even if gas were provided by the same supplier). Moreover, it would generate additional revenue for all countries involved in the geographic route of the pipeline.<sup>20</sup>

A national energy strategy firmly based on realities cannot ignore the fact that the high degree of desirability of shaping a common European energy strategy does not mean that

<sup>20</sup> The current pipeline crossing Slovakia (contracted and built in the late 1970s) generates an annual extra revenue of about USD 800 mn for this country. At least partly, this explains why, according to Eurostat figures, per capita income in Bratislava seems to be higher than in Budapest (pipeline revenues add to Bratislava's income).

such a strategy can be implemented within a short time, even if internal and, more importantly, external pressures were on the rise. Therefore, in the transitional period that may cover several years, a period characterized by crucial and long-term decisions, the development of a flexible energy strategy must remain a basic priority. It should take into account European and national priorities and adequately identify different member country interests and the wider or narrower manoeuvring margin resulting from this situation.

As a decisive principle, national energy policy (similar to all other policy areas) must not become the hostage of prejudiced, biased, one-sided and emotion-driven considerations. Country-specific opportunities and constraints can only be determined if European energy realities and the respective country's economic and geographic position are reckoned with as a result of comprehensive and balanced surveys. No member state has the right to teach or press any other member country to follow a so-called „European” energy policy as long as its own decision-makers and companies behave quite differently in everyday practice. It is unjustified and counterproductive to qualify any contract with Gazprom as „anti-EU” or to criticize the special but by far not realistic position of any (new) member country concerning Nabucco, as long as the Italian state-owned gas company just has signed a 20-year contract with Gazprom and Germany is involved in building a joint and direct pipeline missing or ignoring the

interests and fears of some other (new) member countries with the same Russian company. Not to forget about the sheer fact that, at the moment, Nabucco exists only at the level of ideas, without any serious preliminary paper prepared. Most probably, the latest events in Georgia (and the Caucasus) will not contribute to the consolidation of the arguments in favour of Nabucco...

Considering that the energy policy in all countries with heavy dependence on energy imports (and most new member countries belong to this group) is an anchor of economic security and competitiveness, it is particularly dangerous and irresponsible to downgrade energy policy discussion at the level of short-term and cheap domestic party-politics. Such an attitude would keep on narrowing the manoeuvring margin of the given member countries and deprive them of some existing comparative advantages in the European „energy game”. Still, and unfortunately for the future of European integration, all member countries have to keep in mind the first phrase of the leading article published in December 1973 by “The Economist”, referring to the short-term and very much short-sighted reactions of the Western European countries to the first oil crisis: “Everybody for himself and God save the strongest”. To be sure, the new member countries are by far not the “strongest” ones. Even more importantly, they have to be at least “clever”, and there is no problem if they are in some strategic questions the “most clever ones”.

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