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## ACAA Releases 2006 CCP Production and Use Survey

The American Coal Ash Association today released its annual Coal Combustion Products (CCP) Production and Use Survey. CCPs are inorganic materials left over when coal is burned to generate electricity. They include fly ash, bottom ash, boiler slag, cenospheres as well as resulting air emission control system materials from flue gas desulfurization (FGD).

The data, reporting 2006 totals, originates from the voluntary responses of 58 electric utilities (approximately one-half of all coal-fired utility producers), past survey comparisons, U.S. Department of Energy information and other sources.

Results show that 124.8 million tons of CCPs were produced in 2006; slightly more than 43 percent were beneficially used rather than landfilled, an increase of 3 percent over 2005. The EPA and industry have jointly targeted a goal of 50 percent beneficial use by 2011.

**Fly ash** production in 2006 increased by 1.3 million tons over 2005 to 72.4 million tons. Almost 45 percent (32,423,569 tons) was used in 12 of 15 applications tracked by ACAA; an increase of about 5 percent from the previous year. Of the total used, 46 percent (15,041,335 tons) was consumed in concrete, concrete products and grout; an additional 4.1 million tons were consumed in cement production.

**Flue gas desulphurization (FGD)** materials include products from forced oxidation scrubbers and other processes that remove sulfur dioxide from the flue gas stream. FGD gypsum production was approximately 12.1 million tons of which 79 percent (9,561,489 tons) was used — mainly in gypsum panel products, such as wallboard. This is a slight increase (2.5%) over 2005.

**Bottom ash** production was 18.6 million tons of which 45 percent (8,378,494 tons) was used. Structural fills and embankments accounted for the largest application. Production figures increased by more than 1 million tons, while utilization increased about 4.5 percent as compared to 2005. Bottom ash, like fly ash, is widely used in many applications. Its primary applications are in structural fills and road base construction.

**Boiler slag** reached slightly more than 2 million tons of which 83 percent was used (1,690,999 tons) — a decrease from the 96.6 percent reported in 2005. Boiler slag is used primarily in blasting grit and as roofing granules, with lesser amounts in structural and asphalt mineral fills. The volume of available slag is expected to decline in the coming years as older cyclone and slag-tap boilers units are retired. (Please note that boiler slag statistics were not extrapolated.)

Comparisons of data from year to year are affected by the companies who voluntarily report data as well as the start or completion of projects from year to year. However, 2006 again reconfirms the multi-year trend of increasing utilization as more persons realize the value of using these valuable products.

ACAA is an active sponsor of the U.S. Environmental Protection Agency's Coal Combustion Products Partnership or "C<sup>2</sup>P<sup>2</sup>." This initiative helps promote awareness and understanding of the benefits of using CCPs to conserve natural resources, support sustainability, reduce greenhouse gas emissions and eliminate the need for added land fill space. Additional information about CCPs can be found at [www.acaa-usa.org](http://www.acaa-usa.org), [www.FGDProducts.org](http://www.FGDProducts.org), and [www.epa.gov/epaoswer/osw/conserv/c2p2/](http://www.epa.gov/epaoswer/osw/conserv/c2p2/).



## 2006 Coal Combustion Product (CCP) Production and Use Survey

CCP Categories (Short Tons)	Fly Ash	Bottom Ash	Boiler Slag*	FGD Gypsum	FGD Material Wet Scrubbers	FGD Material Dry Scrubbers*	FGD Other*	FBC Ash*
<b>CCP Production Category Totals**</b>	72,400,000	18,600,000	2,026,066	12,100,000	16,300,000	1,488,951	299,195	1,580,912
<b>CCP Production Total</b>								<b>124,795,124</b>
<b>CCP Used Category Totals***</b>	32,423,569	8,378,494	1,690,999	9,561,489	904,348	136,639	29,341	1,078,291
<b>All CCP Used Total</b>								<b>54,203,170</b>
CCP Use By Application****	Fly Ash	Bottom Ash	Boiler Slag	FGD Gypsum	FGD Material Wet Scrubbers	FGD Material Dry Scrubbers	FGD Other	FBC Ash
1. Concrete/Concrete Products /Grout	15,041,335	597,387	0	1,541,930	0	9,660	0	4,571
2. Cement/ Raw Feed for Clinker	4,150,228	925,888	17,773	264,568	0	0	0	0
3. Flowable Fill	109,357	0	0	0	0	9,843	0	0
4. Structural Fills/Embankments	7,175,784	3,908,561	126,280	0	131,821	0	0	360,115
5. Road Base/Sub-base/Pavement	379,020	815,520	60	0	0	249	0	453,602
6. Soil Modification/Stabilization	648,551	189,587	0	0	0	299	1,503	179,003
7. Mineral Filler in Asphalt	26,720	19,250	45,000	0	0	0	0	0
8. Snow and Ice Control	0	331,107	41,549	0	0	0	0	0
9. Blasting Grit/Roofing Granules	0	81,242	1,445,933	0	232,765	0	0	0
10. Mining Applications	942,048	79,636	0	0	201,011	115,696	0	0
11. Wallboard	0	0	0	7,579,187	0	0	0	0
12. Waste Stabilization/Solidification	2,582,125	105,052	0	0	0	0	27,838	81,000
13. Agriculture	81,212	1,527	0	168,190	0	846	0	0
14. Aggregate	271,098	647,274	416	0	0	0	0	0
15. Miscellaneous/Other	1,016,091	676,463	13,988	7,614	338,751	46	0	0
<b>CCP Category Use Totals</b>	<b>32,423,569</b>	<b>8,378,494</b>	<b>1,690,999</b>	<b>9,561,489</b>	<b>904,348</b>	<b>136,639</b>	<b>29,341</b>	<b>1,078,291</b>
<b>Application Use To Production Rate</b>	44.78%	45.05%	83.46%	79.02%	5.55%	9.18%	9.81%	68.21%
<b>Overall CCP Utilization Rate</b>								<b>43.43%</b>
<b>Cenospheres Sold (Pounds):</b>		<b>11,146,420</b>						

\* As submitted based on 57 percent coal burn.

\*\* CCP Production totals for Fly Ash, Bottom Ash, FGD Gypsum, and Wet FGD are extrapolated estimates rounded off to nearest 50,000 tons.

\*\*\* CCP Used totals for Fly Ash, Bottom Ash, FGD Gypsum, and Wet FGD are per extrapolation calculations (not rounded off).

\*\*\*\* CCP Uses by application for Fly Ash, Bottom Ash, FGD Gypsum, and Wet FGD are calculated per proportioning the CCP Used Category Totals by the same percentage as each of the individual application types' raw data contributions to the as-submitted raw data submittal total (not rounded off).