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Evidence to UK Business, Energy and Industrial Strategy Committee Inquiry: Carbon Capture, Usage and Storage – Supplementary RAB business models, gas networks, transport pipe re-use and decommissioning

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Key points: RAB business models, market creation, gas networks, transport pipe re-use and decommissioning

1. Creating clusters of carbon dioxide (CO_2) transport to storage was recommended by the UK's CCUS Task Force.
2. Transport of CO2 through pipe infrastructure is recommended to be operated by regulated asset base (RAB) methods.
3. It is unclear to existing gas network operators that they have the remit to invest in such RAB.
4. It is unclear to hydrocarbon companies that they wish to enter into a RAB.
5. Is the UK Government able to *clarify who has the legitimacy and authority to create a new CCS RAB, describe how this will be achieved and take steps to enable the process?*
6. One potentially very large area of demand for CO_2 storage services is the production of hydrogen from methane. This will depend on the ability to sell hydrogen into the UK gas distribution network. However, for any hydrogen to be placed in the distribution network, it is necessary for gas content to be altered. These are the Gas Safety Management Regulations (GSMR) Schedule 3 (1996). This change is considered by many to need Parliamentary time, rather than being in the control of Ofgem. What action is Government taking to enable this before gas networks decide in 2019 on investment plans for their next five-year budget period? *A delay will prevent gas networks from being hydrogen customers, and will block a potential market for CCS.*
7. The cost of developing CO_2 transport can be reduced by re-using existing pipe infrastructure.
8. A decommissioning process operates offshore to remove unwanted pipes.
9. It is apparent that the novel re-use of pipes, re-purposed from oil and gas transport to carry CO_2, or used as hydrogen stores, has not been adequately considered in decommissioning.
10. Government needs to urgently create a method by which oil company (or onshore) pipe owners can transfer ownership of selected identified pipes to a holding organisation, which can preserve pipework for five to 15 years until CCS developments emerge.
11. The benefit of pipeline re-use rather than decommissioning for the Acorn CCS project is a cost saving of £150 million, reducing the price of a £450m CCS project to a £300m project.

12. Similar benefits are likely to occur with additional offshore pipes in Scotland, east England, and north-west England. The Oil and Gas Authority (OGA) appears to give re-use an extremely low priority, meaning that *public finances will bear extra charges.*
13. The CCUS Task Force recommended clusters as a geographic approach to CCS, with a business disconnect between capture operators and transport and storage operators. Cluster criteria were suggested in the Task Force's report, but BEIS have not yet confirmed whether these will inform their choice of the regional clusters to undertake further design and costing, leading to development. An answer to this question will enable CCUS developers to undertake speculative work assessing a region to be suitable for CCS development. *Can BEIS confirm that the cluster criteria identified in the Task Force report are valid and will form the basis of regions being able to progress CCS simply by ensuring that they meet the identified criteria?*

In the larger sense of "business model" there is a lot of attention by Government on reducing costs. But *very little attention on creating value. If a value can be placed on the amount of CO2 being stored then the CCS business will rapidly emerge.* The value needs to be durable and investable. This can be driven by simple Government regulations. Examples of potential regulation in the control of Government are:

Lower carbon content standards in methane gas networks – encouraging hydrogen substitution;

Procurement mandates for low-carbon concrete used in public-funded construction – encouraging creation of low-carbon cement;

Targeted carbon pricing on selected economic activity, to nudge user change (as with coal at power plant);

A *certificate awarded free to each tonne of carbon*, with a mandate set by Government to store a percentage of each tonne. This may start at 0.25% of each tonne, effectively invisible to a single user. This creates a demand for CO_2 storage across the whole economy, so that all industries share the burden. The CO_2 Certificates are discharged by payment to a Transport and Storage Operator who aggregates across the UK economy, sufficient to create and operate a CCS transport and storage RAB, initially at 1 million tonnes per year and rising through time with Government mandate.

What actions is BEIS taking to create markets which will incentivise profitable storage of CO2?