

Press release: 23 May 2018

SAPEA provides evidence for the European Commission on Carbon Capture and Utilisation technologies

SAPEA (Science Advice for Policy by European Academies) has published its second Evidence Review Report titled *Novel Carbon Capture and Utilisation Technologies: research and climate aspects*. The report explores whether Carbon Capture and Utilisation (CCU) technologies have the potential to contribute significantly to mitigating the effects of climate change.

As an integral part of the Scientific Advice Mechanism (SAM), SAPEA was asked to produce this Evidence Review Report to inform the Scientific Opinion of the European Commission Group of Chief Scientific Advisors in response to a request from Commissioner Miguel Arias Cañete.

CCU technologies aim to extract carbon dioxide from either concentrated sources or directly from ambient air, and then use it as a raw material for carbon-containing products, such as fuels, chemical products, and building materials.

The report identifies a need for innovation in policy domains, and from systemic and technology perspectives. Some main recommendations in these areas are as follows:

1. Measures, regulations and incentives should be used to examine the energy system (including CCU) in a holistic, integrated, coordinated and transparent manner.
2. A systemic approach is required when evaluating the energy system and CCU systems, and further development is needed in stakeholder awareness and consistency of definitions.
3. Key technological challenges must be tackled in the areas of collection and purification of CO₂ from different sources, synthesis of green-hydrogen and technologies for carbon dioxide conversion to fuels and chemicals.

To produce the CCU Evidence Review Report, SAPEA brought together experts from across Europe, via the European Academy Networks. The experts formed a working group which was chaired by Professor Robert Schlögl (Fritz-Haber-Institute, Germany), and Professor Marco Mazzotti (ETH Zürich, Switzerland).

Professor Bernard Charpentier 2018 Chair of the SAPEA board said:

“SAPEA is delighted to present its second Evidence Review report. This report is the result of hard work and commitment from our working group, who have shown dedication to explaining what current knowledge can tell us about potential future developments in the field of CO₂ management, energy and climate action. This topic is another example of successful collaboration with the Group of Chief Scientific Advisors and we are pleased to have had the opportunity to contribute to policy making in this important area.”

The SAPEA evidence review report is available at: www.sapea.info/carboncapture

A write-up from SAPEA's expert workshop on Carbon Capture Utilisation is available at:
www.sapea.info/workshopccu

The Group of Chief Scientific Advisors' Opinion is available at:
http://ec.europa.eu/research/sam/pdf/sam_ccu_report.pdf

Notes to editors:

Interviews: Professor Robert Schlögl and Professor Marco Mazzotti are available for interview. For further information about SAPEA's report, or to request an interview, please contact Laura Norton:
laura.norton@sapea.info / +3222138181 / +447799223749

Working Group Members: SAPEA selected working group members across a range of disciplines to contribute to the CCU Evidence Review Report. A full list of Working Group members is available [here](#).

SAPEA (Science Advice for Policy by European Academies): Spanning the disciplines of engineering, humanities, medicine, natural sciences and social sciences, SAPEA brings together knowledge and expertise from over 100 academies, young academies and learned societies in more than 40 countries across Europe.

SAPEA is part of the European Commission Scientific Advice Mechanism (SAM), which provides independent, interdisciplinary and evidence-based scientific advice on policy issues to the European Commission. SAPEA works closely with the European Commission Group of Chief Scientific Advisors. For further information visit www.sapea.info or follow SAPEA on Twitter: @SAPEAnews
Contact: Laura Norton: laura.norton@sapea.info / +3222138181

SAM (European Commission Scientific Advice Mechanism):

The Scientific Advice Mechanism (SAM) Group of Chief Scientific Advisors was established on 16 October 2015 to support the Commission with high quality, timely and independent scientific advice for its policy-making activities. The Scientific Advisors are seven independent eminent scientists, appointed in their personal capacity. The Group draws on a wide range of scientific expertise, among others through a close relationship with European and national academies (through the Scientific Advice to Policy by European Academies – SAPEA – project, funded through Horizon 2020, the EU's research and innovation programme).

Through their scientific advice, the Scientific Advisors contribute to the quality of EU legislation and complement the existing science advisory structures of the Commission, which include the Joint Research Centre (JRC), the European Agencies as well as specialised expert groups.

For further information visit: <https://ec.europa.eu/research/sam>
Contact: [EC Spokesperson for Research, Science and Innovation](#)
Twitter: #SAMGroup_EU



The SAPEA project is part of the European Scientific Advice Mechanism and has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 737432. The text in this press release reflects only the author's view. The European Commission is not responsible for any use that may be made of the information it contains.