

TCP on Fluidized Bed Conversion (FBC TCP)

The FBC TCP provides a framework for international collaboration on energy technology development and deployment of the fluidized bed conversion of solid fuels applied to clean energy. The main activity of the FBC TCP is technical exchange during meetings and workshops. Participants carry out research on operational issues in support of commercial fluidized bed conversion activities and share results. Fluidized bed conversion offers several advantages over pulverized fuel combustion, notably low emissions and the ability to burn a wide range of fuels including waste and biomass.

Main areas of work

- Co-firing and ash problems
- Energy crops and fluidized bed conversion of biomass and waste
- Fluidized bed design aspects
- Mathematical, three-dimensional modelling

Key activities and accomplishments (2017-2018)

- [Developments in fluidized bed conversion during 2011-2016](#) (report)
- [Gasification of biomass and waste](#) (joint workshop with Bioenergy TCP)
- Fluidized bed conversion of low-quality coal and waste fuels (technical meeting)
- Long-term FBC operational experience (technical meeting)



The new 4x550 MWe FBC combustor in Samcheok, South Korea (courtesy of KEPCO, 2019)

Priorities and projects (2019 – 2020)

- CO₂ reduction applications (oxyfuel, looping cycles)
- Boiler, cyclone and heat exchanger design aspects
- Impact on operation of renewables in the energy systems
- Co-firing of renewable and fossil fuels
- Sewage sludge conversion
- Ash-related problems with biomass and waste

Multilateral collaborations

- Joint workshop in 2017 with the Bioenergy TCP on the gasification of biomass and waste, with another one under consideration for 2020
- Interest in exploring membership with Estonia, Germany, Brazil and South Africa

Membership



- Shaw Consultants International, Inc.

Why should your organisation become a member of the FBC TCP?

Continued research and development in this field is needed to further improve fuel combustion efficiency and to maintain high fuel flexibility at stringent emission limits. The FBC TCP provides a platform for co-operation among representatives from governments, industry and academia to expand the knowledge base and accelerate technology deployment.

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