

**For Immediate Release**



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## **Coal Ash Recycling Reaches Record 56 Percent Amid Shifting Production and Use Patterns**

**November 21, 2017, Washington, D.C.** – Fifty-six percent of the coal ash produced during 2016 was recycled – establishing a new record and marking the second consecutive year that more than half of the coal ash produced in the United States was beneficially used rather than disposed.

“The trend for coal ash beneficial use continues to be very positive,” said Thomas H. Adams, executive director of the American Coal Ash Association (“ACAA”) – an organization that advances the environmentally responsible and technically sound use of coal ash as an alternative to disposal. “For the third straight year, we have seen significant improvement in the beneficial use rate. We look forward to continuing to grow these practices that conserve natural resources, make products that are more durable, and dramatically reduce the need for landfills.”

According to ACAA’s just-released “Production and Use Survey,” 60.2 million tons of coal combustion products were beneficially used in 2016 out of 107.4 million tons that were produced. Although the rate of ash utilization increased from 52 percent to 56 percent, the total volume of material utilized stayed about the same as production declined. Coal ash production volume declined 7 percent from 2015 levels as coal’s share of the electricity generation mix shrank in response to environmental regulations and competition from other energy sources. Coal ash utilization volume remained approximately level with the prior year.

“Coal ash” is a generic term that encompasses several Coal Combustion Products (CCP) that can be beneficially used in a wide variety of applications. Highlights of CCP production and use in 2016 include:

- Use of coal fly ash in concrete declined 8 percent to 14.4 million tons. While down from 2015’s record utilization of 15.7 million tons, utilization remained well above the 13.1 million tons performance in 2014. The dip in 2016 utilization is attributed to some regional seasonal shortages of supply that resulted from power plant shutdowns and changing generating profiles. Demand for fly ash remained strong across all concrete

markets and utilization likely would have been higher if some logistical disruptions had not occurred. Fly ash improves concrete durability and significantly reduces greenhouse gas emissions associated with concrete production.

- Utilization of a key “non-ash” coal combustion product also declined. Synthetic gypsum is a byproduct of flue gas desulphurization units, also known as “scrubbers,” located at coal-fueled power plants. Use of synthetic gypsum in panel products (i.e. wallboard) decreased 19 percent to 9.9 million tons in 2016. The decrease is largely attributed to normal fluctuations in gypsum markets. During 2016, gypsum imports increased by 15 percent versus 2015, whereas exports decreased by 27 percent – thereby creating greater competition from natural gypsum.
- Synthetic gypsum use in agricultural applications – in which the gypsum improves soil conditions and prevents harmful runoff of fertilizers – also declined from 1.6 million tons to 772,000 tons.
- Production of boiler slag remained level at 2.2 million tons. Approximately 1.3 million tons of boiler slag was utilized in the production of blasting grit and roofing granules.
- For the first time, no utilities reported production of cenospheres – a very valuable form of ash mainly harvested from wet disposal impoundments. Production of this material dropped precipitously the year prior as impoundments began to close in response to EPA’s Final Rule for coal ash disposal.

“As America’s electricity grid changes, the coal ash beneficial use industry is evolving as well,” said Adams. “As we work diligently to utilize the 44 percent of coal combustion products that are still disposed annually, our industry is also taking significant strides in developing strategies for improving the quality and availability of these materials.”

Adams explained that increasing beneficial use requires ash marketers to ensure that products are consistent and available when customers need them – requiring large investments in technology and logistics. Additionally, the coal ash beneficial use industry is actively developing and deploying technologies and strategies for reclaiming coal ash materials that were previously disposed.

### **About Coal Ash Recycling**

Coal is the fuel source for approximately one-third of electricity generation in America and produces large volumes of solid coal combustion products — primarily ash and synthetic gypsum from emissions control devices.

There are many good reasons to view coal combustion products as a resource, rather than a waste. Recycling them conserves natural resources and saves energy. In many cases, products made with CCPs perform better than products made without it. For instance, coal fly ash makes concrete stronger and more durable. It also reduces the need to manufacture cement, resulting in significant reductions in greenhouse gas emissions – about 15 million tons in 2015 alone.

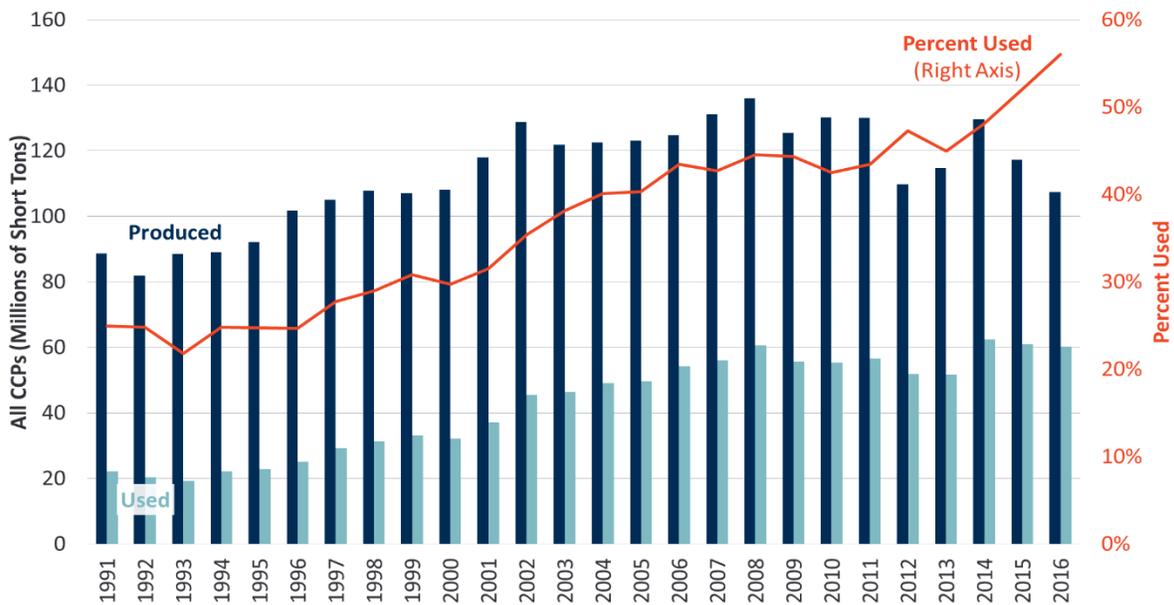
Major uses of coal combustion products include concrete, gypsum wallboard, blasting grit, roofing granules, and a variety of geotechnical and agricultural applications.

### About ACAA’s Production and Use Survey

The American Coal Ash Association has conducted a survey quantifying the production and use of coal combustion products in the United States each year since 1966. Data is compiled by directly surveying electric utilities and utilizing additional data produced by the U.S. Energy Information Administration. The survey’s results have been widely utilized by federal agencies including the U.S. Environmental Protection Agency and U.S. Geological Survey.

A summary of overall production and use data since 1991 is represented by the chart below. A complete copy of the 2015 survey results is on the final page.

### All CCPs Production and Use with Percent



*The American Coal Ash Association was established in 1968 as a trade organization devoted to recycling the materials created when we burn coal to generate electricity. Our members comprise the world's foremost experts on coal ash (fly ash and bottom ash), and boiler slag, flue gas desulfurization gypsum or "synthetic" gypsum, and other "FGD" materials captured by emissions controls. While other organizations focus on disposal issues, ACAA's mission is to advance the management and use of coal combustion products in ways that are: environmentally responsible; technically sound; commercially competitive; and supportive of a sustainable global community.*

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## 2016 Coal Combustion Product (CCP) Production & Use Survey Report

### Beneficial Utilization versus Production Totals (Short Tons)

2016 CCP Categories	Fly Ash	Bottom Ash	Boiler Slag	FGD Gypsum	FGD Material Wet Scrubbers	FGD Material Dry Scrubbers	FGD Other	FBC Ash	CCP Production / Utilization Totals
Total CCPs Produced by Category	37,817,327	10,135,360	2,188,298	32,006,516	9,556,694	1,448,752	7,508	14,267,412	107,427,866
Total CCPs Used by Category	22,634,497	3,775,480	1,310,959	18,372,663	896,141	310,607	0	12,869,437	60,169,785
1. Concrete/Concrete Products /Grout	14,362,891	504,416	0	468,748	0	0	0	0	15,336,056
2. Blended Cement/ Feed for Clinker	2,680,712	1,015,756	34,867	1,009,259	0	51,704	0	0	4,792,299
3. Flowable Fill	83,947	0	0	0	0	0	0	0	83,947
4. Structural Fills/Embankments	1,696,296	745,213	0	1,490,267	896,141	0	0	0	4,827,917
5. Road Base/Sub-base	472,609	245,569	0	0	0	0	0	0	718,178
6. Soil Modification/Stabilization	433,189	42,884	0	1,495	0	0	0	0	477,568
7. Mineral Filler in Asphalt	40,969	0	10,592	0	0	8,912	0	0	60,472
8. Snow and Ice Control	0	343,237	12,364	0	0	0	0	0	355,601
9. Blasting Grit/Roofing Granules	0	18,042	1,253,136	0	0	0	0	0	1,271,178
10. Mining Applications	1,043,002	211,670	0	794,133	0	131,738	0	12,729,673	14,910,215
11. Gypsum Panel Products (formerly Wallboard)	0	0	0	9,919,177	0	0	0	0	9,919,177
12. Waste Stabilization/Solidification	767,895	318,516	0	3,632,056	0	109,244	0	139,765	4,967,476
13. Agriculture	2,679	3,789	0	770,573	0	1,106	0	0	778,147
14. Aggregate	0	206,100	0	0	0	0	0	0	206,100
15. Oil/Gas Field Services	190,247	0	0	0	0	7,904	0	0	198,150
16. CCR Pond Closure Activities	254,521	3,142	0	177,013	0	0	0	0	434,675
17. Miscellaneous/Other	605,541	117,148	0	109,941	0	0	0	0	832,630

### Summary Utilization to Production Rate

CCP Categories	Fly Ash	Bottom Ash	Boiler Slag	FGD Gypsum	FGD Material Wet Scrubbers	FGD Material Dry Scrubbers	FGD Other	FBC Ash	CCP Utilization Total
Totals by CCP Type/Application	22,634,497	3,775,480	1,310,959	18,372,663	896,141	310,607	0	12,869,437	60,169,785
Category Use to Production Rate (%)	59.85%	37.25%	59.91%	57.40%	9.38%	21.44%	0.00%	90.20%	56.01%

2016 Cenospheres Sold (Pounds)	0	Data in this survey represents 194.31892 GW's of Name Plate rating of the total industry wide approximate 272 GW capacity based on EIA's July 2017 Electric Power Monthly.
CCPs Imported in 2016 (Short Tons)	0	
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