NanoMembranes against Global Warming

Fact Sheet

Project Information

NANOGLOWA
Grant agreement ID: 26735

Project website

Funded under
FP6-NMP

Overall budget
€ 11 891 811

EU contribution
€ 7 200 000

Coordinated by
KEMA NEDERLAND BV
Netherlands

Objective

The ultimate way to reduce CO2 emissions as required by the Kyoto protocol from the main contributors, the fossil fired power stations, is by CO2 capture. Existing methods (adsorption, non selective cooling) are not very cost- and energy effective: up to 25% consumption of the produced energy. CO2 separation through membranes will consume much less energy (8%), but suitable, reliable and economical membranes are currently non-existing. The objective is to develop optimal nanostructured membranes and installations for CO2 capture from power plants below 20 euro/ton with a build-in, smart, diagnostic technique. The consortium of 26 partners including 7 SMEs involves 14 countries. Five innovative membrane materials will be developed simultaneously.

The project organisation will stimulate cross-fertilisation for achieving major breakthroughs. For this an integration, modelling and a diagnostics task is included and cooperation with and field-testing by 6 future end-users will guarantee the realistic outcome of the material research. The cost price for the membranes will be a factor 5 lower by increasing the performance through radical innovations in membrane technology: a spin-coated sub-micron layer, oriented nano-spurs with...
membrane technology: a spin-coated sub-micron layer, oriented nano-spurs with active groups through the layer of the membrane and inherent oxygen stability by the introduction of active groups as block-copolymers in the membrane backbone. Smart design modules, for long life, low degradation and contamination combined with integrated performance monitoring, will be developed and tested in the laboratory and in the field.

Dissemination and exploitation strategies are incorporated in this project by including the mayor EU electricity companies and their equipment suppliers. Training activities and workshops on membrane development and production, emission reduction and future sustainable power plant design for low CO2 emission are scheduled.

Programme(s)

Topic(s)

Call for proposal

FP6-2004-NMP-NI-4

Funding Scheme

IP - Integrated Project

Coordinator

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