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Joint press release from Siemens and TNO

Siemens and TNO agree strategic cooperation in the field of flue-gas carbon capture in fossil-fueled power plants

Siemens Energy and TNO, the Netherlands Organisation for Applied Scientific Research, have signed an exclusive cooperation agreement aimed at the further advancement of amino-acid salt-based carbon capture technology. Carbon capture technologies in the eco-friendly utilization of fossil-fueled power plants will play a significant role in the future. The partnership targets faster time to market for this promising second-generation technology and the implemenatation of a full-scale demonstration plant by 2014.

Both Siemens and TNO possess comprehensive know-how in the field of CO_2 capture. Siemens is developing a proprietary second- generation amino-acid process for CO_2 capture in the industrial park Frankfurt Hoechst. TNO has been performing its own research activities in this field since the nineties. Both partners see major potential for full-scale application in eco-friendly solvents based on amino-acid salt. Under the terms of the agreement, know-how and experience in this area are now to be bundled in order to leverage synergies and better utilize common resources. The process is to be further optimized with respect to power demand, and the associated costs reduced.

"CO_2 capture and storage technologies will in the future play a decisive role in the utilization of fossil fuels. They need to be tested for deployment in large plants and brought to market readiness," said Michael Suess, CEO of the Fossil Power Generation Division of Siemens Energy. "We are working closely together with national and international partners from research institutions and industry. We are currently building a pilot facility at the Staudinger power plant operated by E.ON, where we will be testing our process under real operating conditions. Cooperation with TNO will take us a great step forward."

Siemens AG
Corporate Communications and Government Affairs
Wittelsbacherplatz 2, 80333 Munich
Germany

Informationsnummer: EFP200906.066e fp

Media Relations: Gerda Gottschick
Telephone: +49 9131 18-85753
E-mail: gerda.gottschick@siemens.com
Siemens AG
Energy Sector - Fossil Power Generation Division
Freyeslebenstr. 1, 91058 Erlangen, Germany

“This cooperation is a perfect match that strengthens the whole value chain, especially with TNO’s technical chemistry expertise and Siemens’ know-how and experience in process design and implementation,” said Tobias Jockenhövel, Head of Post-Combustion in Siemens .

“Further development and early demonstration of this technology will be key to enable clean and cost effective use of fossil fuels in the coming decades,” said Paul Korting, General Director of TNO Science and Industry. “To meet this challenge we develop several CCS technologies supporting industry. We foresee that with our extensive know-how concerning amino acid salts and pilot plant capabilities, we will be able to give a boost to Siemens’ efforts to bring a good capture process based on this class of solvents to demonstration.”

“TNO is one of the first parties piloting second generation capture solvents,” said Lodewijk Nell, Business Development Manager CO_2 Capture at TNO. “We have been testing various solvents since April 2008 in our CATO pilot plant at the Rotterdam site of E.ON Benelux. We look forward to bring in our experience with amino acid salts supporting Siemens.”

The technology for CO_2 capture from the flue gas of power plants is an important feature of the Siemens environmental portfolio. In 2008, revenue from the products and solutions of Siemens environmental portfolio was nearly EUR19 billion, which is equivalent to around a quarter of Siemens total revenue.

The **Siemens Energy Sector** is the world’s leading supplier of a complete spectrum of products, services and solutions for the generation, transmission and distribution of power and for the extraction, conversion and transport of oil and gas. In fiscal 2008 (ended September 30), the Energy Sector had revenues of approximately EUR22.6 billion and received new orders totaling approximately EUR33.4 billion and posted a profit of EUR1.4 billion. On September 30, 2008, the Energy Sector had a work force of approximately 83,500. Further information is available at: www.siemens.com/energy.

TNO is the Netherlands’ largest independent applied research organisation, with around 4,400 employees whose expertise and research contributes significantly in several areas to the competitiveness of business, public organizations, the economy and the quality of life as a whole. TNO is active in the area of Carbon Capture and Storage (CCS) covering the whole chain from capture, via transport, to storage. Recently, TNO started coordinating a national, about € 90 million CCS programme called CATO-2 running from 2009 to 2013. Further information is available at: www.tno.nl.

Siemens AG

Energy Sector

TNO

TNO Science and Industry

Siemens AG
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Wittelsbacherplatz 2, 80333 Munich
Germany

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Media Relations: Gerda Gottschick
Telephone: +49 9131 18-85753
E-mail: gerda.gottschick@siemens.com
Siemens AG
Energy Sector - Fossil Power Generation Division
Freyeslebenstr. 1, 91058 Erlangen, Germany

Press & Media Relations
Gerda Gottschick
Freyeslebenstr. 1, 91058 Erlangen,
Telephone: +49 (9131) 18-85753
E-Mail: gerda.gottschick@siemens.com

Media Relations
Jos de Mooij
Stieltjesweg 1, NL - 2628 CK Delft
Telephone: +31 (0)15 26 9 49 50
E-Mail: jos.demooij@tno.nl

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