

# **Improvement of Fly Ash quality using Green Plus<sup>®</sup>, a new homogenous combustion catalyst for reduction of unburned carbon and associated emissions in coal fired utilities**

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KEYWORDS: catalyst, homogenous, loss on injection

## **ABSTRACT**

Biofriendly is introducing a liquid homogenous fuel combustion catalyst to the coal and oil fired utility industry. The product is unique in that it is added to primary or secondary air supplies prior to the combustion of fuel. This allows the product to be thoroughly dispersed with the fuel prior to and during combustion. Because Green Plus has catalytic properties designed to improve burn characteristics and due to the fact that it is not used up during combustion, very little of the active product is needed. The net result in trials in several countries is a significant drop in the LOI (Loss on Ignition) or unburned carbon leaving the boiler in the fly and bottom ash and lowering of several other emissions. The product has undergone trials in utilities using bituminous coal of varying qualities as well as lignite, in both pulverized and fluidized bed configurations. The reduction in LOI improves boiler efficiency and also leads to an improved ash quality and thus increased value. After extensive research and trialing this new and innovative product is undergoing pilots in several countries at this time. Due to the simplicity of use and low capital investment, Green Plus will have a significant net economic benefit to utilities in both improved thermal efficiency and value of their coal ash. We will present the background of the product and some of the detailed results from ongoing trials and pilot programs in utility boilers ranging from 40 MW to 500 MW in size.

**Submitted for consideration in the 2009 World of Coal Ash Conference, May 4-7, 2009.**