



# The Value of Coal Combustion Products: An Economic Assessment of CCP Utilization for the US Economy

**ACC**  
American  
Coal Council

Prepared by Power Products Engineering



**AMERICAN COAL COUNCIL**

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2980 E. Northern Avenue, Suite B4  
Phoenix, AZ 8502  
Phone: 602-485-4737 FAX: 602-485-4847  
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Prepared By  
Power Products Engineering  
Eden Prairie, MN

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## **Executive Summary**

The American Coal Council (ACC) and several of its members retained the services of Power Products Engineering (PPE) to perform an assessment of the financial impact that Coal Combustion Products (CCPs) have on the US economy. CCPs are created when coal is burned in the generation of electricity and also in other industrial processes where coal-fueled boilers are utilized. CCPs are primarily of four types: fly ash - the fine particles removed from the air prior to exiting a chimney; bottom ash - the heavier sand and gravel like particles collected in the bottom of the boiler; slag - a glass-like material collected in some types of boilers; and Flue Gas Desulfurization (FGD) material - the material produced when the exit gas has sulfur dioxide removed in order to prevent acid rain.

Over 125 million tons of CCPs are produced annually in the US. Fly ash is the predominant CCP, with production estimated at just over 36 million tons per year. Currently, over 96 million tons of CCPs are landfilled annually. This landfilling costs utilities, and ultimately consumers, over \$560 million per year. Utilization of these materials in value-added applications results in a reduction of landfilling needs, a reduction in costs for electricity consumers and a savings in raw material costs for the displaced materials. Current utilization numbers indicate that over 34 million tons of CCPs were utilized in 2003. This utilization resulted in avoided disposal cost savings for utilities and consumers of nearly \$200 million and revenues to utilities from sales of an additional \$142 million.

Utilization of CCPs is the direct result of marketing the materials to end users and specifiers. This marketing effort is generally accomplished through the use of specialty marketing firms. These firms perform marketing, education and research services resulting in value-added utilization opportunities for utilities. The estimated financial benefits generated by the marketing firms associated with CCP utilization is estimated to be over \$485 million per year. Ancillary services, such as transportation of the CCPs to markets, along with the necessary support and research activities results in an additional benefit of over \$350 million annually.

Tax revenues associated with the utilization of CCPs for both the utilities and the services portion of utilization are estimated to be over \$100 million at the federal level and over \$70 million at the state level. These taxes are a combination of tax on utility and marketing profits as well as employment taxes.

The net effect of this undertaking by the ACC, as performed by PPE depicts a direct economic value to the US of over \$2.2 billion annually and a total economic impact of nearly \$4.5 billion annually. This economic impact is vitally important to the continued success and future of the US. However, the economic impact is not the only benefit of CCP utilization. The environmental benefits are a large factor in utilization. The use of CCPs reduces the amount of landfill space required and thus saves land from being taken out of productive use. The use of CCPs results in the need for a reduction in the use of natural materials and thus reduces mining and production costs and land disturbance. Finally, the use of CCPs in many cases produces a superior end product that reduces the need for energy to construct or produce replacement infrastructure or products.

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