

Press release

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Framework designed to reduce carbon emissions by 50 per cent

Reducing carbon emissions from fossil fuels is one of the key challenges of our time. Speaking at the tenth European Congress of Chemical Engineering in (ECCE 10) in Nice, France, Professor Christodoulos A. Floudas from Texas A & M University, US, outlined how carbon capture, utilisation and sequestration (CCUS) could cut emissions in half, at an affordable price.



In his delivery of the prestigious 2015 Danckwerts Memorial Lecture, Professor Floudas said that we “need to take a multi-scale systems viewpoint” in order to develop an optimal solution for CCUS, both on a nationwide and regional basis.

The multi-step process that could reduce man-made carbon emissions from large stationary sources, such as power plants, refineries and iron and steel production plants, provides a model for developing CCUS solutions that can be scaled to suit carbon sources of all sizes.

To arrive at an optimal CCUS solution, engineers need to screen materials, optimise the process, select the optimal technology from the available options and design a supply chain network. At each stage, they need to check and compare the costs.

In the US, there is more potential for storing carbon emissions than utilising them at an average net cost of 35.63 \$/tonne of CO₂ abated.

Professor Rafiqul Gani, President of the European Federation of Chemical Engineering (EFCE) said: “This year’s Danckwerts Memorial Lecture demonstrated a viable solution to grand challenge of carbon capture utilisation and sequestration that our society faces today. And I am delighted that such an eminent Professor and his work served as a fitting tribute to all that Professor Danckwerts stood for.”

The annual Danckwerts Memorial Lecture, was established to honour Professor Peter V. Danckwerts – a leading scholar in the field of chemical engineering – and is co-sponsored EFCE, the Institution of Chemical Engineers (IChemE), and the American Institute of Chemical Engineers (AIChE).

The Danckwerts Memorial Lecture is supported financially by Elsevier and published in their journal *Chemical Engineering Science*.

Related links

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[The Danckwerts Memorial Lecture](#)

Notes to media:

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About chemical engineers

Chemical, biochemical and process engineering is the application of science, maths and economics to the process of turning raw materials into everyday products. Professional chemical engineers design, construct and manage process operations all over the world. Oil and gas, pharmaceuticals, food and drink, synthetic fibres and clean drinking water are just some of the products where chemical engineering plays a central role.

About EFCE

Founded in 1953, The European Federation of Chemical Engineering (EFCE) is a non-profit-making association, whose object is to promote co-operation in Europe between non-profit-making professional scientific and technical societies in 30 countries for the general advancement of chemical engineering and as a means of furthering the development of chemical engineering. See www.efce.org