



CO FIRING 9 JAPAN WORKSHOP 25-27 FEB 2020

Research and application of Biomass fluidized bed gasification technologies coupling with coal power plant

Wang Qinhui

State Key Laboratory of Clean Energy Utilization (CEU); Zhejiang University, Hangzhou, China

Biomass is one of main renewable energy resource, meanwhile, the environment pollution due to burning or piling up the agriculture waste in land is serious. To using the agriculture/forest waste in clean and high efficiency, fluidized bed gasification technologies have been developed in Zhejiang University. Based on the research on the mechanism of biomass combustion, the transform process of alkali/chlorine (KCl), the circulating fluidized bed gasification technology for agriculture/forest waste with high alkali content is developed. The first circulating fluidized bed gasifier (8t/h) fired with rice husk/corn stalk (50%:50%) coupled with large scale coal pulverized coal plant in China is operated successfully in July, 2018. To increasing the utilization benefit of the biomass, a new biomass fluidized bed partial gasification technology cogenerated char and steam is developed. 4t/h bamboo bits fluidized bed gasifier cogenerated char and steam is operated successfully in April 2018. Based on this work, a new co-firing process coupling with biomass fluidized bed partial gasification technology is proposed.

