



For Immediate Release

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Coal Ash Recycling Reaches Record 64 Percent Amid Shifting Production and Use Patterns

November 13, 2018, Washington, D.C. – Sixty-four percent of the coal ash produced during 2017 was recycled – establishing a new record and marking the third 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 fourth 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,” 71.8 million tons of coal combustion products were beneficially used in 2017 out of 111.3 million tons that were produced. The rate of ash utilization increased from 56 percent to 64.4 percent and the total volume of material utilized increased by 11.6 million tons. Coal ash production volume increased 4 percent from 2016 levels.

“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 remained approximately level with the prior year at 14.1 million tons. Concrete producers and consumers indicated a desire to use more fly ash, but several regional markets were affected by shifting supply dynamics associated with closures of coal-fueled power plants. Fly ash improves concrete durability and significantly reduces greenhouse gas emissions associated with concrete production.

- Utilization of a key “non-ash” coal combustion product increased significantly. 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) increased 60 percent to 15.9 million tons in 2017. The large increase is attributed to lower than usual synthetic gypsum shipments reported in the prior year and growth in wallboard production.
- Synthetic gypsum use in agricultural applications – in which the gypsum improves soil conditions and prevents harmful runoff of fertilizers – also increased 50 percent to 1.2 million tons. Part of this growth is attributed to a large new synthetic gypsum source entering the market.
- Use of CCP in pond closure activities increased dramatically from 435,000 tons in 2016 to 4.5 million tons in 2017 as utilities ramped up compliance with environmental regulations that effectively require an end to the practice of wet disposal. Fly ash, bottom ash, and synthetic gypsum were all used in construction of new permanent disposal facilities.
- Use of fly ash and bottom ash in structural fills continued a multi-year decline, decreasing 72 percent to 1.3 million tons.
- Production of boiler slag increased 18 percent. Approximately 1.4 million tons of boiler slag was utilized in the production of blasting grit and roofing granules.
- Approximately 148,000 pounds of cenospheres were sold in 2017, up from zero in the prior year. Cenospheres are a very valuable form of ash mainly harvested from wet disposal impoundments.

“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 36 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 deploying technologies and strategies for harvesting 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 14 million tons in 2017 alone.

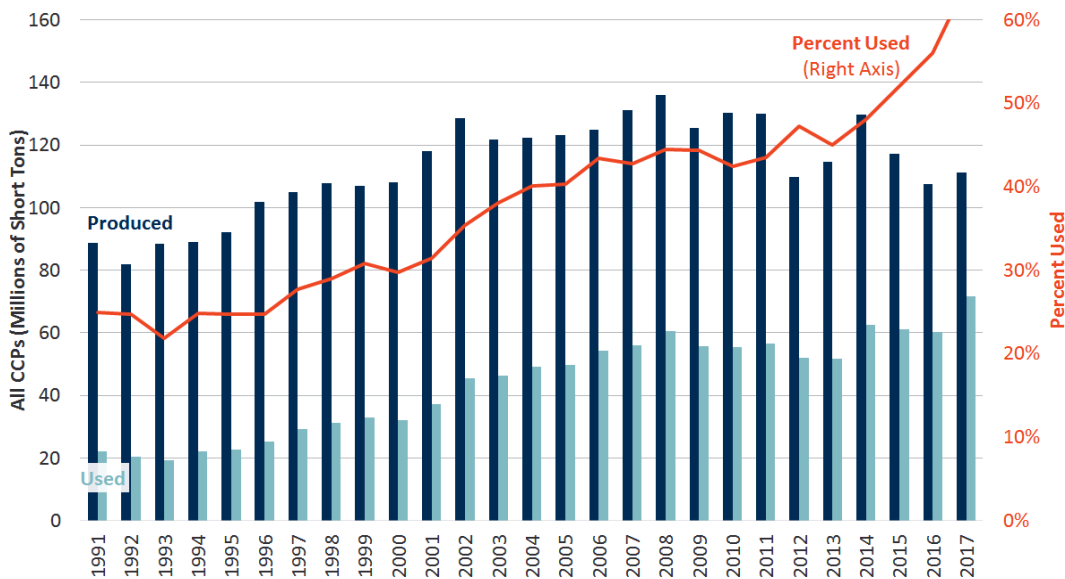
Major uses of coal combustion products include concrete, gypsum wallboard, blasting grit, roofing granules, and a variety of geotechnical and agricultural applications.

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 2017 survey results is on the final page.

All CCPs Production and Use with Percent



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2017 Coal Combustion Product (CCP) Production & Use Survey Report

Beneficial Utilization versus Production Totals (Short Tons)

2017 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	38,189,790	9,655,931	2,574,673	32,707,136	11,311,344	2,454,818	6,293	14,469,553	111,369,538
Total CCPs Used by Category	24,095,590	4,839,420	1,570,375	22,839,385	3,905,009	382,048	2,407	14,134,477	71,768,712
1. Concrete/Concrete Products /Grout	14,065,791	785,527	0	67,009	0	0	0	0	14,918,326
2. Blended Cement/ Feed for Clinker	4,579,724	1,622,612	132,183	2,317,445	0	51	0	0	8,652,015
3. Flowable Fill	86,379	0	0	0	0	0	0	0	86,379
4. Structural Fills/Embankments	465,653	871,875	0	0	0	0	0	0	1,337,529
5. Road Base/Sub-base	674,155	159,084	0	2,460	0	11,931	0	0	847,630
6. Soil Modification/Stabilization	360,796	48,876	0	0	0	0	0	0	409,673
7. Mineral Filler in Asphalt	59,317	0	0	0	0	7,019	0	0	66,336
8. Snow and Ice Control	69,192	276,989	4,220	0	0	0	0	0	350,402
9. Blasting Grit/Roofing Granules	0	17,705	1,412,685	44,981	0	0	0	0	1,475,371
10. Mining Applications	901,181	232,110	0	927,949	3,905,009	202,092	0	14,037,913	20,206,254
11. Gypsum Panel Products (formerly Wallboard)	0	0	0	15,859,606	0	0	0	0	15,859,606
12. Waste Stabilization/Solidification	1,065,993	48,964	0	3,026	0	114,646	0	96,564	1,329,193
13. Agriculture	0	0	0	1,157,877	0	35,121	0	0	1,192,998
14. Aggregate	0	10,237	21,287	0	0	0	0	0	31,524
15. Oil/Gas Field Services	78,716	0	0	0	0	11,188	0	0	89,905
16. CCR Pond Closure Activities	1,468,203	730,600	0	2,270,326	0	0	0	0	4,469,130
17. Miscellaneous/Other	220,489	34,840	0	188,705	0	0	2,407	0	446,442

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	24,095,590	4,839,420	1,570,375	22,839,385	3,905,009	382,048	2,407	14,134,477	71,768,712
Category Use to Production Rate (%)	63.09%	50.12%	60.99%	69.83%	34.52%	15.56%	38.25%	97.68%	64.44%

2017 Cenospheres Sold (Pounds)	147,958	Data in this survey represents 145,20701 GW's of Name Plate rating of the total industry wide approximate 263,0478 GW capacity based on EIA's July 2017 Electric Power Monthly.
CCPs Imported in 2016 (Short Tons)	0	
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