



FOR IMMEDIATE RELEASE

**Algenol Biofuels and The Linde Group agree to cooperate in CO<sub>2</sub> and O<sub>2</sub> management for biofuel production from algae**

Bonita Springs, Fla. — November 18, 2009 — Algenol Biofuels LLC, developers of Direct-to-Ethanol® technology, and the technology group The Linde Group have agreed to collaborate in a joint development project in order to identify the optimum management of carbon dioxide (CO<sub>2</sub>) and oxygen (O<sub>2</sub>) for Algenol's unique algae and photobioreactor technology. This cooperation will see the companies join forces to develop cost-efficient technologies that capture, store, transport and supply CO<sub>2</sub> for Algenol's proprietary process for the production of third-generation (3G) biofuels out of carbon dioxide, salt water and algae, as well as remove oxygen from the photobioreactor.

"The collaboration with Linde further advances Algenol's efforts to provide a cost-efficient supply of CO<sub>2</sub>, addressing both the needs to reduce atmospheric concentrations of CO<sub>2</sub> and to deliver sustainable low-cost alternative biofuels and green-chemistry," said Paul Woods, CEO of Algenol Biofuels.

"Producing fuels or chemicals from algae is a promising way of reducing greenhouse gas emissions," said Dr Aldo Belloni, member of the Executive Board of Linde AG. "A cost-efficient supply of CO<sub>2</sub> is a key factor in this biofuel chain. As a pioneer and leading company in CO<sub>2</sub> capture, transport and supply we are delighted to be a key player in major projects in the algae-to-biofuel area."

The research collaboration builds on a process developed by Algenol Biofuels and other partners. This method utilizes algae, CO<sub>2</sub>, salt water and sunlight to directly produce 3G bioethanol and other 3G biofuels or biochemicals in photobioreactors. This technology promises numerous benefits. The production facilities, for example, do not need to be built on land required for food or feed production. Furthermore, the procedure does not consume fresh water nor does it involve costly steps for processing or harvesting and storing biomass. A further key benefit is that the algae also consume CO<sub>2</sub> from fossil fuel sources (combustion flue gases from coal-fired power plants, for example). The process is almost entirely powered by the sun.

Linde has a wealth of experience in the cost-efficient supply of CO<sub>2</sub> for climate- and eco-friendly CO<sub>2</sub> recycling applications. The OCAP project (organic CO<sub>2</sub> for assimilation by plants) in the Netherlands is a case in point. Here, Linde supplies over 500 greenhouses covering a total area of 1,500 hectares with CO<sub>2</sub> transported by pipeline from a refinery. The higher concentrations of CO<sub>2</sub> enable the greenhouse crops to grow much faster. Linde also works with leading energy groups to develop, plan and build pilot facilities for capturing and storing CO<sub>2</sub> from power plant processes.

### **About Algenol**

Algenol today possesses the most advanced third-generation biofuel technology in the United States. Algenol makes low-cost ethanol directly from CO<sub>2</sub> and seawater using hybrid algae in sealed, clear plastic photobioreactors through its unique, patented Direct to Ethanol<sup>®</sup> technology – all powered by the sun. Algenol's research and development efforts have culminated in a process that produces over 6,000 gallons of ethanol per acre per year, compared to corn at 400. Algenol's process achieves an energy balance of more than five to one and a lifecycle carbon footprint that is merely 20 percent of petroleum (an 80 percent reduction from petroleum).

For more information about Algenol Biofuels, please visit [www.algenolbiofuels.com](http://www.algenolbiofuels.com)

### **About The Linde Group**

The Linde Group is a world leading gases and engineering company with almost 50,000 employees working in around 100 countries worldwide. In the 2008 financial year it achieved sales of 12.7 billion euro. The strategy of The Linde Group is geared towards sustainable earnings-based growth and focuses on the expansion of its international business with forward-looking products and services. Linde acts responsibly towards its shareholders, business partners, employees, society and the environment – in every one of its business areas, regions and locations across the globe. Linde is committed to technologies and products that unite the goals of customer value and sustainable development.

For more information, please see The Linde Group online at <http://www.linde.com>

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