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LITHUANIA TAKES OVER - THE PRESIDENCY OF THE EU COUNCIL

We need a balance in our EU climate and energy policy

Arūnas Vinčiūnas

ARŪNAS VINČIŪNAS, THE DEPUTY PERMANENT REPRESENTATIVE OF LITHUANIA TO THE EU IN BRUSSELS, INTERVIEWED BY MAREK ORZECHOWSKI.

From the 1st of July – 31st of December, 2013, Lithuania has assumed the Presidency of the Council of the EU for the first time. It is the first Baltic State to do so since joining the European Union in 2004. Of course, it is a big challenge. It seems that the financial crisis and the economic problems of the Community are slowly being brought under control, but the situation in the Union is still not easy. This is clearly visible when applied to its energy policy.

– We see the Presidency, not only as a great honour, but also as an opportunity to contribute to the implementation of EU policy and engage with important issues that matter to European citizens, says Arūnas Vinčiūnas. He also rightly points out the most important priorities of the Lithuanian Presidency, namely energy policy and the development of the EU's internal energy market.

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We need a balance in our EU climate and energy policy

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***Marek Orzechowski:* - Why is it so important for Lithuania?**

Arūnas Vinčiūnas: - Completion of the EU internal energy market by 2014 is our first priority, because of the positive economic impact and security of supply which would be ensured by its successful construction. We see it in a very broad context: this target is also important for the creation of jobs in the Union, for the integration of renewable sources, for better energy efficiency, competitiveness, and security of supply. Furthermore, the climate energy goals for 2020, would also be boosted by it.

MO: - When you mention the need of formulating a common energy policy in the EU, I guess, you do not lose the perspective of the specific situation of Lithuania, but think beyond that ...

AV: - Yes, it is true. My country is fully dependent on energy supplies from external sources. That is a reason why it is so important to use the interconnections inside the EU, including the Baltic States – with Poland and Sweden. Not only that, though, we also support common energy projects, for example, the construction of nuclear power plants.

MO: - This trend, though, is not exactly on the agenda of the EU, is it?

AV: - First of all, nuclear power is, and will be an option. It is a matter which is in the hands of each Member State. If a Member State wants to build a nuclear power plant, it can do this, that is its right. Therefore, in our case, we will continue our joint project with Poland. It also will be serving - please do not forget - climate protection objectives. I must add one more point to this context; every country is not the same and not all countries have the same opportunites and abilities, so the internal energy market must also take account of different situations within Member States. We need energy, and we need security. Energy, if necessary, can be sent over long distances, security not.

MO: - You mention the protection of the climate. We are dealing here with sensitive issues. The Commission is pushing for a very restrictive policy. Recently, the European Parliament voted for the second time on backloading, and this time, in favour of the ideas of Commissioner Hedegaard. The effects of this decision shall cover all EU-countries, and they are, as you said, different. It seems that sometimes it is possible to kill a climate policy by trying to save it...

AV: - Green energy will never reach 100% of a countrys energy-mix. Obviously, there are countries which have a lot of sun and wind; and it is easy for these countries to produce energy from those resources. They should take full advantage of them, of course. However, many other countries do not have such a good situation. Therefore, we absolutely need a wise balance, an equilibrium. We need balance in the understanding of location, situation, possibilities, and specific needs, especially of populations and industries.

MO: - What is the next step?

AV: - Now is the time to negotiate this problem. We hope, we will find a good solution, perhaps in September. It must be under one condition – that common sense will prevail, not emotions. We really need a lot of common sense.

MO: - There is also much controversy concerning the use of indigenous energy sources, such as shale gas.

AV: - Regardless of the fact that technology has not yet had the final word, I would like to say one thing: if we need the energy, and we do, if we need the security, and we do, then what Europe has, we should use it.

MO: - Thank you very much, and I wish you and Lithuania all the best – and much success.

Arūnas Vinčiūnas
The Deputy Permanent Representative of Lithuania to the EU in Brussels.

US Energy Revolution: A Magnet for European Manufacturing


Ian Brzeziński

By Ian Brzeziński

Last May, during the European Union's energy summit, a slide circulated among national delegations that graphically captured the gap between electricity prices in Europe and the United States. North America's cheap energy prices are rooted in the fracking revolution that has driven U.S. gas prices down to a quarter of those in Europe. The chart explains how shale gas has made the U.S. a magnet for Europe's energy intensive industries, pulling their investment and jobs across the Atlantic.

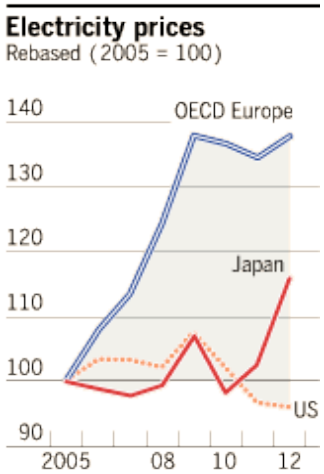
Cheap natural gas provides a critical competitive edge to petrochemical, steel, aluminum, fertilizer and other industries that rely on it as a raw material, or as an energy source. America's shale gas boom provides both, in unprecedented quantities and low cost, catalysing a resurgence of the U.S. manufacturing sector.

The impact has been dramatic in the petro-chemical industry. IHS Global Insight, a consultancy, estimates that this sector will spend $95 billion, building and expanding plants in North America, an investment surge made possible by cheap gas prices. The National Association of Manufacturers estimates the shale gas bonanza will generate some 1 million new manufacturing jobs in the U.S. by 2025.

European business leaders are acutely aware that their high energy prices are undercutting their competitiveness, if not survival. A recent Accenture study found 58% of business leaders have little confidence that European industry will, in three years' time, be cost-competitive from an energy stand-point, compared with rivals in North America, Eurasia and Asia.

This concern is reflected in a surge of European investment in the U.S. manufacturing base. "The exodus has started in the chemical, automotive and steel industries. If Europe doesn't change course, that process will accelerate, and at some point, may not be reversible." said Wolfgang Eder, Chief Executive, Voestalpine, an Austrian maker of Steel. Indeed, the list of European firms directing their production sites to North America is growing and now includes:

- Voestalpine, which plans to construct a $550M direct reduction plant in Texas. The plant, which will rely on natural gas, will generate 150 jobs and produce sponge iron that will be shipped back to Voestalpine's steel plants in Austria. Asked why he chose the U.S., Mr. Eder responded: "low energy prices gave us the final, and not insignificant push.
- Royal Dutch Shell is building a multi-billion dollar petrochemical plant in Pennsylvania that will employ several hundred full-time employees, and as many as 10,000 during construction.
- Wacker Chemie, a German chemicals company, is investing $2 billion in a new poly-silicon plant in Cleveland, Tennessee, citing government incentives and cheap energy as key reasons.
- BASF, another German chemicals giant, expanded significantly its presence across the Atlantic to leverage the advantages of cheap gas. Since 2009, it has directed over $5.9 billion in new investments in North America, including a new formic acid plant in Louisiana.



Source: European Commission

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US Energy Revolution: A Magnet for European Manufacturing

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- Vallourec, a French steel maker, has invested heavily across the U.S., and in June opened a billion dollar mill in Ohio to produce steel pipes.

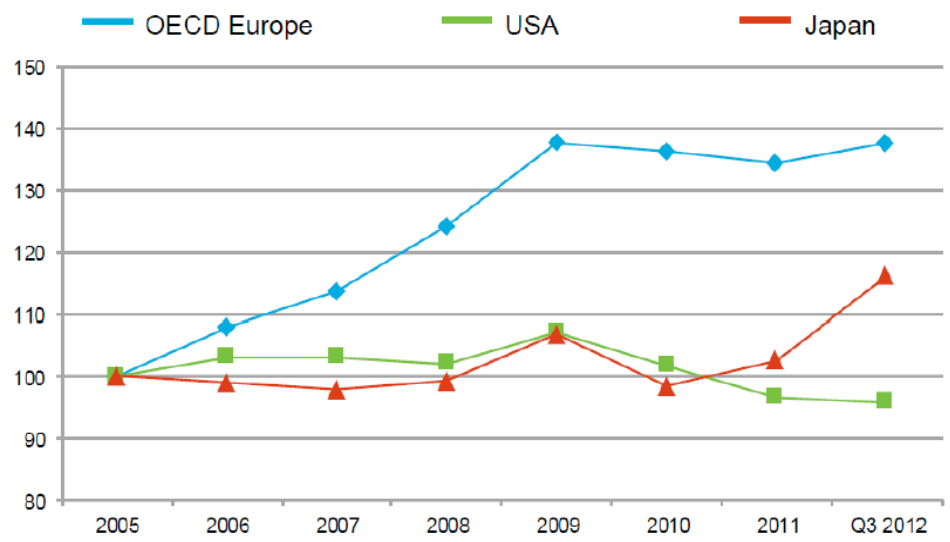
It is not only European firms that are attracted by North America's cheap energy. Reuters reports that South African SASOL is considering investing $7 billion on an ethane cracker complex in the US; Egypt's Orascom Construction Industries is building a $1.4 billion fertilizer plant in Iowa; Taiwan's Formosa Plastics plans a new ethylene plant in Texas; and Japanese oil refiner, Idemitsu Kosan, is exploring an investment in the U.S. petro-chemical sector. Last year, Vancouver-based Methanex Corporation decided to spend $425 million to move its methanol plant in Chile to Louisiana.

The emigration of European manufacturing has caught the attention of some of Europe's top political leadership. Günther Oettinger, the EU's Energy Commissioner, warned last May: "If we in Europe do not respond to the energy price gap in global competition, we will not be able to compete in ten years." Echoing that sentiment during the May energy summit, European President, Herman Van Rompuy, asserted that "affordable energy is key to keeping factories and jobs in Europe... Industry finds it hard to compete with foreign firms which pay half the price for electricity, as in the United States." The question remains whether and when this recognition will translate into energy policies that strengthen the global competitiveness of European-based industry.

Ian Brzezinski *leads the Brzezinski Group, LLC, a strategic advisory services company, and is a Senior Fellow at the Atlantic Council in Washington D.C. He served as Deputy Assistant Secretary of Defense for Europe and NATO Policy from 2001-2005.*

Energy Prices and Competitiveness

Evolution of end-user electricity prices for industry, taxes excluded (2005 = index 100)



Source: International Energy Agency

Environmental regimes threaten the situation of Baltic ports


Magdalena Korpalska

By Magdalena Korpalska

Recent strict marine environment regulatory actions on lowering sulphur content in liquid fuels that were adopted by the International Maritime Organisation (IMO), broke down the environmental understanding in most Baltic Sea Countries (BSC). In spite of the Baltic ports' objections, the IMO revised Annex VI to MARPOL 73/78 (International Convention for the Prevention of Pollution from Ships) and introduced the restriction of 0,1% sulphur content in fuels, used by the fleet operating within the so-called Sulphur Emission Control Areas (SECAs). Moreover, fuel brokers and suppliers would also not be allowed to sell fuel of higher sulphur content [EC regulation 2005/33EC 2005 for the containment of sulfur in the marine fuels]. The established SECAs are limited to areas of the Baltic Sea, the North Sea and the English Channel. North America, as well as the United States Caribbean Sea (expected to enter into effect on the 1st of January, 2014) and will be in force on the 1st January, 2015. The restriction is controversial as it does not comply with other seas such as the Mediterranean, the Black Sea, or the open Atlantic Ocean. That particular situation brought about a strong debate and tension between policy-makers, ship operators and port authorities. There exists a serious threat that new regulations may harm sea transport in the BSC and increase the concentration of transshipment on a few ports.

It seems that there are instruments available for the ship operators to apply, in order to deal with the new requirements, in particular, the most straightforward solution: buying a low sulphur fuel (MGO), or installation of an exhaust gas cleaning system (for example, a scrubber).

However, in the case of the former, a significant increase in the operational expenses of a vessel must be considered due to higher fuel costs. Fuel is one of the highest single cost factors in running a ship. MGO is already more expensive than high sulphur (HS) fuels, and shifting to MGO is expected to cause an increase in fuel's price of around 65-80%. The latter solution, on the other hand, is connected with high investment costs and technical challenges.

Hence, in order to follow the new regulations, the ships that have to operate within the SECA can either agree to purchase a very expensive fuel, or must be technologically developed. Furthermore, operation of the scrubber causes an increase in consumption of the fuel and, consequently, an undesired increase in CO_2 emissions.

The other technical alternative proposed for the operators who do not wish to switch to MGO or implement a cleaning technology, is to change fuel to LNG. This gas fuel, however, requires 3-5 times the space for fuel storage when compared to oil. Other drawbacks include expensive retrofitting of the vessels and availability of LNG, as no supply chain has yet been developed. Despite its dubious future, there already exists a project of the directive under discussion at the European Commission which, if adopted, would oblige Baltic ports to provide infrastructure for supply ships with LNG by 2020 [Proposal for a Directive of the European Parliament and of the Council on the

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Environmental regimes threaten the situation of Baltic ports

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deployment of alternative fuels infrastructure]. Today, there are only a few ships operating within the Baltic Sea that run on LNG, and it is highly uncertain whether LNG would become the 'bunker fuel of the nearest future'. It is therefore, questionable as to whether it is economically reasonable to make such huge investments at Baltic ports and burden them with such enormous costs in such a short time period.

The financial performance of Baltic ports may also be affected if transport buyers, who wish to avoid higher fuel costs, and hence, higher operating costs, choose to switch to inland transportation. There is already a lot of research being conducted on the potential modal shift from sea shipping to road and rail transportation on specific shipping routes. The conclusions already confirm that the transport connections between Western Europe and the Baltic States are expected to be the most heavily impacted, as other alternative transport routes are available. This might be particularly harmful for the ports in the eastern BSC where the average GDP per capita is already lower than in the other BSC.

There is a high risk that in the light of unfair market competition, the trans-shipment traffic will concentrate on non-SECA coastal countries. In addition, one should notice that shifting from shipping in favour of inland transportation is contradictory to the existing European transport policy, which is focused on shifting from land trans-shipment to sea. Moreover, a consequence of it would be an increase in CO_2 emissions. Another issue arising is the possibility of job losses if the shipping trade does indeed become less competitive.

Prioritising environmental issues through stringent regulations can lead one to the conclusion that the interests of the parties opposing these rules were completely ignored by its proponents. That disregard does not match up with the definition of sustainability, and, as presented above, may actually bring about the opposite environmental impact than was initially established by the IMO.

It is indisputable that benefits to the public in terms of a decrease in health and environmental risks, due to the air pollution, is a primary concern and needs to be served through stringent regulations. However, in the case of the SECAs regime, it cannot fail to be noticed that the diversity of interests from the side of the BSC ports and ship operators were not properly considered. One fails to find a comprehensive report prepared by the IMO on the possible consequences for BSC ports and operators when 0,1% sulphur content will be in force in 2015.

Sulphur regulations should be more flexible, and in light of the shortage of time, with so many unknowns concerning applicable solutions to be resolved before January 2015, the sensible proposal would be to extend the time period for the regime's implementation, to at least 2020. In accordance with the IMO regulations, from that moment, ships globally are obliged to use fuel of 0,5% sulphur content. The prolongation of this period is also important in order to develop the appropriate financial measures and policy tools, as for example, incentives and subsidies, which must be applied in order to avoid passing the cost burden onto ports and ship operators, and encourage adoption of lower sulphur regulations.

The review of the current and future environmental regulations prove that soon BSC ports may experience a serious disruption in the dynamics of shipping. The situation will become even more complex, as the IMO is working on further expansion of regulations, which may designate the BSC as emission control area for nitrogen oxides and other chemicals.

Magdalena Korpalska
Expert in Environmental Sciences at Port of Gdańsk Authority SA

Bulgaria's energy sector at a crossroads

Todor Galev

Nadezhda Gantcheva

by Todor Galev and Nadezhda Gantcheva

Bulgaria's energy sector is of key importance for the development of the country's economy, representing 21% of its GDP for 2012. One in four public procurement contracts was related to the energy sector in the period 2010-2012, which makes it one of the biggest spenders of taxpayers' money, and therefore, requires efficient administration and careful planning.

However, **the sector suffers from opaque administration, lack of reform and restructuring, and most importantly no long-term decision-making strategy**. In 2013, Bulgarian industry and households are facing rising energy prices and unclear policy perspectives, resulting in serious economic and social malfunctions, as seen by the February 2013 protests that led to the resignation of the government. The average Bulgarian household is already considered 'energy poor' by European standards, which will likely result in downward pressure on energy prices, hampering significantly, much-needed future investment in energy grids and carbon-emission reducing facilities. **As the new government starts its term in office, it will find itself 'at a crossroads' with regards to the energy sector: perpetuate the weak and opaque administrative practices, rapidly depleting its finances, or fundamentally, restructure the entire sector, making it an efficient and profitable market player in South-East Europe.**

KEY FACTS FOR THE BULGARIAN ELECTRICITY SECTOR IN 2012

The installed generation capacity stood at 13.8 GW, the share of nuclear, fossil fuel, and RES being 14.5%, 50.0%, and 35.5%, respectively. Bulgarian power plants generated almost 47 TWh of electricity, whilst net exports were 8.4 TWh, and inland consumption was 38.6 TWh. The share of nuclear, fossil fuel, and RES out of total generated electricity stood at 33.6%, 53.8%, and 12.6%, respectively. The maximum load of 7.4 GW (or 54% of the installed capacity) was reached in February. In 90% of the operating hours, the load was below 5.5 GW. The minimum load of 2.6 GW (or just 19% of the installed capacity) was reached in May.

Compared with other Member States, Bulgarian efforts to reform the electricity sector have started late, and look modest and largely incomplete. The electricity market follows a hybrid model, in which the major part of the electricity is traded at regulated prices, whilst the remaining part of 10% to 25% (according to different estimates) is traded on the liberalised market. Despite the partial privatisation of generation assets, and of the distribution system, the single, vertically integrated, fully State-owned company - Bulgarian Energy Holding (BEH), retains a central role. BEH and its subsidiary - National Electric Company (NEC), hold generation assets representing 45% of installed generation capacity. NEC has a central position in the Bulgarian electricity system, performing functions that would normally be carried out by separate entities in a mature market. NEC also fully owns the electricity TSO - Electricity System Operator (ESO), which currently operates and maintains, but does not own the transmission grid.

The Bulgarian electricity system has significant overcapacity, which is partly caused by the current economic crisis, which has led to a dramatic fall in domestic consumption and exports. Based on information from ESO, exports in the first quarter of 2013 fell by 40% on a year-on-year basis. However, it can be questioned whether demand is likely to increase significantly in the coming decade, taking into account the shrinking population of Bulgaria, and the country's high energy intensity today, which suggests scope for substantial efficiency improvements, and the potential for low-cost electricity generation in neighbouring countries. However, in Bulgaria, a combination of factors, including the regulatory framework and existing long-term contracts, seem to prevent a re-balancing between demand and supply.

Source: European Commission official report to the Bulgarian government on 'Findings and recommendations related to Bulgarian energy policy', May 2013 (with shortenings). Online available at www.mi.government.bg/files/useruploads/files/powersectorrapidassessment__may27_final.pdf, accessed on 29.05.2013

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Bulgaria's energy sector at a crossroads

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Currently, some of the main State-owned companies in the energy sector face significant administrative and financial troubles. The main causes are **intra-system indebtedness and the high level of private debt undermining the financial health of companies.** Above all, Bulgargaz and the NEC, the public suppliers for natural gas and electricity respectively, continue to be characterised by a poor financial state, and a desperate lack of liquidity, due to the unfeasibility of debt collection, unreasonably high supply prices, hostile market practices of electricity grid connection, and non-market pricing mechanisms.

An overview of the financial performance of Bulgarian Energy Holding shows that **both NEC and ESO are loss-making companies.** They are being supported by BEH's lucrative companies, whose dividends are used to provide low-interest-rate loans to the weaker companies. However, as these practices seem to fall short of sustaining the Holding, BEH is preparing to issue bonds and sell its minority stake on the foreign stock exchange. Moreover, as the energy market is yet to be fully liberalised, natural gas and **electricity prices are kept artificially** low by the State. In order to reduce its losses, NEC increased end users' electricity bills and introduced grid access fees for producers, using renewable energy sources. NEC's indebtedness is also a major hurdle to the process of unbundling ESO from NEC, in compliance with the Third Energy package, for which Bulgaria is facing an infringement procedure. Therefore, the current system requires significant restructuring and decentralisation in order to comply with EU requirements, but even more importantly, to improve its financial and operational efficiency.

A review of the compliance of State-owned enterprises, with the legal requirement for monitoring, shows that most companies' reports lack consistency, present the bare minimum of financial data required, and omit additional performance analysis. In light of the above, it is clear that the current **opaque governance system** of State-owned enterprises is prone to abuses of public funds and serious neglect of the companies' interests. The non-transparency of governance creates a huge uncertainty over the financial flows in and out of the NEC, and feeds into valid concerns over the resultant public contribution to fill the gaps. Therefore, an energy sector governance system of proper control and monitoring must be developed, in conjunction with sufficient public scrutiny over a consistent reporting mechanism, in order to increase the transparency of governance and improve the management of State-owned enterprises.

LARGE INFRASTRUCTURE PROJECTS

Despite the serious financial problems of the energy enterprises, the State has embarked on **large energy infrastructure projects**, in terms of both their size and price, such as Belene Nuclear Power Plant (NPP), Tsankov Kamak Hydroelectric Power Plant (HPP), and South Stream Natural Gas Pipeline. These not only overload state finances, but also require a significant absorption and management capacity that the Bulgarian state and BEH currently lack. Furthermore, building new generation capacities is very prone to weak and corrupt practices.

The project for a second NPP in Bulgaria near **Belene** was initiated in the 1970s, but has been stalled and revisited a number of times since then. Its economic feasibility has been questionable from its onset. Under the minimum growth consumption scenario, adding NPP Belene to the system would result in excess production, which would require the construction of new export transmission capacity. Further, even under the maximum consumption growth scenario, NPP Belene **is not deemed necessary in meeting domestic electricity needs**, bearing in mind the structural generation overcapacity of the system. The return-on-investment (ROI) timeframe is long (30-40 years), and hard to estimate in the current reality of an increasingly liberalised European market. From an energy security perspective, the NPP Belene project cannot be assessed positively, as it is not likely to make electricity more affordable nor reduce Bulgaria's dependence on fuel and technologies from a single country. The project was cancelled by the former government in March 2012, which resulted in a lawsuit for EUR 58 mln. against NEC at the International Court of Arbitration in Paris, filed by Atomstroyexport. However, the current Prime Minister announced, in his first days in the cabinet, that he would like to see it restart, if a new analysis proves its eco-

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Bulgaria's energy sector at a crossroads

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nomic efficiency. Despite the fact that the project from the very beginning, and now again, is announced as "being built, only if private investments are available", the cost up till now has been covered only by budget money (EUR 837.8 mln. up to 31.12.2011).

The **South Stream** is a natural gas pipeline project for transporting Russian natural gas through the Black Sea to Bulgaria, and further to Greece, Italy, and Austria, by-passing the Ukraine. Negotiations over the project have been brittle, with Russia exercising considerable pressure on the Bulgarian government for a firm commitment to commence construction in early 2013. The **total cost of the investment is unknown**, thus, the size of the Bulgarian investment in the project is also unidentified, as is the return on investment, which is based on an assumption that the pipeline will operate at full capacity (63bn cubic metres per annum), which is unlikely. In addition, the South Stream might be at odds with European legislation, as the EU's Third Liberalisation Package stipulates that 50% of the pipe's volume should be reserved for third parties, while there is no option for Bulgaria to import gas from third parties through the South Stream pipeline. From an energy security perspective, the completion of the South Stream project may improve Bulgaria's (and other South Eastern European countries') energy security through a diversification of the transit route, thus reducing the potential for future gas supply disruptions, due to disputes between Russia and the Ukraine. However, the South Stream project **does not offer diversification of the source of natural gas** supply, and even appears to be a rival to currently existing segments of the Bulgarian gas network.

The course of both the NPP Belene and South Stream projects is a clear sign of the **enormous share of political, instead of economic considerations** that go on behind the scenes, when deciding on large energy infrastructure projects. In order to improve the energy sector's administration and finances and therefore, its overall efficiency, the involvement of political leaders in the operations of energy enterprises should be avoided. Instead, decisions to commence large energy infrastructure projects need to be based on clear factual analyses and information about the total costs, to be made publicly available. Furthermore, each new energy project should be assessed in terms of its potential to resolve the most urgent energy issues in the country. The latter necessitates a viable and universally accepted national energy strategy, with reliable priorities and locally-specific action tools.

WHERE TO NOW?

Given the social pressure for low energy prices, particularly for electricity, some of the few available options for the new government in the short- and medium-term is to focus on energy efficiency in households and enterprises, using EU funds, preserving existing nuclear generating capacity for as long as possible, turning towards technology development in green industries, and avoiding big infrastructure projects, if they do not improve significantly, the energy security of the country. In addition, Bulgaria needs to urgently tackle its excessively high external and internal dependence on a single supplier of natural gas, nuclear fuel, and technologies.

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Nadezhda Gantcheva
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CONSULTATION ON GREEN PAPER ON A 2030 FRAMEWORK FOR CLIMATE AND ENERGY POLICIES:

A response to the consultation announced by the European Commission, Directorate General Climate Action on 27.3.2013

CEEP'S POSITION ON CLIMATE AND ENERGY POLICIES: AS STATED 2ND OF JULY, 2013.

1. GENERAL REMARKS:

1.1 Definition of CO_2 decrease - % or tonnes?

According to CEEP, using percentages in the discussion of CO_2 emissions is not always clear-cut because it does not show the actual economic strength and development of a particular country. That is why we suggest, in all post-2020 documents, utilising tonnes per capita rather than percentages, which do not say anything to non-specialists. Tonnes per capita is a clearer reference for everybody and easy for comparative studies, as everyone concerned already knows the actual emissions.

1.2 The climate issue is a global issue.

The published document as above, is focused on the climate problems mainly within the EU, but the problem concerns all countries around the world, and especially those from the EU, OECD, and the G-20, as they are the biggest emitters of CO_2, and relatively rich, which enables them to spend enough funds to battle with the amount of CO_2 emissions.

Some countries are trying to take unilateral measures, but the results are meagre. The same concerns individual pledges of more than 90 countries made since 2009, following the Copenhagen Climate Conference. The result is that even modest pledges of those countries have been implemented to about 30% only. This shows that 'practical enthusiasm' measures for climate protection are absolutely not sufficient. Take, for example, such rich countries as the US, where CO_2 emissions per capita in 2011 amounted to 17.3 tonnes; Canada 16.2; Australia 19; Japan 9.8; Russia 12.8; and South Korea 12.6; whereas the average in Europe was 7.5 tonnes. The majority of countries are, in fact, below the EU level, as for example, India, with 1.6 tonnes only; Brazil 2.3; and Turkey 2 tonnes. The average figure for the world is 4.9 tonnes. It's not easy to solve a dilemma on how to make the biggest emitters decrease their emissions, whilst curbing the ambitions of many countries to develop their industries, which ultimately means an increase of emissions. This concerns India, Turkey, and even Brazil, but we should bear in mind that, in the near future, many Asian countries will try to develop their economies, and 'sleeping' Africa will soon emerge with their ambitions, too.

1.3 'Paying lip service' or 'facing up to reality?'

One can observe that in many countries the climate issue is discussed at length, but as concerns real efforts, they are not so enthusiastic. Take for example, the latest President Obama speech on CO_2 emissions, which referred to coal power plants having to be shut down. As a matter of fact, the US has to close them down because they are already technologically outdated , and there is no other solution to improve their performance and economy. According to the National Association of Regulatory Utility Commissioners, about 74% of all coal-fired power plants in the USA are at least 30 years old, and the average life of such plants is just 40 years. It would be much better to hear that the US is going to decrease their CO_2 emissions per capita to the level of 10 tonnes by 2020, from the level of 17.3 tonnes in 2011.

1.4 Importance of indigenous sources of energy.

In your document, you exclude from further considerations, such fossil fuels as coal, but not crude oil, and gas resources. We cannot accept such a position, because we shouldn't disqualify any indigenous source of energy, as we should fight CO_2 emissions, and not the sources of energy. One should take into consideration that, for example, the efficiency of coal-powered plants, built 40-50 years ago, was very low, and emissions of CO_2 were very high. With new technologies, around 20 years ago, the level of efficiency increased up to around 30%, and nowadays, due to new, incoming

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A response to the consultation announced by the European Commission, Directorate General Climate Action on 27.3.2013

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technologies, efficiency is around 45%, which means that in the span of fifty years, CO_2 emissions have been decreased by around 60%. We should believe in further technology progress, and that efficiency will further increase, or that other methods of using coal will be developed for energy purposes. That is why we should enhance technological progress by diverting more financial support for the efficient use of coal as a source of energy in the energy-mix of those countries who have coal, and not penalise coal as such.

2. ANSWERS TO QUESTIONS:

2.1 Ad 4.1. General:

We would like to underline that the targets '20-20-20' are likely to be achieved, which means that overall, the EU's internal climate policy has been successful, without any need for backloading. Unfortunately, the EU's external climate policy seems to be without any visible success, and for example, pledges concerning a decrease of CO_2 based on the 2009 Copenhagen Climate Conference, brought modest results. This is not a good prognosis for the EU's ambitious CO_2 reduction programme, as according to statistics, the EU's competitiveness against China and the USA decreased by more than 15% in the period from 2009-2012. Many economists and analysts say that this is due to stringent EU emission policy. It suggests that further steps from the EU should be defined in relation to the emission levels per capita of the G-20 and OECD countries. Sadly, the EU hasn't been able to convince these countries that climate policy is a global issue requiring the efforts of all mankind, and that promotional campaigns are not enough, and a real decrease of emissions in tonnes per capita should be actual, and not promised. If this is not achieved, then the EU should not 'sacrifice itself' for the rest of the world.

2.2 Ad 4.2 Targets

2.2.1 As we mentioned in point 1.1, we should change the definition from percentages into emissions in tonnes per capita, and leave it to the discretion of particular countries on how to achieve the level agreed. The EU should accept the average figure derived from the pledges of the OECD and G-20 countries, as legally binding. The figure can be adjusted upwards from the level agreed, if those countries are not willing to fulfil their pledges.

2.2.2 The EU is not uniform as concerns energy-mixes, and that is why there are many inconsistencies in EU policy, as each country has got its own composite energy-mix. Such a patchwork should be accepted. For example, the French energy-mix contains 78% of nuclear power generation, 48% of the electrical power in Denmark is generated from coal. Wind is not blowing with the same efficiency in Scotland as in Poland, and the sun is not so richly available for energy generation in Lithuania as in Italy or Greece, etc. To remove existing inconsistencies, we propose in point 1.1, to describe our targets concerning CO_2 decreases in tonnes per capita.

2.2.3 As we said above, there should be one uniform target in CO_2 decreases in terms of tonnes per capita, but in such cases as CO_2 reductions in targets for passenger cars, transport, etc., they should be stimulated by the internal decisions of specialised agencies representing the specific industry concerned, at the EU level. Their suggestions could be considered as binding, if accepted by the EU.

2.2.4 This is a very specific question and should be considered in terms of each country's needs, as their energy-mixes are different. The need for a range of technologies for the countries with varied energy sources will differ, as we said in point 2.2.2.

2.2.5 It is evident that our indigenous sources of energy should be promoted within the EU. This concerns crude oil, gas, coal, and RES. That is why all these sources should be supported in the quest to achieve security of supply.

2.3 Ad 4.3 Instruments

2.3.1 Yes, changes are necessary, in order to give more chances for particular countries to adapt themselves to the EU requirements, but not be obliged by very specific regulations, which are not always adequately suited to every country in the same way; offer the EU countries rather general figures, and give them the freedom on how to reach those figures. For example, if the figure as per 2.2.1 definition is established as binding, the way on how to achieve it should be at the discretion of the particular EU country.

2.3.2 See point 1.1.

2.3.3 Fragmentation can be avoided if the prices of energy are almost unified in particular countries, as well as ensuring that interconnections for electrical energy, gas, and crude oil are properly developed.

2.3.4 This depends on the climatic conditions of particular countries, and their legacy of assets. We should identify the most effective measures to be considered by particular countries, and then financially support them by the EU to reach the best results.

2.3.5 Again, the answer should be formulated at the country level, as the countries know best what are their needs, and for what solutions they are aiming.

2.4 Ad 4.4. Competitiveness and security of supply

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A response to the consultation announced by the European Commission, Directorate General Climate Action on 27.3.2013

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2.4.1 The main requirement is to globalise (at least, to OECD and G-20 countries) the binding requirements concerning CO_2 reductions - the same for everyone - otherwise, our chances for development and consequently, for promoting job creation and competitiveness will be quashed.

2.4.2 Evidence of carbon leakage to such a country as China is well-known, though we can observe European carbon leakage to the United States, due to low energy prices there. However, we can observe in the EU an even worse situation, leading to the closure of parts of our industry, as for example, refineries. Carbon leakage is not applicable in this case, whilst this situation is not simply confined to refineries. If climate policy restrictions are the same for other countries, we have got a chance to compete. If not, we have to close down our industries.

2.4.3 The biggest inequality in the price of energy sources rests with gas. Coal prices are more or less stabilised. The same concerns crude oil to some extent. Gas prices for Central Europe are at the level of US dollars 400-450 per 1,000 cubic metre, whereas, for other countries in Europe, it's much cheaper, and in Great Britain, around US dollars 300. So, a very important task for the EU is to remove the discrepancy in gas prices within the EU. The next driver in energy costs is the price of electrical energy based on RES, which is much more expensive than the traditional sources (coal, gas and nuclear energy).

2.4.4 Unless the other countries accept the same level of decreases in CO_2 emissions (best expressed in CO_2 tonnes per capita) which should concern, primarily, the EU, OECD, and G-20 countries, there will be common ground for mutual agreement and the EU should maximise their efforts to convince other countries of the virtues of its proposals. Such proposals should not be over-ambitious, otherwise, we will achieve nothing, as other countries from outside the EU are always calculating the impact on their economies, unemployment, and further development.

2.4.5 To concentrate more on external policy, convincing the non-EU countries for the need of climate change, and less on issues such as backloading.

2.4.6 The EU's policy to lower CO_2 emissions is very successful, and has even exceeded all expectations since 2005. So, the '20-20-20' targets for 2020 will surely be achieved, and in some cases, we may even exceed them. What's more, we will be able to achieve this, observing the yearly decrease of 1.74% of CO_2 under the ETS scheme. This will be achieved thanks to BAT and RES development. One spectacular example of BAT usage is the construction of new German power plants fuelled by coal and lignite, with their plans to build another 12 by 2020, where each power plant will decrease its CO_2 emissions by around 30%.

Of course, each EU country, if it feels the need to do more for RES, above the EU requirements, has the right to do so on its own territory. In other words, we are not against the auctioning of allowances, but we feel that market prices of CO_2 allowances have a better influence on industry and innovation capacity than the artificially increased prices of allowances.

2.4.7 We should be offering equal chances for the development of each source of energy as RES, nuclear, coal, gas, including shale gas, and crude oil. Discriminatory measures which the EU applies to coal, as well as its unclear and unenthusiastic position concerning shale gas, will not contribute towards reduced energy prices, whilst increasing import dependency. One should consider that we are facing right now imports of cheap coal to the EU from the US and Australia. The EU now imports almost half of its needs for coal. Shouldn't we support the European Coal industry rather than increase our energy import dependency ? This is a question which should be answered as quickly as possible, otherwise, the imported coal will destroy our coal industry; but it will not decrease CO_2 emissions.

2.4.8 As far as the internal energy market is concerned, CEEP is undergoing studies, but it is evident that Central Europe, especially, needs a much better developed energy interconnections infrastructure, coupled with effective diversification of external energy supply routes. Nowhere in the EU is the issue of robust energy and resource transportation networks, redundancy of their critical corridors and nodes, interconnectivity to a pan-European backbone energy network, as acute and factual as in Central Europe. As we embark on the completion of the Internal Energy Market, these issues should be immediately taken into account when deciding upon the distribution of funds within the budget for the period 2013-2020.

2.5 Ad 4.5. Capacity and distributional aspects

This delicate issue should be answered by the governments of Member States within the EU, but anyhow, we would like to underline, once again, that as concerns climate matters, at least the EU, OECD, and the G-20 countries should be obliged to the same figures measured in CO_2 tonnes per capita, otherwise, the EU will be in economic danger.

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EU energy policy needs to be verified

Filip Grzegorczyk

By Filip Grzegorczyk

Energy has always been important to human beings. Today, people are no longer able to meet their energy needs by themselves, and have become dependent upon energy suppliers. Moreover, at the present stage of civilisation, requirements as to the security of energy supply and energy quality have significantly increased. Thus, energy continues to be an important determinant of growth.

It is a welcome development that the EU has decided to plan and pursue an energy policy. There are several reasons for this. First, energy is essential in everyday's life. Second, energy resources (fuels) are relatively scarce within the territory of the European Union. Third, the EU had to take action to increase the competitiveness of energy undertakings. Another reason for the decision to pursue an energy policy at the EU level is global warming and the need to reduce emissions of CO_2 and other greenhouse gases. This last issue will certainly become the subject of detailed academic research, since the actions taken by the EU are having a huge (and detrimental) impact on the economies of many EU Member States.

It would seem that the goals of EU policy need to be verified and new priorities established. Currently, these goals are not always in harmony with each other, and are sometimes contradictory. Furthermore, their achievement appears completely different when seen through the 'European' lens, as opposed to the 'national' lens.
It is enough to look at the EU's environmental goals. To achieve them, raises the question of the costs of an environmental policy aimed at reducing carbon emissions. Such a policy requires energy producers to incur huge outlays on adjustment; it also leads to major social costs in the form of higher energy prices, and for instance, the gradual closure of mines. This problem principally affects those States that are reliant on the coal industry, e.g. Poland.

Another consequence of pursuing environmental goals is the subsequent emphasis on wind energy. Yet, this is not a completely positive development. Wind farms can impact negatively on the environment, particularly on bird habitats. In addition, wind farms cannot be built everywhere, due to geographical conditions. Finally, the variability of wind means that the amount of energy which can be generated is subject to systemic limitations. Energy security would be put at risk if the emphasis was shifted from coal to gas. Although gas plants are more environmentally-friendly, most of the EU's gas is imported. So, if gas was to be made the primary source of fuel, it would surely exacerbate the already precarious situation as regards energy security.

Another potential solution could lie in CCS & CCU technologies. However, it would seem that CCS and CCU are technologies of the future – and even if it were possible to use them on an industrial scale, this is not going to happen in the foreseeable future; apart from which, huge financial outlays would also be required. Hydroelectric power, although a much more stable source of energy than wind, is not a practical solution. Geographical conditions in the EU simply do not allow for the construction of huge hydroelectric power plants. Furthermore, the construction of such plants would entail high social and environmental costs, for proof of this, it is sufficient to mention the costs incurred in the construction of some hydroelectric power plants in Poland.

To summarise: the point is not to abandon environmental goals within the framework of energy policy; it is rather to abandon dogmatism in the planning and realisation of those goals, especially given the fact that it is only the EU (among all the economic centres of the world) that is actually pursuing a pro-environmental policy. In 'riding the global bus', it is only the EU which pays the 'environmental fare'. Yet the whole world rides this bus. Why, then, should the EU alone, bear the environmental costs? Environmental goals are not the most important, or, at least, they are no more important than the goals of energy security and competitiveness. Security and competitiveness are equally pressing concerns, and a positive feedback loop exists between them.

See more: F. Grzegorczyk, The Electricity Transmission System Operator in Directive 2009/72/EC. Understanding EU Energy Policy, CH Beck, Warsaw, 2012

Associate Professor, Dr. Filip Grzegorczyk
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CONSULTATION ON THE FUTURE OF CARBON CAPTURE AND STORAGE IN EUROPE:

A response to the consultation announced by the European Commission, Directorate General Energy on 27.3.2013

CEEP'S POSITION ON CLEAN COAL TECHNOLOGIES AND CCS: AS STATED ON JULY THE 2ND, 2013.

1. GENERAL REMARKS:

The Communication identifies all of the most important reasons for lack of any significant progress in the field of capture and storage technology in the EU which are as follows:

- **Lack of cost competitiveness** – the Commission attributes the lack of a business case for CCS deployment to the low cost of the ETS allowances, which indirectly proves that CCS is not commercially viable in the present economic situation,
- **Very limited public acceptance for the CCS** concept, in particular, the idea of storing the previously captured CO_2 underground, which, according to the authors of the Communication, results from the unsatisfactory level of awareness of CCS's potential to reduce emissions from industry,
- **Lack of legal support for CCS technology** – some Member States have introduced legal bans for CO_2 storage [According to the data of Global Carbon and Capture Institute and the CGS (Pan-European coordination action on CO_2 Geological Storage) nine countries have now prohibited CO_2 storage permanently in their territory, except for research purposes (Estonia, Ireland and Finland), or temporarily (Austria, Czech Republic, Latvia, Poland, Sweden and onshore Denmark). Italy, Belgium and Greece have not permitted storage in selected areas of their respective jurisdictions. Germany has limited the amount of CO_2 that can be stored and the law has included a clause which will allow German states to ban geological storage. Source: http://www.co2geonet.com/UserFiles/file/Open%20Forum%202013/Presentations/9-April/1_8_Shogenova.pdf] and still there are no legal solutions concerning the responsibility of States for storage of CO_2 for thousands of years ahead or insurance for such responsibility,
- **Lack of the adequate transmission infrastructure** – at present there is no infrastructure in the EU which would allow for transporting the captured CO_2 from the industrial installations to the storing sites.

The Communication envisages introduction of several instruments which would support and speed up the development of CCS technology in the EU in nearest future, such as: a system of CCS certification or Emission Performance standards. Neither of the proposed solutions is acceptable or should be taken into the consideration at the EU level. Also, the idea to impose the additional financial burden on the providers of fossil fuels that, according to the Communication, should allow the creation of a new CCS development fund might be seen as a move towards actual elimination of coal and gas power plants from the EU's technological portfolio.

On the other hand, the certification system should be rejected on the ground of introducing de facto additional tax for those entities already covered by the ETS system, and double taxation is something that should be avoided. Furthermore, the introduction of the CCS certificates would most likely further undermine the operation of the ETS scheme. There is not enough evidence that in the EU there is sufficient storage capacity to implement CCS on the industrial scale. Other thing worth mentioning is the level of security of potential storage sites, which is the main reason for a lack of public acceptance for this technology, or even a lack of legislative agreement for CCS in some of the Member States (despite partial implementation of CCS Directive) [According to the data of the CGS (Pan-European coordination action on CO_2 Geological Storage) by 2013 most countries had finished transposition but only ten of them had it approved by the EC (Spain, Denmark, The Netherlands, Italy, France, Lithuania, Malta, Portugal, Romania and Slovakia). Transposition in Belgium (Wallon region), Croatia, Poland and Norway is pending. Source: http://www.swedstoreco2.se/assets/files/Shogenova_SwedSTORE_05March2013.pdf].

1.1 Energy security issues

Introduction of emission performance standards for CO_2 would, in practice, rule out development of any new coal-fired power plants, unless accompanied by significant government subsidies in the development of CCS technology. Emission performance

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standards would de facto preclude coal-based technology from the energy-mix, which would run counter to the EU's principle of technological neutrality, and against the right of each EU Member State to decide on its preferred choice of energy-mix. More importantly, the EPS would seriously hinder the security and reliability of supply. An arbitrary introduction of an EPS without recognition of various operating regimes of power supply – peak, medium and base-load, would hinder the flexibility of electricity supply. Introducing emission standards for CO_2 would directly restrict coal-fired power generation, while neglecting the long-term penalties for the EU power generation fuel mix and energy security. Responding to climate change and reducing CO_2 emissions cannot go against far-sighted thinking and investment that recognises the necessity of secure supplies of affordable energy sources.
The estimates by the International Energy Agency (IEA) prove that coal will continue to be the main energy source for power generation in the next decades. It is thus necessary that regulatory frameworks to address climate change, also guarantee energy security through a role for coal in the overall mix. As long as CCS is not commercially viable, which is unlikely to happen during this decade, the EPS, or any other type of CCS obligation would hinder gas power plants as well.

1.2 Efficiency losses and fuel penalty

Last, but not least, the IEA World Energy Outlook 2012 describes CCS as increasing efficiency losses, and therefore, does not consider it in its 'Efficient World Scenario'. Available studies suggest that retrofitting the existing power plants with CCS involves efficiency losses in a range of 12-14%, which runs counter to the EU's requirements of increasing the efficiency power generation. Therefore, CCS is not a credible option, if the EU wants rapidly to promote energy-efficient economy in line with its climate objectives. CCS not only lowers energy output, but also adds considerable costs, since a power plant fitted with CCS would require more fuel to generate the same amount of energy than a plant operating without it. A power plant equipped with a CCS system (with access to geological or ocean storage) would need roughly 10–40% more energy than a plant of equivalent output without CCS [Source: IEA Energy Technology Systems Analysis Programme, Technology Brief, Oct. 2010 p. 3 http://www.iea-etsap.org/web/E-TechDS/PDF/E14_%20CCS%20draft%20oct2010_%20GS-gc_OK.pdf
Source: IPCC Special Report on Carbon Dioxide Capture and Storage, p. 4 http://www.ipcc.ch/publications_and_data/_reports_carbon_dioxide.htm].

Furthermore, the IEA modelling shows that even a fuel switch from coal to gas will not help decrease emissions to the levels necessary to reach the 2° degrees target. In order to achieve this target, without compromising energy security, the efforts should continue to retrofit the existing power plants to BAT levels to improve their efficiency. An arbitrary introduction of CCS obligation at this stage, and a subsequent fuel switch would be a major obstacle to further investment in this direction. Mandating CCS, which assumes that the technology is likely to become commercially-viable in the short-term, would have a negative economic impact and unproven long-term environmental effectiveness.

High operational costs of capture, lack of transport infrastructure, and storage liability issues.
There is not enough evidence that in the EU there is sufficient storage capacity to implement CCS on the industrial scale. Also, at present there is no infrastructure in the EU which would allow for transporting the captured CO_2 from the industrial installations to the storage sites. In addition, the uncertainty around the costs of liabilities associated with CCS, particularly liability for long-term storage, would be a major barrier to the development of CCS. Another factor worth mentioning is the level of security of potential storage sites, which is the main reason for lack of public acceptance for this technology, or even a lack of legislative agreement for CCS in some of the Member States (despite partial implementation of CCS Directive).
Therefore, before any additional legislative steps are being taken to stimulate CCS development in the EU, this technology must still be developed.
Efficiency improvements are most cost-effective and the shortest lead time option for reducing emissions from coal-fired electricity. This is particularly the case in Central Europe countries, where current power generation efficiencies are much lower and coal consumption is a very important source of energy. Therefore, in our opinion, the European Commission should find other ways of supporting the development of CCS technology that would not be based on efforts to artificially deteriorate, by means of legislative interventions, the economics of well-established conventional solutions. Only then, might CCS technology be perceived as a serious option for emission reductions.

2. CEEP PROPOSAL

According to CEEP, more attention and money

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should be accepted for CCU, CDU and EOR technologies, and they should be in the same basket as CCS, because in the future they could be more successful than CCS.

3. DETAILED REMARKS:
Given the complexities explained above, and in the light of the work started on the 2030 energy and climate framework and the need for an informed debate, including the issue of the determining factors for successful CCS deployment, the Commission invites contributions on the role of CCS in Europe, particularly:

3.1 Question No. 1

Should Member States that currently have a high share of coal and gas in their energy-mix, as well as in industrial processes, and that have not yet done so, be required to:
a. develop a clear roadmap on how to restructure their electricity generation sector towards non-carbon emitting fuels (nuclear or renewables) by 2050,
b. develop a national strategy to prepare for the deployment of CCS technology.

GHG emissions should be considered on the grounds of the specific energy possibilities of particular countries, bearing in mind their economic past, geographical location, and access to their indigenous sources of energy, because affordable and stable energy prices are a boon for economic growth for the EU treated as whole.
We think that the introduction of national strategies to prepare for the deployment of CCS technology or other similar solutions are not acceptable, especially for Member States, which currently have a high share of coal and gas in their energy-mixes. Using such solutions will mean the transfer of research and development costs and pilot projects, from the level of the EU onto the levels of Member States. The scale of the financial costs concerning CCS is so large that the economies of some Member States, will not cope with this challenge, individually.

3.2 Question No. 2

How should the ETS be re-structured, so that it could also provide meaningful incentives for CCS deployment? Should this be complemented by using instruments based on auctioning revenues, similar to NER300?

CCS technology must still be developed in order to overcome its main technological drawbacks, as previously-mentioned in our general remarks, which makes CCS extremely expensive and prone to act against the principle of efficiency improvements. Therefore, in our opinion, the European Commission should find other ways of supporting the development of CCS technology, that would not be based on efforts to artificially deteriorate, by means of legislative interventions, the economics of well-established conventional solutions. Only then, might CCS technology be perceived as a serious option for emission reductions. CCS should be considered on a par with other technologies, such as: CCU, CDU, EOR.

3.3 Question No. 3

Should the Commission propose other means of support or consider other policy measures to pave the road towards early deployment, by:
a. support through auctioning recycling or other funding approaches
b. an Emission Performance Standard
c. a CCS certificate system
d. another type of policy measure

Neither of the proposed solutions (b and c) are acceptable or should be taken into consideration at the EU level.
Emission performance standards are potentially harmful, due to the fact that such an option would result in the elimination of the coal-based technology from the European energy-mix, which runs counter to the principle of "leaving all technological options open" as stated in the EU papers, not to mention that such an action would seriously hinder the security and reliability of supply in the EU where gas and coal are still very important, as they are elsewhere in the world.
Also, the idea of imposing the additional financial burden on the providers of fossil fuels that, according to the Communication, should enable the creation of a new CCS development fund might be seen as a move towards actual elimination of coal and gas power plants from the EU's technological portfolio.

On the other hand, the certification system should be rejected on the ground of introducing de facto additional tax for those entities which are already covered by the ETS system, and double taxation is something that should be avoided.

3.4 Question No. 4

Should energy utilities, henceforth, be required to install CCS-ready equipment for all new investments (coal and potentially, also gas) in order to facilitate the necessary CCS retrofit?

The proposed requirement to install CCS-ready equipment for all new investments (coal and potentially, also gas), will have a direct

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impact, increasing the costs of energy production. It should be noted that the system of Co2 capture, itself, will not solve the problem. We will also need, transport systems and the ability to store CO2. Increasing energy costs will lead to higher energy prices in the EU, deepening even more the difference in the prices of energy between the EU and other regions or countries as the USA, China, India, and Brazil. The above-mentioned will have a direct impact on a decline in the competitiveness of the EU economy on the global market.

3.5 Question No. 5

Should fossil fuel providers contribute to CCS demonstration and deployment through specific measures that ensure additional financing?

As we have written above (see question No. 3), the EU should avoid double taxation. Also, the idea of imposing the additional financial burden on the providers of fossil fuels that should enable the creation of a new CCS development fund, might be seen as a move towards actual elimination of coal and gas power plants from the EU's technological portfolio.

3.6 Question No. 6

What are the main obstacles to ensuring sufficient demonstration of CCS in the EU?

In our opinion, a more forward-looking way to utilise CO2, is through the use of technologies leading to utilisation of GHGs directly, such as CO2 enhancing crude oil extraction (EOR - Technology) or Carbon dioxide utilisation (CDU) technology, as well as carbon capture and utilisation (CCU). Not all of these technologies are currently applied on a commercial scale, but the EU's efforts should be aimed in this direction. Significant CO2 reductions can also be achieved by investing in a modern high-efficiency power generation, which is characterised by high efficiency and lower CO2 emissions. Therefore, requirement of the application of Best Available Technologies (BAT) should be the leader in the fight to reduce CO2 emissions. Redirecting funds from CCS to support the latest, pro-efficiency technologies would result in significantly better results, in terms of CO2 emissions, rather than promoting CCS.

3.7 Question No. 7

How can public acceptance for CCS be increased?

In our opinion, due to safety reasons, it will be very difficult to get public acceptance for pipeline transportation over long distances, and especially storage of CO2 . It has be noted that, in addition to CCS safety issues, the main problem is still the cost of the usage of this technology. Compared to countries producing "zero-emission" electricity (nuclear or renewable energy), Member States that currently have a high share of coal and gas in their energy-mix, will have to significantly raise electricity prices, which will translate into a decline in competitiveness of their economies, and consequently, the EU as a whole. In this situation, gaining public acceptance of CCS will be very dificult, especially among countries with a high share of fossil fuels.

In our opinion, a more forward-looking way to utilise CO2 and get increased public acceptance, is applying technologies such as (EOR - Technology), Carbon Dioxide utilisation (CDU), carbon capture and utilisation (CCU), as well as the requirement of the application of Best Available Technologies (BAT).

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