



ČVUT

ČESKÉ VYSOKÉ
UČENÍ TECHNICKÉ
V PRAZE



CCS projects at CTU

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1. FINISHED/ALMOST FINISHED PROJECTS

- **Research of oxyfuel bubbling fluidized bed combustion for CCS technologies** – TAČR Alfa3, 2013-2016 – building a 500 kW oxyfuel BFB in lab + 30 kW laboratory scale oxyfuel BFB; experimental validation of numerical models, knowledge for future applications
- **Research of high temperature CO₂ sorption from flue gas using carbonate loop** – Norway grants CZ08 project, coordinated by UCT Prague; developed a design of Ca-looping system for the 500 kW BFB, presented here at the conference
- **Study of pilot CCS technologies for coal fired power plants in the CZ** – Norway grants CZ08 project

2. RUNNING PROJECTS

- **Research of NO_x reduction in flue gas within the oxyfuel combustion CCS technology – TACR Epsilon 2 2017-2020;**
- coordinated by ÚJV Řež; partner Envir&Power Ostrava
- a SCR unit will be developed for the 500 kW oxyfuel BFB; study of catalyst performance in oxyfuel conditions

3. SUBMITTED PROJECTS

- **Bio-CCS/U - Research centre for low-carbon energy technologies;** submitted for 2nd round of evaluation; national EU operation programs (call 19-excellent research)
- Consortium of CTU, BUT, VSB-TU Ostrava and IT CAS; cooperating TU Wien (prof. Winter), NTNU (Dr. Haugen), Universität Stuttgart (Dr. Maier)
- WP1: Oxyfuel combustion of biomass in fluidized bed
- WP2: Progressive methods of biomass gasification and pyrolysis with suppressed carbon dioxide formation
- WP3: Usage of CO₂ and syngas as a feedstock for 3rd and 4th generation biofuels production
- WP4: Preparation of biomass for the oxyfuel combustion and gasification technologies
- WP5: Effective cleaning of CO₂ by condensation processes
- WP6: Mathematical modelling and numerical simulation of oxyfuel combustion processes in the fluidized bed

4. PROJECTS UNDER PREPARATION

- **CCS4PRACTICE - Research centre of CCS technologies for industrial applications**
- no project partners, national EU operation programs (call 25 – pre-application research)
- application partners (out of project funding) – Ško-energo, a.s., ÚJV Řež, a.s.

- WP1: Oxyfuel combustion in fluidized bed
- WP2: Adsorption of CO₂ using natural and synthetic adsorbents



DĚKUJI ZA POZORNOST!

