



SCCS

Towards a zero carbon future



“ We work intensively with SCCS on a number of projects to support Scotland’s carbon capture and storage ambition. They play a key role in supporting innovation, providing high-quality research, and we value their input in helping develop Scotland’s strengths in this emerging market.

Chris Bryceland, Senior Executive, Scottish Enterprise Oil and Gas Team

www.sccs.org.uk

Supporting a global CCS industry

CLIMATE CHANGE is one of our greatest challenges. The world's reliance on fossil fuels could continue for decades and we must urgently tackle carbon emissions from industry, transport and heat production as well as electricity.

Carbon capture and storage, or CCS, captures carbon dioxide at source and stores it permanently in deep geological formations. CCS can also deliver low-carbon hydrogen for transport and heat. When combined with bioenergy, it could achieve negative emissions.

In Scotland and the UK, decarbonisation scenarios all point to CCS as a necessary and cost-effective route to meeting our climate targets.

SCCS is the largest CCS research partnership in the UK with our partner institutes engaged in innovative research and development. Our world-class scientists are spearheading moves to improve the efficiency and economics of CCS alongside other work, such as policy and public engagement, to support its deployment worldwide.

A centre of excellence for CCS research

Our growing research partnership works with industry, government and academic partners worldwide to unlock the potential of CCS. Our track record includes research collaborations, joint projects with industry, knowledge exchange, international projects and a world-leading education programme: www.sccs.org.uk/expertise

“The team at SCCS provide world leading expertise on carbon capture. We have benefitted hugely from their support on a wide range of topics, including developing the compelling case for deployment in the UK, knowledge exchange and wider outreach activity.

Stephen Kerr
Project Director, Caledonia Clean Energy Project

Our Expertise

Capture engineering

CO₂ transportation, storage and injection

Measurement, monitoring and verification

CO₂ utilisation technologies and enhanced oil recovery

International collaboration

Business development

Knowledge exchange

Education and training

Public engagement

Risk, uncertainty and mitigation

Legal and regulatory aspects

Policy, economics and impact

At the forefront of CCS research

Across the SCCS partnership, our scientists undertake research with facilities designed to the highest specifications. These state-of-the-art laboratories and equipment – including analytical, modelling and simulation facilities – are developed for individual projects but also provide opportunities for collaborative research with industry and academia worldwide. Find out more: www.sccs.org.uk/expertise/facilities



Dual Piston Pressure/Vacuum Swing Adsorption Rig

School of Engineering
The University of Edinburgh



High Pressure/High Temperature Multiphase CO₂ Flow Rig

School of GeoSciences
The University of Edinburgh



Hydrates and Ice Laboratory

Keyworth
British Geological Survey



Research Centre for Carbon Solution

School of Engineering and Physical Sciences,
Heriot-Watt University



Centre for Enhanced Oil Recovery and CO₂ Solutions

Institute for Petroleum Engineering
Heriot-Watt University



MicroCT Scanner

School of Engineering
University of Aberdeen

“We have worked with SCCS on a number of projects and found the experience to be entirely positive: we have been able to carry out genuinely collaborative work, and learned a lot from each other.

Dr Bryony Livesey,
Head of Research and Technology, Costain

Education and training

MSc Carbon Capture and Storage

Our partner institutes offer a variety of Masters programmes, which develop knowledge and expertise in CCS and CCS-related disciplines, from engineering and hydrocarbon geoscience to carbon management. These provide the skills and training needed to pursue a career in a global CCS sector.

CPD Courses for Industry

SCCS can provide short courses tailored to industry needs. Featuring high-quality modules developed as part of our Masters programmes, we develop courses that meet the requirements of both employees and employers.

www.sccs.org.uk/education-and-training

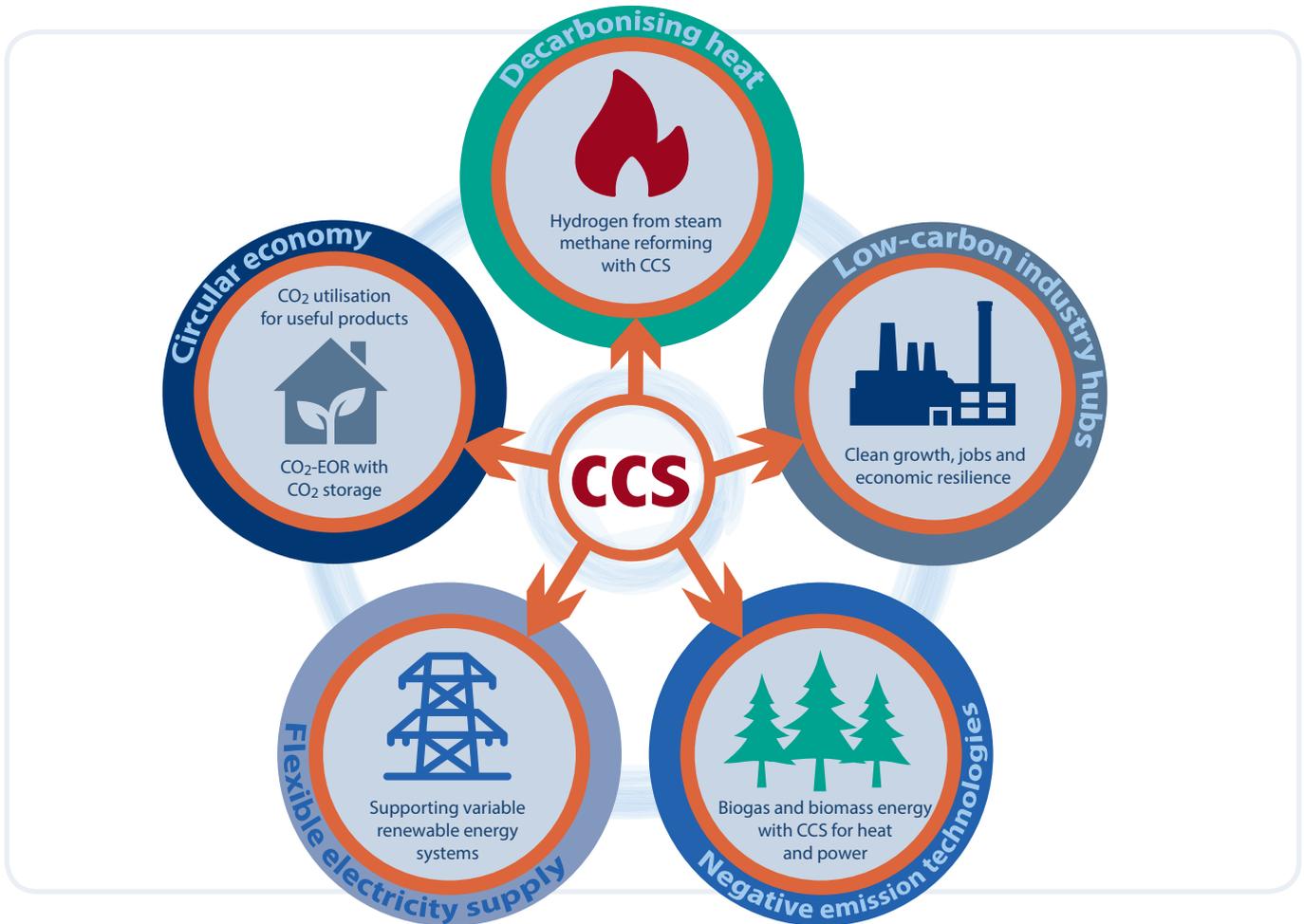


SCCS researchers at the CO₂CRC Otway Project in Australia

Net Zero Carbon by 2050

The SCCS partnership believes a net zero carbon future is achievable and we continue to expand our work into new sectors, such as bioenergy, hydrogen production and oil and gas infrastructure re-use.

At the heart of clean energy innovation



“Teesside Collective is one of the UK’s leading CCS projects aiming to remove carbon dioxide from our productive energy intensive industries. For a number of years Teesside Collective has worked with SCCS both in articulating the case for CCS and through participating in SCCS events aimed at spreading the word on the importance of these projects. We have found working with SCCS both effective in supporting intelligent policy development by UK government, and also through exchange of knowledge with those not familiar with this technology, which is a particular need within the CCS industry.

Sarah Tennison,
Technology and Innovation Manager, Tees Valley



Full-chain CCS has been operating safely since the 1990s and new projects are coming on stream every year. Explore the world of CCS with our Global CCS Map: www.sccs.org.uk/map



SCCS is a partnership of academic and research institutions, including the British Geological Survey, Heriot-Watt University, the University of Edinburgh, the University of Aberdeen, the University of Strathclyde and associate partner, the University of St Andrews. We are currently funded by the Scottish Government.

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