

**Recycling of carbon fines from Tuncbilek power plant coal combustion wastes**H Koca<sup>1</sup> and S Koca<sup>2</sup><sup>1</sup>Anadolu University, Turkey<sup>2</sup>Osmangazi University, Turkey

Renewable energy sources rise as new and upcoming sources but the share of the renewable energy in total primary energy consumption is less than 2% in the world. This trend is not expected to be changed dramatically, at least next 30 years. Coal/lignite will remain the most reliable primary energy source as oil and natural gas reserves are expected to exhaust in 40 to 60 years respectively. Lignite is the major natural resource in Turkey, therefore lignite based electricity generation increases. Turkish lignites typically have ash content of 30-60%. As a consequence, over 20 million tons of coal combustion wastes are produced each year. Only a small percentage of these wastes find application as an ingredient in cement and other construction products because of their high unburned carbon content. The ASTM C618 specification limits unburned carbon content to 6%. Therefore, the vast majority of material disposed to the ash pond as thin slurry which leads ecological and environmental problems. It is the objective of this study to obtain a carbon enriched fraction that can be blended back into the coal feed to the power plant boilers. Thus the possibility of the utilization of coal combustion wastes can possibly be increased. The flotation technique was used for this study. After flotation, carbon content is enhanced to over 50% with 65% recovery. This fraction can be mixed to power plant fuel. The remaining materials include less than 5% unburned carbon. The results indicated that Tunbilek coal combustion wastes could be recycled.

**Biography**

H Koca has completed his MPhil degree at Leeds University, Mining and Minerals Engineering Department in 1987 and PhD at Eskisehir Osmangazi University, Mining Engineering Department in 1995. He has published 15 papers in reputed journals and has presented more than 35 papers in the conferences all over the world.

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