

Katowice, 02.07.2013

**Directorate-General Energy
European Commission**

ZRF/KF/144/2013

RE: Consultation on the Communication on the Future Carbon Capture and Storage in Europe.

Dear Sirs,

TAURON Polska Energia SA welcomes the Communication on the Future Carbon Capture and Storage in Europe. The paper identifies all of the most important reasons why there has not been observed any significant progress in the field of capture and storage technology in the EU. The identified reasons are as follows:

- **Lack of cost competitiveness** – authors of Communication attribute the lack of business case for developing CCS installations to the levels of allowances price within the ETS system what in their view indirectly proves that CCS is not economically viable,
- **Very limited public acceptance for the CCS concept** in particularly the idea of storing the previously captured CO₂ underground, which according to the authors of Communication result from the unsatisfactory level of awareness of CCS potential to reduce the emissions from industry,
- **Lack of legal support for CCS technology** – some Member States have introduced legal ban for CO₂ storage,
- **Lack of the adequate transmission infrastructure** – there is no infrastructure in the EU which would allow transporting the captured CO₂ from the industrial installations to the storing sites.

Communication envisages introduction of several instruments which would support and speed up the development of CCS technology in EU in nearest future, such as:

- System of CCS certification
- Emission Performance standards.

Neither of the proposed solutions is acceptable or should be taken into the consideration on the EU level.

Emission performance standards would result in the elimination of the coal based technology from the European energy mix which **goes counter to the principle of “leaving all technological options open”** stated in the EU papers. Such an action **would seriously jeopardise the security and reliability of supply in EU** where coal is still very important factor, as it is elsewhere in the world.

Also the idea to impose the additional financial burden on the providers of fossil fuels that, according to the Communication, should allow to **create new CCS development fund might be seen as a move towards actual elimination of coal and gas power plants from the EU technological portfolio** and create an unlevelled technological playing field where RES prevail at the start. This in result can lead to the huge problems in terms of guaranteeing a stable back-up capacity for the growing quantity of the intermittent sources in the system.

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.**

It should also be noted, that presently CCS technology is **not economically feasible**, mostly because of the very high operational cost. The discussion about CCS obligation could be continued only if this cost will drop significantly.

Higher additional burdens imposed on the energy generators in EU (caused by legal obligation for CCS retrofitting) **shall be reflected in raising energy costs for economy, which in turn would result in EU losing its competitive edge** on the global market, especially when at the same time other economic regions such as USA are experiencing period of low energy prices allowing their economies to thrive.

When the question of efficiency is being taken into consideration, it needs to be highlighted that with present state of technology retrofitting **power plants with CCS installations translates into significant loss of overall efficiency (even by one quarter) of energy**

generation and higher fuel consumption, thus there is a clear contradiction between the need of CCS promotion and the target referring to the efficiency improvement in the EU policy.

Last but not least, it has to be mentioned that there is **not enough evidence that in 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 lack of public acceptance for this technology or even lack of legislative agreement for CCS in some of the Member States (despite partial implementation of CCS Directive).

We believe that before any additional legislative steps are taken to stimulate CCS development in EU, the technology shall still be developed in order to **overcome its main technological drawbacks which make CCS expensive** and acts across the principle of efficiency improvement. Therefore in our opinion the European Commission should **find other ways of supporting the development of CCS technology** not based on the legislative imposition resulting in raise of costs and efficiency deterioration. Only then CCS technology might be perceived as a serious option for emission reductions.

Answers for the questions proposed by the European Commission:

- 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.**

According to the provisions of the Treaty on the Functioning of the European Union each Member State has a right to determine the conditions for exploiting its energy resources, to choose between different energy sources and to decide upon the general structure of its energy supply (article 194.2). Bearing this in mind the European Commissions' question narrowing the choice between predefined specific energy sources (nuclear energy or RES) negates Member States' right. Moreover such an approach contradicts with the presumptions

of „*technological neutrality*” („*leaving all options open*”) of the climate-energy policy. Furthermore, ensuring the security of supply is a priority for functioning of the power system. Solutions that have been proposed by the European Commission (elimination of coal and gas) lead to unacceptable threatening of the energy security in case of some of the Member States.

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?

This question seems to be biased. By referring to the IEA report „*Cost and Performance of Carbon Dioxide Capture from Power Generation*” [page 14 of Communication] the European Commission itself indicates, that CCS technology could be economically viable (only) when the prices of allowances in the ETS scheme reach the level of 40 EUR/tonne of CO₂ (in case of coal) and 80 EUR/ tonne of CO₂ for gas. When we take into account the current prices of allowances which fluctuate within the range of 3-5 EUR/ tonne of CO₂ the tenfold increase in price would only be possible as a result of some radical changes into the ETS scheme. Therefore the European Commission once more tries to find a justification for intervention into the Emission Trading Scheme. Every increase in price within the ETS scheme will result in rising of the electricity price. Moreover, it will intensify the phenomenon of carbon leakage. With every effort of “*hand steering*” with the price of the ETS allowances, the spectre of closing factories and moving the production beyond the EU borders is becoming more real than ever.

As far as the revenues from auctioning are being taken into account and their assignment for development of CCS technology, in the first place they should be allocated to electricity sector which bears the highest costs resulting from the CO₂ emission reductions, the sector which is at the same time the biggest purchaser of the ETS allowances. Those funds would be allocated to cover the most urgent needs of the sector allowing to ensure the security of supply (investments in new capacities, distribution infrastructure development etc.) As a last resort the remaining surplus in revenues could be transferred to CCS technology development fund. Any decisions in this respect would have to be made on the Member State level.

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 approaches¹**
- b. **an Emission Performance Standard**
- c. **a CCS certificate system**
- d. **another type of policy measure**

As we have previously highlighted none of the ideas that have been proposed is neither acceptable nor shall it be taken into consideration on the EU level. Detailed explanation concerning particular options has been presented in our position.

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?

Reservation of the sufficient area for the future CCS retrofit (dimensions of CCS installations are quite significant), and most of all, planning of the transportation network for the future, constitute some significant spatial planning challenges, particularly for generating units which are mostly localised in the densely urbanised areas. The cost benefit analysis stands behind every decision concerning realisation of any undertaking. Bearing that in mind, CCS ready obligation should be optional and decision in this respect should be left to Member States, until the technology becomes economically efficient, it overcomes all of the technological barriers and it gains public acceptance. The scope of CCS obligation at this stage of technology development should be limited to ensuring space for CO₂ capturing installation as well as a potential possibility of attaching such an installation to the constructed unit.

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

Imposition on the fossil fuels suppliers of another obligation is nothing more than an effort to double tax their products. For development of specific type of technology, which efficiency, both in terms of the process and the economics, is currently unrealistic, one should rather dedicate some separate funds. The best solution in this respect seems to be allocation for

¹ Taking into account complementarity with the European Structural and Investment Funds (ESI), as set out in the Common Strategic Framework annexed to the Commission proposal for a Common provisions regulation of the ESI Funds

these specific purpose financial resources that come directly from the EU budget dedicated for the research and development.

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

The lack of interest in the realization of CCS demonstration projects is mainly a result of high operation costs of such units. Great barrier of CCS development is also aforementioned reduction in the efficiency of generation units as a result of addition CO₂ capturing installation, as well as lack of reliable analysis proving the possibility of storing large quantities of CO₂ underground. That is why the concept worth further development is the idea of Carbon Capture and Utilization (CCU) that consists of the utilization of the previously captured CO₂ in the industrial processes. That is how controversial and arising public resistance problem of underground CO₂ storage could be eliminated.

7. How can public acceptance for CCS be increased?

Public acceptance in case of any new technology must be supported with detailed research and analysis starting with small demonstration projects. There are no experiences with CCS in the electricity sector to speak of, as there exists only one demonstration plant using CCS technology which generates electricity (Plant Barry CCS Demo/USA). Any new methods/technologies wake the sense of distrust, especially among those who live in the neighbourhood of such installation (e.g. waste incineration plants, nuclear power plants), that is why this is a long-lasting process which cannot be in any way significantly accelerated.

Yours faithfully,


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