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STUDY OF CCS PILOT TECHNOLOGIES FOR COAL FIRED POWER PLANTS IN THE CZECH REPUBLIC

Tomas Dlouhy, Assoc. Prof.

Czech Technical University in Prague, Faculty of Mechanical Engineering,
Department of Energy Engineering

Jana P. Jakobsen, Ph.D.
SINTEF Energi AS

Lukas Pilar, Ph.D.
UJV Rez, a. s.

DISCUSSION SEMINAR
COOPERATION BETWEEN FORERUNNER AND FOLLOWER
COUNTRIES IN CCS RESEARCH:
THE EXAMPLE OF NORWAY AND THE CZECH REPUBLIC
14. 11. 2016, SwissTech Convention Center, Lausanne



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Project Introduction

Programme Norway Grants 2009-2014

CZ08 – Carbon Capture and Storage

Project Name

Study Of CSS Pilot Technologies for Coal Fired Power Plants in the Czech Republic

Implementation time

1. 1. 2015 – 31. 12. 2016

Project budget

CZK 22 669 484 (\approx 7 500 000 NOK)

Programme Operator

Ministry of Finance CR

Project partners

CTU in Prague FME (Tomas Dlouhy, Assoc. Prof.)

UJV Rez, a. s. (Lukas Pilar, Ph.D.)

SINTEF Energi AS (Jana P. Jakobsen, Ph.D.)





Main Goals Of the Project

- 1) **technical and economical assessment of post- a pre-combustion CCS technologies** integrated into IGCC power plant in the Czech Republic. Considered CO₂ capture technologies are:
 - Rectisol wash (pre-combustion)
 - Polymeric membranes (pre-combustion)
 - Cryogenic/Low temperature capture (pre-combustion)
 - Ca-Looping (post-combustion)
- 2) **technical and economical study of captured CO₂ transport** (gas/liquid) to the storage in the Czech Republic (on-shore) and in the North Sea (off-shore)
- 3) **comparison with results from previous project (FR-TI/379)** which analysed the integration of **oxyfuel** and **ammonia scrubbing post combustion** CCS technologies into 250 MWe coal fired power plant with subcritical parameters in the Czech Republic
- 4) **extension of bilateral cooperation between the Czech Republic and Norway** in the field of research and technical-economic assessment of CCS technologies



Project Structure

project activities

- 7 project activities/workpackages
 - WP0 – Management
 - WP1 – Input Analysis
 - WP2 – Process system design
 - WP3 – Technical-economic assessment
 - WP4 – Results analysis and future recommendations
 - WP5 – CO₂ transport and evaluation of whole chain
 - WP6 – IGCC with post-combustion – Ca-Looping

project indicators

- 19 indicators
 - 7 technical reports
 - 2 paper manuscripts in reviewed journals
 - 6 presentations on conferences
 - 1 software for economic evaluation in Excel platform
 - 3 publicity events (organized seminars and conferences)

Project Publicity



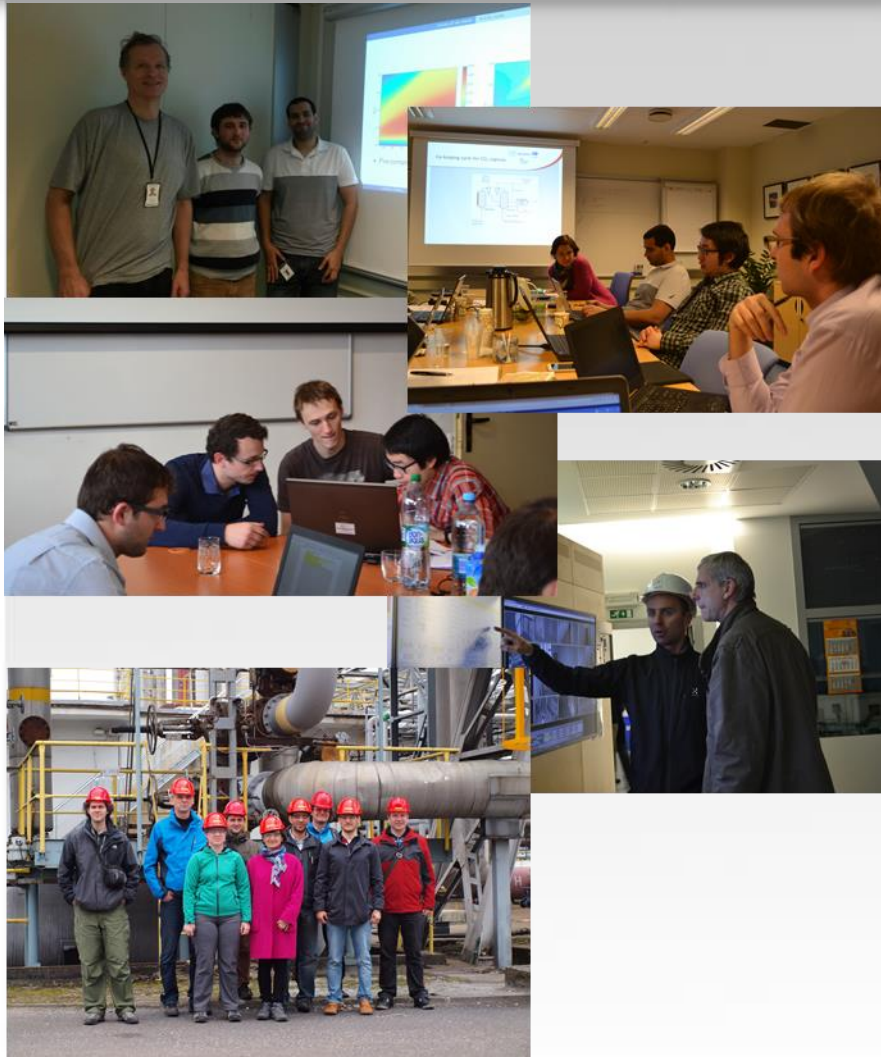
4 organized seminars/
conferences

15 conference presentations
8 Czech conferences
7 international conferences

- CO₂ Summit II: Technologies and Opportunities 2016
 - **The Best Poster presentation award**



Bilateral Aspects Of the Project



Study internship - CTU/SINTEF

Workshops/Meetings

- 8 bilateral workshops
- 4 in Norway, 4 in Prague

Excursions

- 4 excursions
 - 3 power/experimental plants
 - 1 NTNU/SINTEF Laboratories

Implementation of 4 additional initiatives supported from BF

- 3 conference presentations
- 1 study internship



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THANK YOU FOR YOUR ATTENTION

More information about the project:

- **project website:**
 - www.czech-norway-pilotccs.cz
- **project facebook:**
 - <https://www.facebook.com/Czech-Norway-Pilot-CCS-1664816420432846/>
- **project email:**
 - nfccc05@gmail.com