

Consultative Communication on the Future of Carbon Capture and Storage in Europe - GDF SUEZ Answer

General comments

Today, given the very low value of European CO₂ allowances there are currently no market incentives for low-carbon technologies, including CCS. The priority of the EU should be to restore confidence in its ETS system, through short-term measures (back-loading of auctioned allowances in phase 3), and longer-term measures, such as described in the Carbon Market Report of the Commission, to provide a long term business case for CCS.

Given the right context, Carbon Capture Transport and Storage is expected by the IEA to be one of the most efficient and cost effective technologies available to mitigate large volumes of CO₂ emissions, technically capable of contributing one-fifth of the total emissions reductions globally through 2050. In addition, there are no alternative technologies available that can substantially reduce CO₂ emissions from thermal power generation, steel, cement, natural gas processing, paper, synthetic fuels and chemical plants.

In order to help reduce GHG emissions and within the current context of uncertainties (on fuel prices, level of CO₂ prices and grid constraints), GDF SUEZ believes that all available technologies should be used, including fossil fuel power plants equipped with CCS, RES electricity and nuclear power plants.

Consultation questionnaire

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.

GDF SUEZ prefers an EU approach for the global economy, including the energy sector.

Rather than promoting a national energy strategy for the deployment of CCS technology, the Group advocates a well-functioning ETS to reach the low carbon economy objective in 2050, based on CO₂ emissions reduction milestones (2030, 2040), including all sectors of the economy.

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?

GDF SUEZ has expressed its views in the consultation on the structural measures for carbon market reform. GDF SUEZ supports measures to rebalance the market given the current huge oversupply of CO₂ allowances; these measures should prevent any replication of the current imbalance situation in the future.

However, it is unlikely that the carbon market reform will lead in the short term to the levels of CO₂ price needed to kick-start CCS investments. Moreover, the ETS must be a technology neutral, market based instrument and it is not specifically designed to favor investments in the CCS.

Due to their "first of a kind" characteristics, investments in demo projects should be covered by financial support mechanisms. Therefore Member states could use auction revenues to provide financial support for demonstration projects as is set out in the ETS Directive.

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

General remarks:

- GDF SUEZ considers that support and policy measures on CCS should be based on two fundamental principles:
 - 1) the EU-ETS should provide a price signal for low carbon investments, therefore any CCS support should be designed to work complementarily with the EU-ETS ;
 - 2) any additional CCS support mechanism (if necessary) should be as little distortive as possible with respect to other existing assets.
- To limit competition distortion, CCS support targeted at investment (CAPEX) should be preferred. However, we consider that the support could also include operating costs in a transitory phase as long as the technology remains in a commercial proving phase. This operational support should be restricted to a limited number of plants, to minimize electricity market distortions.
- Regarding the EU-ETS, some visibility and guarantee should be provided to CCS investors to make sure that CO₂ price will not crash again below the necessary level to foster the technology when it has reached a commercial stage, as this would have disastrous effect for investors having made such investments.

Specific questions:

- a) As provided for in the ETS Directive, revenues from auctioning could be used to support CCS demo projects in the pre-commercial phase. Once CCS becomes commercially available, it should be self-supporting through the carbon market price.
- b) The electricity sector in general is not in favor of Emission Performance Standard (EPS).
 - The EPS should not be considered to be a direct CCS support mechanism and on its own will not support CCS deployment. The EPS is a regulatory tool that is designed to prevent the development of particular technologies (either wholly unabated coal or gas plants, depending on the level of the EPS). It does not provide any compensation for CCS developers for the increased costs of fitting and operating CCS.
 - Article 9 of the Industrial Emissions Directive, adopted in November 2010, provides for the non introduction of limits on the emission of greenhouse gases (no double regulation of the same item).
 - In practice, the risk of an EPS would be to lower the appetite of investors to invest in fossil fuel power plants, as its level would always be subject to revisions and uncertainty.
 - EPS is not compatible with the ETS as it introduces a double regulation of CO₂ emissions.
- c) On CCS certificates: The electricity sector favors technology neutrality and rejects mandatory technologies. Imposing a percentage of CCS equipped generation would further degrade the functioning of the internal electricity market.

CCS certificates would be yet another instrument, after green certificates, white certificates, CHP certificates,... tailored to a single technology and compromising the principles of the ETS: cost-efficient carbon reduction by technology-neutral competition among different solutions including nuclear, high efficient fossil, RES, energy efficiency, CCS etc.
- d) Another type of policy measures ?

Contracts for difference have sometimes been mentioned, but as CfD-supported power plants are outside the electricity market, this situation would further degrade the competitive position of other plants.

For demonstration projects only, financial investment support could be granted for CAPEX, while the higher operating costs should be covered through an improved carbon market and sufficiently high carbon prices.. However, considering that the EU ETS market price does not currently show a sufficient level to support adequately the operating phase of **first of a kind demos**, an **exceptional** temporary support for OPEX (related to the plant capacity, on a yearly basis) could be provided, failing which demonstration projects will be delayed another 10 years which would impact on overall technology development speed and capacity to reach a decarbonised economy.

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?

No, considering the state of development of CCS projects in Europe and the lack of experience with them, GDF SUEZ does not wish to go beyond the current provisions of the CCS directive.

It would be dangerous to prescribe CCS readiness while the technology has not yet been proven and is not commercially available, and not supported by an efficient carbon market.

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

GDF SUEZ is opposed to such a measure, which would be very complex to put in place.

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

Some of the main obstacles to CCS early demonstration and deployment are, amongst others:

- the lack of business model:
 - low CO₂ price not covering operational extra costs
 - lower running hours for fossil fuel plants due to decreased share of liberalized market and large share of subsidized RES, and the impact of the economic crisis,
 - insufficient public funding
 - economic situation
- the lack of vision on future climate policy
- low public support for onshore storage
- lack of identified storage sites
- lack of national transposition of CCS Directive in most promising Member States, or transposition limited to small projects

7) How can public acceptance for CCS be increased?

GDF SUEZ believes that successful implementation of measures related to the development of new technologies at large scale, such as CCS, requires involvement of all relevant stakeholders. Undoubtedly, industry plays a critical role in this debate. Likewise, there is also a need for involvement of the whole society to understand and further promote the benefits of new technologies, before bringing them to the market. Therefore, we support public-private partnerships aimed at improving public perception on emerging technologies, like CCS.

Open and transparent communication with stakeholders to understand their local concerns, answer questions and collaboratively seek solutions is important early in the planning process. We see an added value of using the following communication tools:

- Organization of public meetings attended by the industry representatives, researchers, public authorities.
- Organization of workshops, information campaign, fora aimed at exchange of information with interested parties.
- Websites, Factsheets would be beneficial too.

While providing information on low-carbon technologies to the public, costs for energy consumers and citizens need to be openly discussed and made clear, particularly in terms of any impact on standards of living, rather than downplayed. This is most urgent in terms of building public acceptance for new energy infrastructure. The EU citizens should also receive information on the cumulative costs of climate policy instruments and the new infrastructure needed to shift to a low-carbon energy sector.

Public acceptance and support could be fostered in a number of ways, e.g.:

- **Developing pilot storage**

Storage is one of the most critical areas to ensure that CCS is well understood, hence accepted. Developing pilot CO₂ storage projects is thus necessary to allow people to familiarize with CCS, grasp the complexity of the technology and have a first-hand insight into its functioning.

- **Painting a fair picture of CO₂ and CCS**

Awareness should be raised that CO₂ is, in fact, a naturally occurring gas which has been safely used as a feedstock in the food industry for decades. It is neither toxic, carcinogenic, explosive nor inflammable. The so-called Carbon Capture & Usage (CCU) could actually play a much greater role in demonstrating the benefits of carbon capture technology. Also, in the long run, CCS could also be coupled to biomass-fired plants, showing the benefits of directly linking renewables and CCS by achieving negative CO₂ emissions.

- **Engaging the public, fostering acceptance**

Public acceptance can be fostered by showing the benefits arising from CCS. Those read: creation of specialized jobs and preservation of jobs in the mining and oil & gas industry; industrial competitiveness; fuel diversity, security of supply and affordable electricity supply; etc. Experience has shown that the best way to secure public understanding and support is to develop strategies at national and regional level, for the cultural differences among countries and regions needs to be recognized and tackled if the conveyed messages are to be successful and effective.