



Lafarge's view on the Commission consultative communication of 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 renewables) by 2050,**
- b. develop a national strategy to prepare for the deployment of CCS technology.**

No specific view from Lafarge

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?

The deployment of CCS involves the development of breakthrough technologies. Technical and financial risks are part of such development. Public financing is aimed at mitigating the financial risk involved and at providing incentives for private operators to engage in projects which would normally not be financed based on market returns on investment. It is not ETS primary objective to provide incentives for CCS deployment.

In this context, public incentives should

- Acknowledge the technical risks involved and provide financing for the development stage without coupling the actual payment to a successful outcome. Currently, the EU Emissions Trading Directive makes the awarding of allowances from the NER 300 dependent upon the "verified avoidance of CO₂ emissions": this not only requires the project to be successful (i.e. excluding any risks) but also makes funding available only at the end of the project;
- Foresee, in a proper and predictable legal framework, for any upfront public funding or additional financial resources from national governments: the need to go through separate state aid notifications for these national funding measures, combined with the uncertainty caused by such reviews, does not allow for the development of a viable business plan at the conception phase of the project.

In terms of revenues from auctioning, Article 10(3) states indeed that at least 50% of the auctioning revenue should go to a number of listed priorities, amongst which carbon capture and storage, including in industrial sectors (Article 10(3) (e) EU ETS). This provides the legal basis for complementing funding from the NER 300 through auctioning revenues.

One key point in CCS is that operational costs of a plant equipped with post-combustion carbon capture technology are estimated to be double the cost of a conventional cement plant, while oxyfuel use would incur 25% higher operating costs. In order to cover the costs of capturing CO₂, and assuming a cost of capital of 8% on an increased capital sum of €200M and 750kg CO₂/ tonne clinker and an increase of variable costs of €28/t, the breakeven CO₂ price would have to be of the order of €55-60/t just for capture. Additional costs would then be incurred for compression, transport, injection and storage.

The lower than expected financing provided by the New Entrant Reserve 300 (NER 300) is a consequence of the drop of the carbon price mainly due to the crisis. It would be inappropriate and harmful to revise the ETS - a policy instrument designed to cover a broad range of sectors - with the specific aim of strengthening the NER 300 financing capability through a higher carbon price.

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

The Communication proposes two alternative models for the future promotion of CCS: a mandatory CCS certificate system and emission performance standards.

These models must be better developed and assessed before any decision is taken with special attention to avoid excessive regulatory burden and market distortion. In particular, strict emission performance standards may not be adequate to support in the most cost efficient way the demonstration and deployment of this technology.

An in-depth study of the technical viability of CCS and an impact assessment of associated costs, including resulting energy prices, for all industrial sectors concerned must be carried out before taking any decision on schemes to support the mandatory deployment of CCS.

For post 2020, Lafarge calls for an integrated approach which takes into account climate change, energy, industrial policy and resource efficiency. The fundamentals should be addressed in such a way that:

1. Predictability and stability are ensured;
2. A level playing field from both a geographical and a sectoral point of view is guaranteed;
3. Long-term growth, jobs and investments in Europe are stimulated.

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 specific view from Lafarge.

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

No specific view from Lafarge.

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

The main hurdles to be addressed on CCS are costs and infrastructure/storage, while the technology to capture emissions at source is not so critical. Therefore,

- A working ETS will drive the cost of carbon to the level that will contribute to make CCS economically viable; complementary funding, demonstration programs will be however needed. Hence in the interest of fast deployment of CCS, all efforts should be focused on improving ETS functioning, whereas the options proposed by the EC rather carry the risk to further undermine it
- The financing of infrastructure/storage cannot be done by single or few installations. For their implications and size, infrastructure and storage sites have to be provided by governments, and financed using a portion of revenues from auctioning

It is Lafarge's view that the main obstacles to ensuring sufficient demonstration of CCS in the EU are for industrial sectors:

- Cost competitiveness of CCS

Building new plants equipped with carbon capture technology and retrofitting existing plants are costly undertakings that would have a direct impact on the cost of the product. Cement produced in a carbon capture-equipped plant could never be as competitive as cement produced in a non-carbon capture-equipped plant. The operational costs of a plant equipped with post-combustion carbon capture technology are estimated to be double the cost of a conventional cement plant, while oxyfuel use would incur operating costs which are 25% higher.

Carbon capture could be applied in the cement industry only if the international political framework effectively limited the risk of carbon leakage (relocation of cement production to countries or regions with fewer constraints).

- Increased energy consumption

Uptake of CCS technology by the cement industry would mean a significant increase in power consumption¹. For CCS to make sense from an emissions perspective, additional power requirements would have to be supplied by low or net zero-carbon power generation.

- Public acceptance

Public awareness of CCS is currently low, and the public has not yet had the chance to form any firm opinion on CCS and its role in mitigating climate change. European, national, regional and indeed local

¹ SOURCE: WBCSD/CSI-ECRA, 2009

support would be needed to push CCS beyond the research stage. CCS would also require the support of local communities near storage sites to avoid a 'not in my back yard' scenario.

- CO₂ storage and infrastructure

Clearly, the ability of storage sites to retain injected CO₂ is essential to the success of any CCS project. Storage sites would, therefore, have to be very carefully selected and monitored to ensure the highest level of confidence in permanent storage. This means that only specific locations, not necessarily in close proximity to cement plants, could be considered for carbon storage

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