

Horizon 2020 – LCE15 – 2015 call

The UK is a world leader in CCS. The following organisations from the UK have specific expertise in industrial CCS, these include:

- Tees Valley Unlimited – the project managers of the Teesside Industrial CCS network
- NEPIC – a cluster organisation covering major industrial emitters
- Costain - a leading engineering firm with a capture technology to pilot
- SCCS - the UK's largest CCS research network

These organisations, either collectively, or separately would like to bid for the industrial CCS call 2015, however due to the limited time available before stage 1 closes, would like to add value to an existing consortium. Details about what each organisation can bring to a consortium are outlined below, including the relevant contact details.

Tees Valley Unlimited

Tees Valley Unlimited is the Local Enterprise Partnership covering Teesside in North East England, one of the most integrated industrial sites in the UK. Teesside is often seen as the natural home for industrial CCS with closely located emitters, existing pipe infrastructure, existing CO₂ exports, and a location close to storage sites in the North Sea. In December 2013 Tees Valley Unlimited negotiated £1million from DECC to develop an industrial CCS network on Teesside focused on four industrial sites; SSI's blast furnace, Growhow's ammonia facility, BOC Linde's Steam Methane Reformer, and Lotte Chemicals PET facility. This project is currently determining the most appropriate capture technology for the sites, identifying the onshore and offshore route, determining the best storage site, and also developing the commercial structure and business case for the network. In addition, the funding will design a mechanism which could make industrial CCS bankable. This work will be complete by June 2015.

Teesside is the only place in the UK taking an active role to develop an industrial CCS network. The Prime Minister commented that it was 'globally pioneering'.

Teesside would be interested in demonstrating a pilot capture plant on one of the industrial sites. Particular candidates would be the PET plant, or one of the CO₂ sources from the blast furnace and coke ovens.

Undertaking a pilot in Teesside would fit with the UK's vision for developing industrial CCS, would demonstrate the technology in a location likely to be installing the technology at commercial scale, and would benefit from the work currently being undertaken in Teesside on industrial CCS.

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NEPIC

NEPIC is the North East Process Industry Cluster with over 400 members across the North East of England. NEPIC's members are Chemical, Petrochemical, Polymer, Specialty Chemical, Fine Chemical, Pharmaceutical, Biotechnology, Composites, Bioresources, Biofuels and Renewable Materials and Energy Companies. These companies include SABIC UK Petrochemicals, Fujifilm Diosynth Biologics, Sembcorp, GrowHow, Glaxo Smith Kline, Huntsman Pigments, Johnson Matthey, SSI, Lucite, Lotte, BOC Linde, ConocoPhillips, Tata Steel, Ineos, and Huntsman Polyurethanes.

The member companies cooperate through the Cluster to promote the regions capabilities as well as the capability of individual member companies. All of this work is aimed at the rejuvenation and growth these key hi-tech industries while leading them into a lower carbon sustainable future.

NEPIC co-ordinates the Process Industry Carbon Capture and Storage Initiative, a network of industrial operators on Teesside interested in promoting CCS in the area.

NEPIC is a stand-alone company, limited by guarantee, which was created and is owned by its member companies. NEPIC has received the Gold Label Cluster Award from the European Secretariat for Cluster Analysis, the first in the UK to receive this level of recognition.

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Costain

The Costain Group is one of the UK's leading engineering solutions providers, delivering integrated consulting, project delivery and operations and maintenance services to major blue-chip customers in targeted market sectors including Rail, Highways, Power, Airports, Water, Nuclear Process, Waste, Oil & Gas.

Costain has a wealth of experience in the design of systems for carbon dioxide capture and storage, including recovery, purification, compression, dehydration, liquefaction and storage. Costain can design systems for carbon dioxide conditioning for both pipeline and tanker transport. We are also familiar with the use of carbon dioxide for Enhanced Oil Recovery (EOR) and have extensive experience in UK underground gas storage in depleted oil and gas reservoirs and salt caverns.

As an example of our experience in developing new technology for CCS, we have designed a new, low temperature physical separation technology for capture of carbon dioxide (>95%) in a pre-combustion process. This bulk removal approach produces high pressure CO₂ and offers improved efficiency, and lower capital and operating cost by reducing the size of the solvent absorption unit and the CO₂ compressor. Costain has patents for this solution and has completed a concept design

for a pilot plant installation. Opportunities to demonstrate this approach at pilot plant scale are particularly welcome.

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SCCS

SCCS is the largest carbon capture and storage research group in the UK. Our internationally renowned researchers provide connected strength across the full CCS chain. With our unique position SCCS is able to act as the conduit between academia, industry and government.

We are able to provide a single point of coordination for all aspects of CCS research ranging from capture engineering and geoscience, to social perceptions and environmental impact, through to law and petroleum economics.

SCCS has access to cutting-edge experimental and analytical facilities, expertise in field studies, modelling and simulation, key academic and research personnel to accelerate the development of CO₂ transportation, capture and subsurface storage. We undertake strategic fundamental research and are also available for consultancy. In addition, we perform a key role in providing impartial advice to industry, the public sector, government agencies, and policy makers.

Founded in 2005, SCCS is a partnership of the British Geological Survey, the University of Aberdeen, the University of Edinburgh and Heriot-Watt University working together with other universities across Scotland. SCCS is funded by the Scottish Funding Council and the Energy Technology Partnership.

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