

## Co-combustion Characteristics of Waste Fuel with Anthracite in a CFB Reator

김동원\*, 이종민, 김재성, 이시훈<sup>1</sup>, 나정걸<sup>1</sup>  
한전 전력연구원; <sup>1</sup>한국에너지기술연구원  
(kdw@kepri.re.kr\*)

Combustion of Waste fuel is considered as a priority solution to energy recovery from municipal solid waste (MSW). The co-combustion characteristics of anthracite coals with waste fuel were determined in the commercial scale Tonghae CFB Power Plant. As the feeding ratio of the waste fuel to the anthracites increased to 5%, temperature and pressure were not changed in comparison with firing only anthracites. The amount of the required air was reduced due to high O<sub>2</sub> content in waste fuel relative to the anthracites. The emissions of NO<sub>x</sub>, SO<sub>x</sub>, HCl and Dioxin were also measured. According to higher mixing ratio of the waste fuel to the anthracites, SO<sub>x</sub>, NO<sub>x</sub> emissions slightly decreased and HCl emissions increased, because waste fuel has relatively smaller S, N and higher Cl than the anthracites. Heavy metals of the fly ash and bottom ash and the dioxin emissions were far below Korean maximum permissible concentration level at incinerator. The results showed that it is of great use and technically possible to co-combustion of waste fuel with the anthracites by 5% in the form of fuel recovery and energy production in commercial scale CFB boiler.