

# Czech-Norwegian CCS and Research Programmes with EEA and Norway Grants funding



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- 1st programming period 2004-2009:
  - 110.9 mil. €, 139 large projects, hundreds of small projects, 5 Block Grants
- Allocation 2009-2014 (2nd programming period):
  - 131.8 mil. €
- 15 approved programmes
- Memoranda of Understanding signed in 2011

# EEA & Norway Grants (CZ) 2009-2014



- CZ01 Technical Assistance and Fund for Bilateral Relations at National Level
- CZ02 Biodiversity, Monitoring and Climate Change
- CZ03 Non-Governmental Organizations
- CZ04 Children and Youth at Risk
- CZ05 Reducing of Inequalities and Promoting Social Inclusion
- CZ06 Cultural Heritage and Contemporary Art
- CZ07 Scholarship Programme
- **CZ08 Carbon Capture and Storage (CCS)**
- **CZ09 Czech-Norwegian Research Programme**
- CZ10 Strengthen Institutional Capacity in Preventing and Combating Corruption
- CZ11 Public Health Initiatives
- CZ12 Let's give (wo)men a chance
- CZ13 Domestic and Gender-based Violence and Gender Equality
- CZ14 Schengen Cooperation and Combating Cross-border and Organised Crime
- CZ15 Effective Cooperation in Justice and the Development of Correctional Services

# CZ08 Programme - CCS



- Programme Title: Pilot Studies and Surveys on CCS Technology
- Funding: Norway Grants 2009-2014
- Programme Operator: Ministry of Finance of the CR
- Programme Partner: Ministry of the Environment
- Programme agreement signed 2/2014

- Overall programme objective:  
Increase of knowledge and strengthening international cooperation in the area of CCS

Two main parts of the Programme:

- Professional activities to explore the possibilities of the practical application of CCS technology in the Czech Republic, methods proposed for the capture, transport and storage of CO<sub>2</sub>
- Increasing knowledge and raising awareness of CCS among both general public and stakeholders (incl. the future ones)

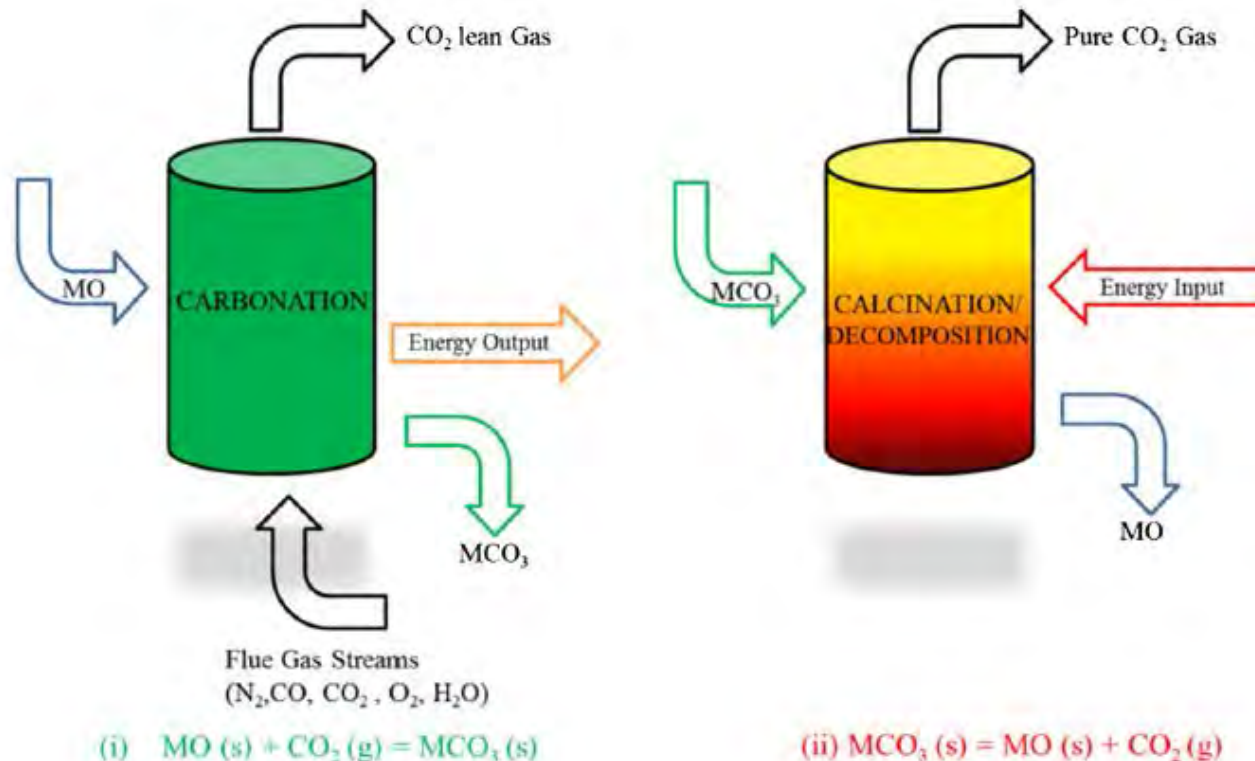
# CZ08 Programme - CCS

- Open call launched 31/03/2014
- 4 projects approved
  - 2 focusing on CO<sub>2</sub> capture
  - 1 focusing on CO<sub>2</sub> storage
  - 1 on education and awareness raising
- Total grant ca. 3.5 mil. €
- Project period 1/2015 – 4/2016
- 80% funding (for research institutions)

- Project title: Research of high temperature CO<sub>2</sub> sorption from flue gas using carbonate loop
- Coordinator: University of Chemistry and Technology Prague (Faculty of Environmental Technology)
- Partners: Czech Technical University in Prague (Faculty of Mechanical Engineering), ÚJV Řež, a.s.
- Total budget ca. 0.7 mil. € (grant ca. 0.5 mil. €)



- Main objective: Development of the high temperature decarbonation technology in laboratory scale and design of the technology in pilot scale



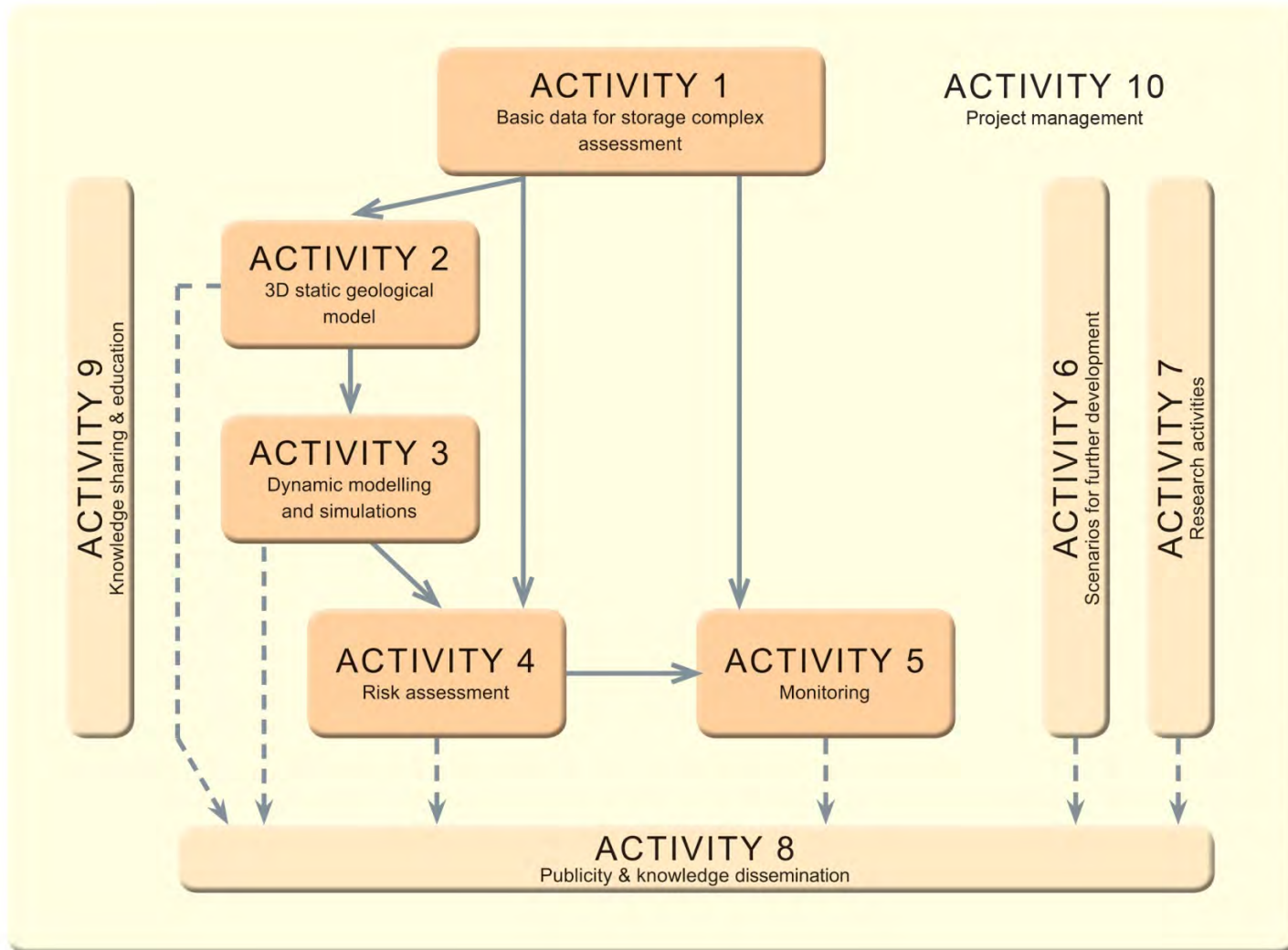
# Study of CCS pilot technologies for coal fired power plants in the Czech Republic



- Coordinator: Czech Technical University in Prague (Faculty of Mechanical Engineering)
- Partners: ÚJV Řež, a.s., SINTEF Energy Research
- Total budget ca. 0.47 mil. €
- Main objectives:
  - design and techno-economic analysis of the pre-combustion technology integrated into a coal power plant in the Czech Republic
  - global techno-economic assessment of three basic types of CCS technologies (oxyfuel, post-combustion, pre-combustion) applicable in Czech conditions

- Project title: Preparation of a Research Pilot Project on CO<sub>2</sub> Geological Storage in the Czech Republic
- Coordinator: Czech Geological Survey (CGS)
- Partners: IRIS – International Research Institute of Stavanger, VŠB – Technical University of Ostrava, ÚJV Řež, a.s., Research Centre Řež (CVŘ), Miligal, s.r.o., Institute of Physics of the Earth, Masaryk University in Brno (ÚFZ)

- Total budget: ca. 2.8 mil. €
- Grant allocation: ca. 2.2 mil. €
- Main objective: to significantly contribute to the development of the CO2 geological storage technology in the Czech Republic - advancement of the Technology Readiness Level (TRL) of CO2 geological storage in the Czech conditions from TRL4 (technology validated in laboratory) to TRL5 (technology validated in relevant environment)



- Project title: Carbon Capture & Storage – Sharin Knowledge and Experience
- Coordinator: Masaryk University Brno
- Partner: Norges Teknisk-Naturvitenskapelige Universitet (NTNU)
- Total budget ca. 0.32 mil. €

- Main objectives: increase knowledge about CCS technology (public administration, decision makers, general/professional public) + increase of international cooperation in CCS
- Main activities: information seminars for above mentioned target groups, lectures for all educational levels, thematic exhibitions, information videos and prints, study visits into the countries using CCS (Norway, USA)

- Project title: Phase behaviour in CCS systems
- Coordinator: Institute of Thermomechanics  
AS CR, v. v. i.
- Partner: SINTEF Energy Research AS
- Funded from the Czech-Norwegian Research  
Programme (CZ09)
- Project duration: 15.7.2014 – 30.4.2017
- Total grant ca. 0.6 mil. €



Main objective:

- to fill knowledge gaps with regard to phase equilibria and transient phase behaviour for fluid mixtures and pressure and temperature states relevant for CCS

The project includes both experimental work and modelling to improve the prediction of phase behaviour.

# More information

<http://www.eeagrants.cz/en/programmes/norway-grants-2009-2014/cz08-carbon-capture-and-storage>

<http://www.eeagrants.cz/en/programmes/norway-grants-2009-2014/cz09-czech-norwegian-research-programme>