Spanish Technological Platform of CO_2 – PTECO2

"Plataforma Tecnológica Española del CO_2 – PTECO2"

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PTECO2 comments paper on the European Commission consultative Communication on "The Future of Carbon Capture and Storage in Europe

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 renewable) by 2050,

b. Develop a national strategy to prepare for the deployment of CCS technology.

The objective of the communication is to explore measures that would enable CCS demonstration phase kick-off, therefore it should be stressed that requiring member states to set a roadmap to abandon fossil-fuel based generation towards non-carbon emitting fuels by 2050 will not favour the development of CCS. EU policy should aim to facilitate a range of technology options rather than seeking to constrain Member State choices. All technologies should be available and used based on competitiveness. In the same way, any energy roadmap should be based on competitiveness at the same time as climate factors.

To develop a national strategy for the deployment of CCS technology is crucial to take advantage of this technology knowing since fossil fuels will need to be used in the next decades. Beside this, Europe should work in two directions: first, take a more holistic approach to developing CCS instead of narrowly focusing on CO_2 capture, and second, design an harmonised strategy for developing CCS within the Member States in other to take benefit of all national experiences. For the last, a common timing in developing all the chain is needed.

The impulse of a common regulation throughout the European territory may favour the development of CCS since there are many difficulties in certain parts of the chain due to uneven regulation in different countries and territories (permissions for the path of pipeline and exploration, for example).

Similarly, the promotion of European consortia can provide infrastructure development funds.

An interesting field to work with should be developing of CO_2 as raw material, so the uses of CO_2 could pull up develop of CCS.

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?

In our view the EU ETS should remain the cornerstone of the EU climate and energy policies and therefore continue to be the main policy option to foster all the low-carbon technologies including CCS.
We strongly advocate for EU ETS be revised as soon as possible, either by supporting a short-term fix and a long-term structural reform.

However, even though CCS is dependent on a strong carbon price to become commercially viable, the ETS is not designed to support R&D technologies, its reform for this purpose would result in a prohibitively high carbon price. If the market is not giving the enough prices to develop CCS technology, complementary mechanisms should be implemented. In this sense initiatives as NER 300 are good examples. In any case, complementary instruments should be applied to technologies that demonstrate commercial viability. Technologies in previous stages should be helped by R&D funds.

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**

European Commission and Member State Authorities should propose other complementary means of support and policy measures with the focus on achieving the deployment of demonstration projects

CCS is at the start of the learning curve, with huge potential to drive costs down. However, early movers will incur significant upfront costs, with an uncertain environment for long-term investment being, therefore, necessary to establish measures for the early deployment of the technology. Using EU ETS auction revenues for technology development including CCS is a factible and supportable idea. Tax incentives could be a good approach for developing technologies until they become in commercial stages.

An Emission Performance Standard or CCS certificates system, or any other means of support or policy measures aimed at creating a conducive business case for CCS need to be carefully crafted to account for possible interactions with the carbon and electricity wholesale markets; to be flexible enough to accommodate CCS needs and linked incentives while the technology develops; and to avoid any other unwanted consequence such as project developers' over-compensation.

A CCS certificate system do not fulfill with these characteristics and could have considerable negative interferences in the ETS system, that should be the main mechanism for climate objectives for technologies in commercial stage.

Furthermore, EPS could have a number of negative and unintended consequences. For instance, by removing the option of investment in coal-fired power stations an EPS could undermine, on one hand, the principle of MS to be exclusively responsible for its energy mix and in the other, the right of the utilities to have flexibility in developing balanced portfolios of plants. This will ultimately impact on the energy security as well as on the electricity prices for the consumers.

It might be interesting to note the inconsistency between the adoption of an EPS another, European legislation as the Industrial Emissions Directive (adopted in Nov 2010) which establishes the non-introduction of limits on the emission of greenhouse gases (art 9); or the CCS Directive (adopted in Apr 2009) that Article 38 of the CCS Directive, adopted in April 2009, states that once the technical and economic feasibility of the CCS technology had been demonstrated, the implementation of EPS would be studied.

Given that the Commission Communication acknowledges the failure of the demonstration phase in Europe, the adoption of an EPS would contravene the provisions on the CCS Directive.
It should be also stressed that the adoption of the EPS in California has neither promoted the development of CCS nor had a substantial impact on the Californian generation mix, whilst it could have substantial and disparate effects on the different EU member states, potentially jeopardizing the EU internal energy market.

The adoption of EPS or CCS certificates would mean that a technology in its demonstration phase would have to compete with more mature technologies, with the unwanted consequence of investment displacement to the latter, hindering the objective of CCS technology deployment

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?

PTECO2 supports the application of sensible provisions in terms of carbon capture readiness as laid down in the current CCS Directive. However, if generators do become required to fit CCS in the future, it should only be at a time when the technology has been demonstrated at scale and is readily available through conventional procurement routes.

Furthermore, it should apply to all large emitters of CO_2 without undermining competitiveness. If these preconditions are not met, we fear that the debate risks becoming too academic and is simply likely to put further barriers in the way of new investment.

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

The technologies to be supported are those in pre-commercial stage. Previous states, as mentioned before, should be supported by R&D funding. One aspect to consider in support is the tax incentives that can be very supportive.

Global competitiveness is in the backyard of the mechanisms to be foster in the E.U. To develop CO_2 abatement policy while not to lose global competitiveness is a key question that should be addressed.

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

- Economic situation

  Currently, the European economic situation is problematic and the companies of the electrical sector and in general all industrial sector are not an exception. It is expected that the recovery occurs in the next decade, so new investments will be done.

- ETS and price of CO_2

  CCS is one of the technologies which enable electricity generation with a lower level of emissions than the current, but it is not the only one. The ETS should be the driver for emissions reduction in electricity generation in an economically efficient way.

  The price of CO_2 is the main problem for the development of the CCS. With prices around €5/t (or even less -22/4/2013-: 2.84€/t CO_2) there are no profitable projects. Surplus of allowances that are expected for the actual period, will maintain prices in low levels at least for the next months/years. Some measures being considered in the scope of the ETS will be also favourable in this sector. Por instance, measures like bacloading could increase in the price of allowances in the short term, it also implies the expectation of lower prices in the medium / long term business scenario affecting the CCS. Nevertheless, there must be pointed out that these measures will be insufficient to enable the phase demo on. So Both R&D and Demo efforts are strongly needed for CCS to become a real option in a 10 years´ time.

- Needs of investment in new power plants and industries

  The fall in demand in Spain has brought the country in a scenario of overcapacity. On the other hand, the promotion of renewable energies in recent years, has also contributed to this situation. It is expected that in the coming years additional thermal power plants won't be installed.

  In the industrial sector, strongly affected by the crisis, the short term prospects are not better. In the medium term it might be thought CCS plants for new industrial facilities or in the case of refurbishment of the obsolete whenever an increase in the price of CO_2 is set or supported with other types of funds. It is crucial to continue the development of financing mechanisms.

- Harmonisation in Europe regulation and supporting CCS

  While there is certain European consensus for promotion renewable energy sources, there is not the same support for the CCS. Proof of this is the uneven transposition of Directive 2009/31/EC. Within the countries, same difficulties are found. In Spain, for example law 40/2010 transposing the Directive by an autonomous region is under appeal.

The impulse of a common regulation throughout the European territory may favour the development of CCS since there are many difficulties in certain parts of the chain due to uneven regulation in different countries and territories (permissions for the path of pipeline and exploration, for example).

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Some other technical factors as the composition of the CO_2 to be captured, transported and storage need to be harmonised in all Europe. The fewer consensuses at the international level, the more difficult projects developed.

- Need of develop transportation basis

  It is necessary to develop the specific regulation for the transport of CO_2 from capture to possible storage places. We must not forget that transport networks will be, at the beginning, for local transport, from an industrial nucleus or a power plant to the place of storage. For the development of this market, regulation would be suitable ad-hoc taking into account the positive aspects of the development of transmission infrastructure in other sectors and, at the same time, spacing it with demand, avoiding some current mistakes that have resulted in deficits in other sectors such as gas or electricity. Therefore, while the logical institutional support that gives some security to the promoters, it is necessary to introduce competitiveness in the development of CO_2 transport networks.

  At the same time, as an Iberian entity, we would like to remark that a real European network for CO_2 transportation should include also our peninsula.

- Assurance of available storage capacity

  While developing the appropriate conditions that would enable wide-scale deployment, there is risk of loss of storage capacity. To avoid this situation early movers should be incentivized to retain the storage capacity available for CCS. In this sense additional safeguards regarding research/storage permits, to those provided in the CCS Directive, should be established.

7) How can public acceptance for CCS be increased?

Information is a key factor that can move public opinion, since there is some rejection to all referred to the use of the subsoil. Successful and transparent integral demonstration projects are needed in order to build up an objective public perception, rather than merely "acceptance or not acceptance". Promotion of CO_2 applications can also help and be an economic lever that gives momentum to the CCS and gives the society the right message of doing all we can do with CO_2.