



Universität Stuttgart

Institut für Feuerungs- und Kraftwerkstechnik
Prof. Dr. techn. G. Scheffknecht

Ausschreibung

Masterarbeit

Experimental Investigation of the behaviour of co-combustion of pre-dried lignite and hard coal under part load conditions in a small technical scale combustion facility (20kW_{th})

→ Also available in the scope of a Bachelor thesis/ Student research project

Background

Coal and lignite thermal power plant operation needs to change from base load power production to the provision of ancillary services for grid stabilisation and to the coverage of fluctuating loads of renewables. EU member states where a high share of renewables is already installed are pioneering in this development, while EU's ambitious targets for the further increase of renewable energy will involve other European states as well. The European Energy production needs competitive and at the same time reliable power supply from highly efficient load following coal and lignite fired power plants. For this reason, pre-dried lignite is investigated as a fuel that will bring more flexibility to hard coal fired power plants.

Aim and Method

The aim of this project is to investigate the combustion behavior of mixtures of pre-dried lignite and hard coal in full load and part load conditions. This includes evaluation of emission behavior, slagging/fouling, burnout, fly ash characterization. The experiments will be conducted in IFK's small technical scale combustion facility (20kW_{th}).

Working Steps

1. Literature review
2. Execution of the experiments
3. Evaluation of the results and writing the report

Requirements

- Ability to work independently
- Interest in experimental work
- Good knowledge of English

Starting date: As soon as possible!

The employment as a **HIWI** is also possible.

In case of interest please contact:

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