
Carbon Capture Usage and Storage (CCUS) Transport and Storage Regulatory Investment (TRI) Model overview

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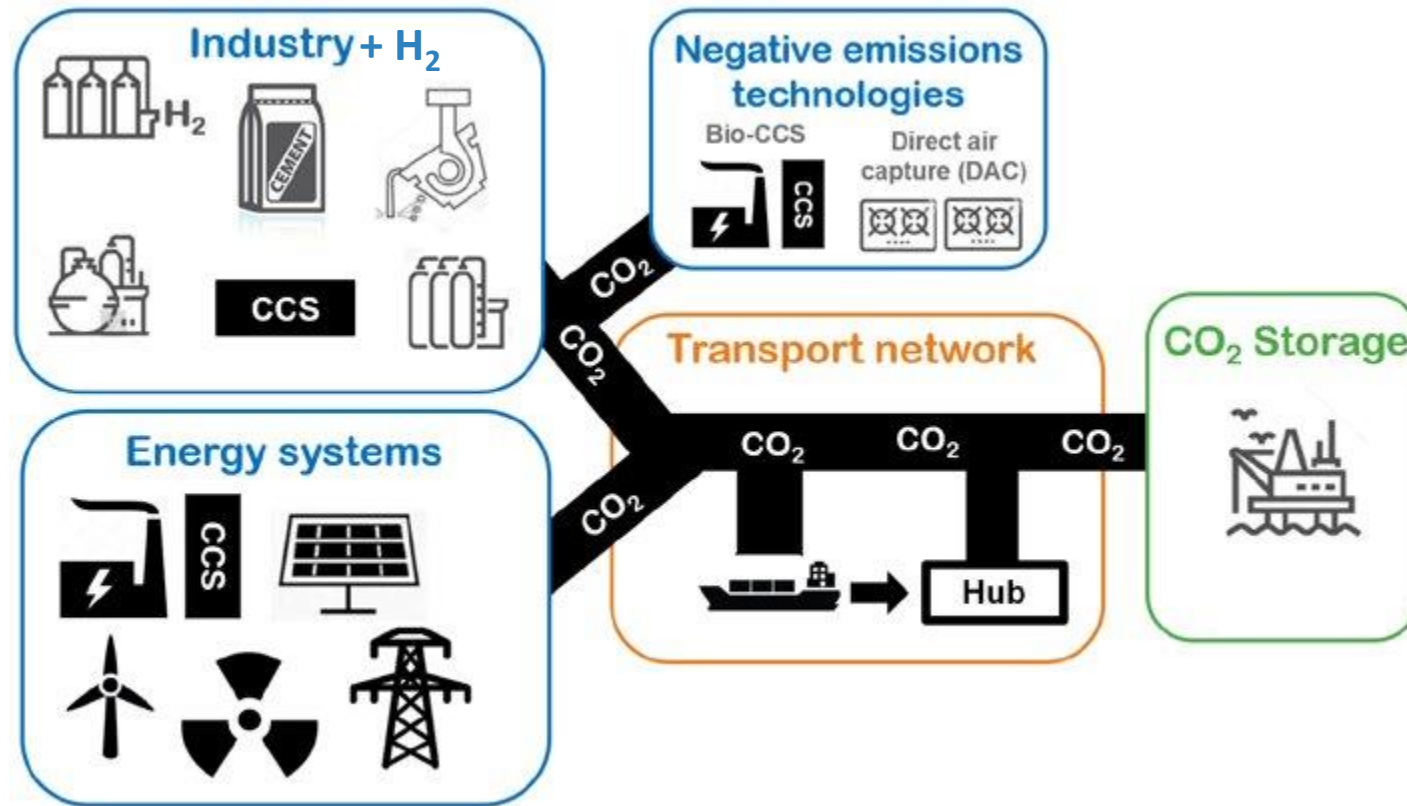
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Disclaimer

- These slides set out further details on the government's current thinking on key aspects of a potential business model for CO2 transport and storage. The details, as set out in the slides, in whatever form they are expressed, are indicative only and do not constitute an offer by government and do not create a basis for any form of expectation or reliance.
- The business model is not final and is subject to further development by the government, and approval by Ministers, in consultation with relevant regulators and the devolved administrations, as well as the development and Parliamentary approval of any necessary legislation, and completion of necessary contractual documentation. We reserve the right to review and amend all provisions, for any reason and in particular to ensure that any proposals provide value for money (VfM) and are consistent with the current subsidy control regime.



What is CCUS?



Thanks to Dr. Mai Bui from Imperial for the graphic

What are the UK's ambition for CCUS?

Commitment*

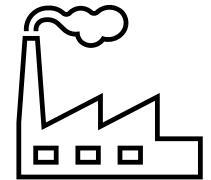
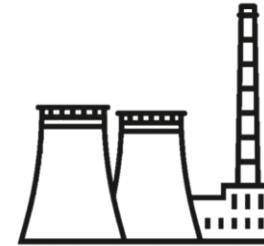
At least 2 clusters by mid-2020s, and 4 by 2030 at the latest
An operational CCUS power station by 2030

Benefits by 2030:

20-30 MtCO₂/yr captured

5 GW low carbon H₂ supported

50,000 jobs supported



Clusters and the Infrastructure Fund

Transport and Storage

Power CCUS

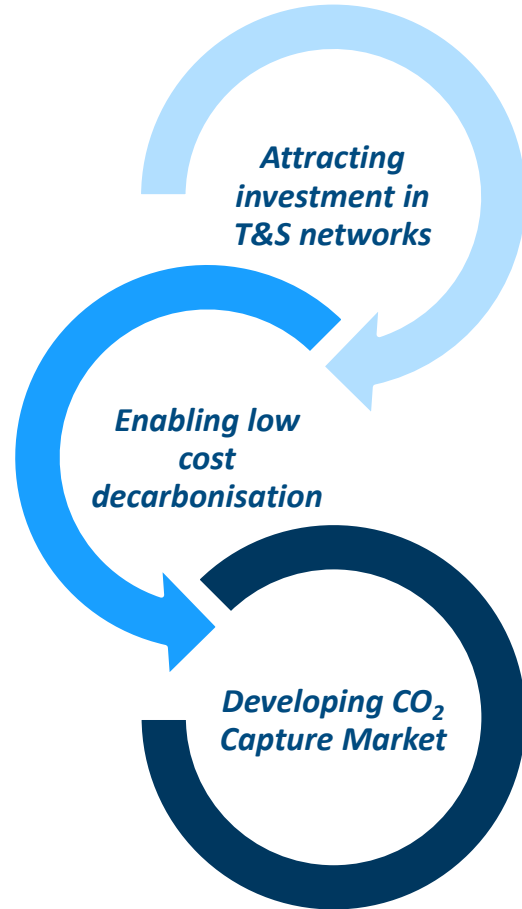
Industrial Carbon Capture and Hydrogen

Funding, Business Models and Sequencing Process

** announced in '10 Point Plan for a Green Industrial Revolution';*



The objectives of the T&S regulatory investment model



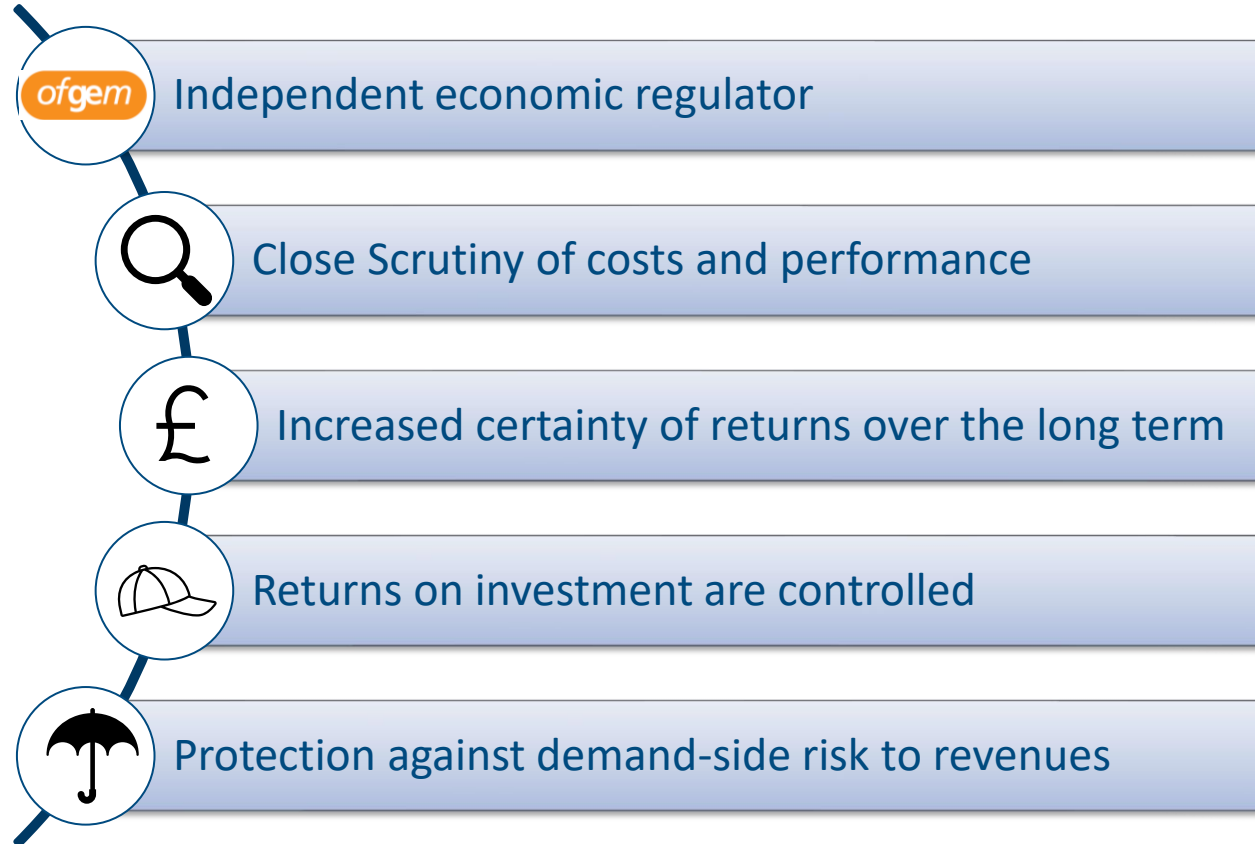
- Establishing a commercial framework that enables and supports stable investment in CO₂ T&S projects over these long life assets;
 - Providing investors with a clear sight of the long-term revenue model to ensure they can earn a reasonable regulated return on their investment
- Balancing the need for anticipatory investment to address future demand against the economic attractiveness of the T&S network to near term users.
 - Ensuring T&S networks can accommodate multiple and different types of users with varying demand profiles
 - Accommodating to different potential network designs and growth profiles.
- Deliver an Economic Regulatory Regime (ERR) that provides sufficient flexibility to allow for future CO₂ market expansion (potentially including non-pipeline transported CO₂) whilst ensuring affordability and VfM for the users.

The regulated asset approach to T&S

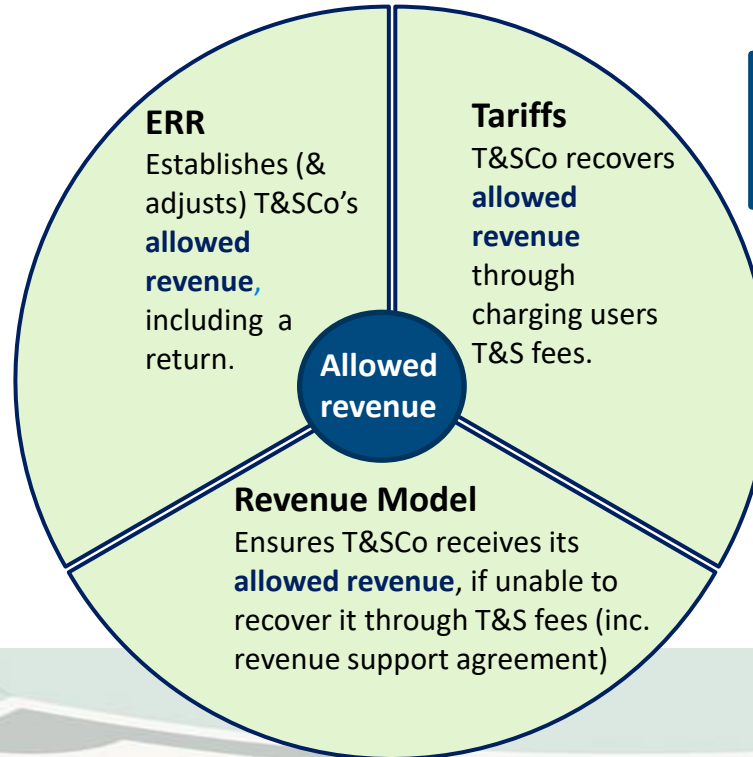
Why are we using a regulated asset model approach for T&S?

- T&S networks share the same characteristics as other infrastructure networks (gas, electricity, water, etc):
 - Significant upfront capital investment
 - Long operational life assets
 - Modular network, i.e. both length and capacity can be increased
 - Customers physically connected to the network
 - Duplication of the physical infrastructure is costly and inefficient
 - Lack of competition for T&S service could lead to anti-competitive behaviour
 - High costs (monopoly pricing)
 - Low quality services
 - Restricted access

What does this mean for the TRI-model design?



Key components of the TRI-Model



$$\text{Allowed Revenue}_t = \text{Return on Capital (RoC)}_t + \text{Depr.}_t + \text{Opex}_t + \text{Decom.}_t + \text{Tax}_t + \text{Adj.}_t$$

Where $\text{RoC}_t = \text{RAV}_t \times \text{WACC}_i$

Government Support Package (GSP)

HMG protection against specified high-impact low-probability risks which private sector cannot efficiently bear

Coverage: **CO2 leakage from the store and stranded asset**).

Compensation: Up to the value of the **RAV**

Products and timeline

