

Carbon Capture Linde BASF RWE

Linde, BASF and RWE to invest additional €6M in long-term test of CO2 scrubbing project

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Linde, BASF and German power utility RWE will [invest](#) a further €6 million (US\$8.3 million) into another phase of their research on CO2 scrubbing for carbon capture. ([Earlier post.](#)) In the current pilot phase, the partners achieved a separation efficiency of 90%, high purity and much lower energy input.

The pilot plant which was commissioned in the coal innovation center in Niederaussem in 2009 will now go through a long-term test from March until the end of 2013. Further process-engineering optimizations will be made to the plant as the research programme continues. The Federal Ministry of Economics and Technology is sponsoring the innovative project with some €4 million (US\$5.6 million). The ministry had already funded the project with €4.5 million (US\$6.2 million) when it was started in 2007.

Different scrubbing agents were initially tested in three test phases of six months each as part of the pilot operation of the CO2 scrubbing plant connected to the Niederaussem lignite-fired power plant to finally identify an optimum solvent developed by BASF.

Results showed that compared with processes commonly used today, the energy input can be reduced by about 20% when using the new chemical solvent for CO2 capture. The new scrubbing agent also comes with significantly increased stability and resistance to oxygen. This reduces the solvent consumption substantially.

In the test phase starting now, the structure of the CO2 absorber, where the CO2 is removed from the flue gas, is to be optimized by Linde so that carbon dioxide can be removed even more effectively from the flue gas. If the test is successful, CO2 absorbers for large-scale power plants, for example, could be made smaller and hence less costly. The reconstruction is starting in the middle of the year and will be complete by the end of the year.

Using this technology, more than 90% of carbon dioxide could then be removed from the flue gases of power plants or other industrial processes from 2020.