CARBON CAPTURE AND STORAGE / CARBON CAPTURE READINESS

Directive 2009/31/EC on the geological storage of carbon dioxide (the Carbon Capture and Storage (CCS) Directive), and the more recent Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control) (the Industrial Emissions Directive (IED)) oblige EU Member States to ensure that operators of all combustion plants with an electrical power generating capacity of 300 MW or more have assessed whether: suitable storage sites for carbon dioxide are available; transport facilities are technically and economically feasible; and, it is technically and economically feasible to retrofit the combustion plant for carbon dioxide capture.

If the conditions are met, the competent authority is to ensure that suitable space is set aside for the capture technology necessary to capture and compress carbon dioxide from the combustion plant.

In the UK the relevant competent authority is the Department of Energy and Climate Change (DECC) who must ensure that the requirements of the EU Directives are implemented. They are also able to impose more stringent requirements in the UK and, in giving effect to this, have published policy on when Carbon Capture Readiness (CCR) must be established and when CCS itself must be in place.

In terms of CCR, as part of a consent application, policy requires that developers demonstrate:

- *"That sufficient space is available on or near the site to accommodate carbon capture equipment in the future;*
- *The technical feasibility of retrofitting their chosen carbon capture technology;*
- *That a suitable area of deep geological storage off shore exists for the storage of captured CO_2 from the proposed power station;*
- *The technical feasibility of transporting the captured CO_2 to the proposed storage area; and,*
- *The likelihood that it will be technically and economically feasible within the power station's lifetime, to link it to the full CCS chain, covering the retrofitting of the carbon capture equipment, transport and storage".*

Furthermore, "*if applicant's proposals for operational CCS involve the use of hazardous substances, they may be required to apply for Hazardous Substances Consent (HSC). In such circumstances, they should do so at the same time as* [… their consent application]".

In terms of CCS, as part of a consent application in respect of a new coal-fired electrical generating station, policy requires that developers submit:

- "*Technically feasible plans for a capture unit covering the minimum size requirement of at least 300 MWe net capacity of the power station … ;*
- *An Environmental Statement for the power station, including the impacts of the proposed capture facilities … ; and,*
- *Documentation to ensure compliance with all other existing policy including that the entire plant's capacity is CCR".*

Our Capabilities and Key Experience

The WPA team are able to prepare both CCR Feasibility Studies and CCS Design Concept Reports to support consent applications. These Studies and Reports can be based on the basis of a number of potential carbon capture technology options for power plant operating on a wide variety of fuels.

In addition, the WPA team are able to provide support and advice with regards to the application of policy regarding CCR and CCS to existing or proposed power plant, adding value to potential conversion or site selection decisions.

Key experience of the WPA team members includes advising the UK Government during the DECC CCS Demonstration Competition and the European Investment Bank during NER300, managing the consenting of the first CCR CCGT power plant in the UK and lobbying the UK Government leading to a reduction in the CCR space requirement for CCGT power plant in the UK.

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