For Immediate Release

Contact: **American Coal Ash Association**
Thomas H. Adams, Executive Director
Office: 720-870-7897 Mobile: 720-375-2998
thadams@acaa-usa.org
www.acaa-usa.org

Coal Ash Recycling Rate Increased in 2023; Ash Harvesting Continued Rapid Growth

Sixty-nine percent of the coal ash produced during 2023 was recycled – increasing from 62 percent in 2022 and marking the ninth consecutive year that more than half of the coal ash produced in the United States was beneficially used rather than disposed.

American Coal Ash Association ("ACAA") has conducted an annual "Production and Use Survey" since 1968 to quantify volumes of coal combustion products ("CCP") generated by electric utilities and utilized in a variety of beneficial use applications. In addition to this "fresh" ash production and use, a rapidly growing practice of "harvesting" previously disposed ash has begun to supply significant volumes of material to beneficial use markets. ACAA estimates more than 4 million tons of previously disposed ash was utilized in a variety of applications in 2023, including coal ash pond closure activities, concrete products, cement kiln raw feed, and gypsum panel manufacturing.

"Harvested ash utilization represents growth in coal ash recycling above and beyond the increasing volumes of ash recycled from current power plant operations," said Thomas H. Adams, ACAA Executive Director. "The rapidly increasing utilization of harvested CCP shows that beneficial use markets are adapting to the decline in coal-fueled electricity generation in the United States. New logistics and technology strategies are being deployed to ensure these valuable resources remain available for safe and productive use. We must continue to support these practices that safely conserve natural resources while dramatically reducing the need for landfills."

According to ACAA's 2023 survey, 46.3 million tons of newly produced coal combustion products were beneficially used in all applications in 2023, approximately level with the previous year. Production of new CCP declined from 75.2 million tons in 2022 to 66.7 million tons in 2023.

"Coal ash" is a generic term that encompasses several coal combustion products that can be beneficially used in a wide variety of applications. Highlights of CCP production and use in 2023 include:

- Use of coal fly ash in **concrete** increased from 10.9 million tons in 2022 to 11.9 million tons in 2023. Concrete producers and consumers indicated a desire to use more fly ash, but several regional markets continued to be 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.

- Use of all coal combustion products in **cement production** increased from 6 million tons in 2022 to 6.8 million tons in 2023.

- Utilization of a key "non-ash" coal combustion product also posted an increase. 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 from 11.3 million tons in 2022 to 13.1 million tons in 2023.

- Synthetic gypsum use in **agricultural applications** – in which the gypsum improves soil conditions and prevents harmful runoff of fertilizers – declined slightly from 887,000 tons in 2022 to 734,000 tons in 2023.

- Use of CCP in **pond closure activities** declined from 1.8 million tons in 2022 to 1.5 million tons in 2023. This activity is driven by utility compliance with coal ash regulations enacted in 2015 that effectively require an end to the practice of wet disposal.

- Use of CCP in **structural fills** reached an all-time low with only 45,000 tons reported used in this application.

- Production of boiler slag increased from 1.6 million tons in 2022 to 3.3 million tons in 2023, with utilization in the production of **blasting grit and roofing granules** declining from 634,330 tons to 259,000 tons.

"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 third 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 20 percent 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 CCP 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 12 million tons in 2023 alone.

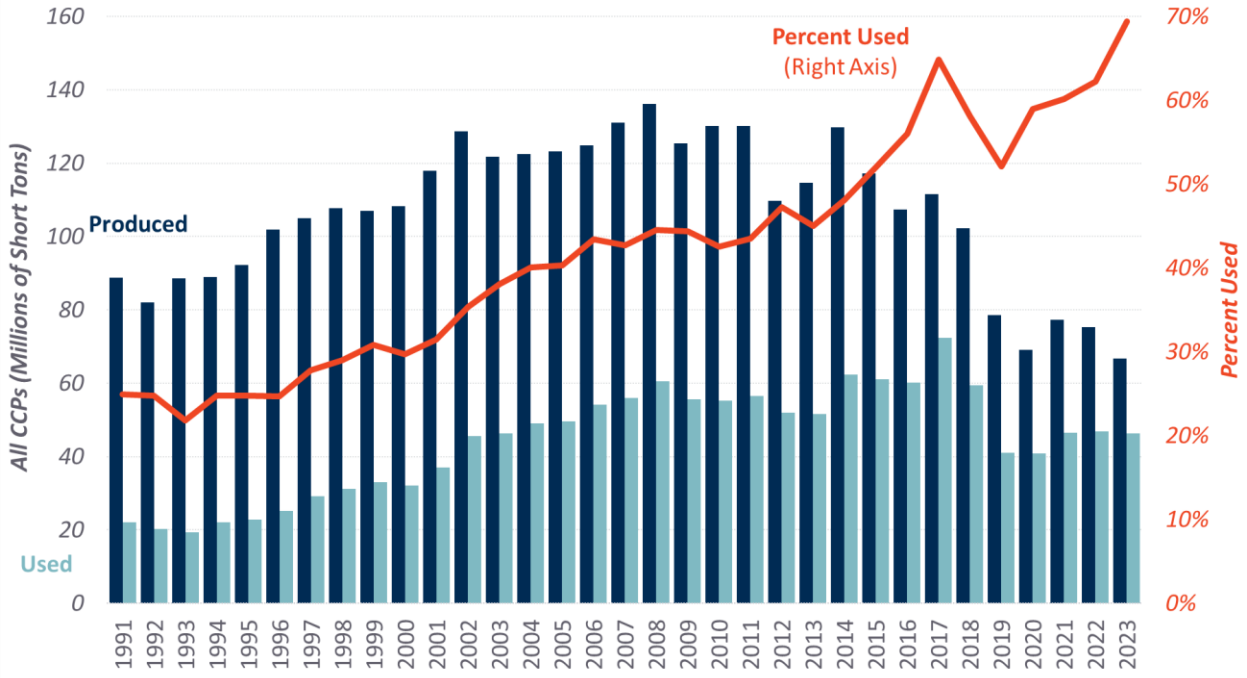
Major uses of coal combustion products include concrete, gypsum wallboard, blasting grit, roofing granules, and a variety of geotechnical and agricultural applications.

About ACAA's Production and Use Survey

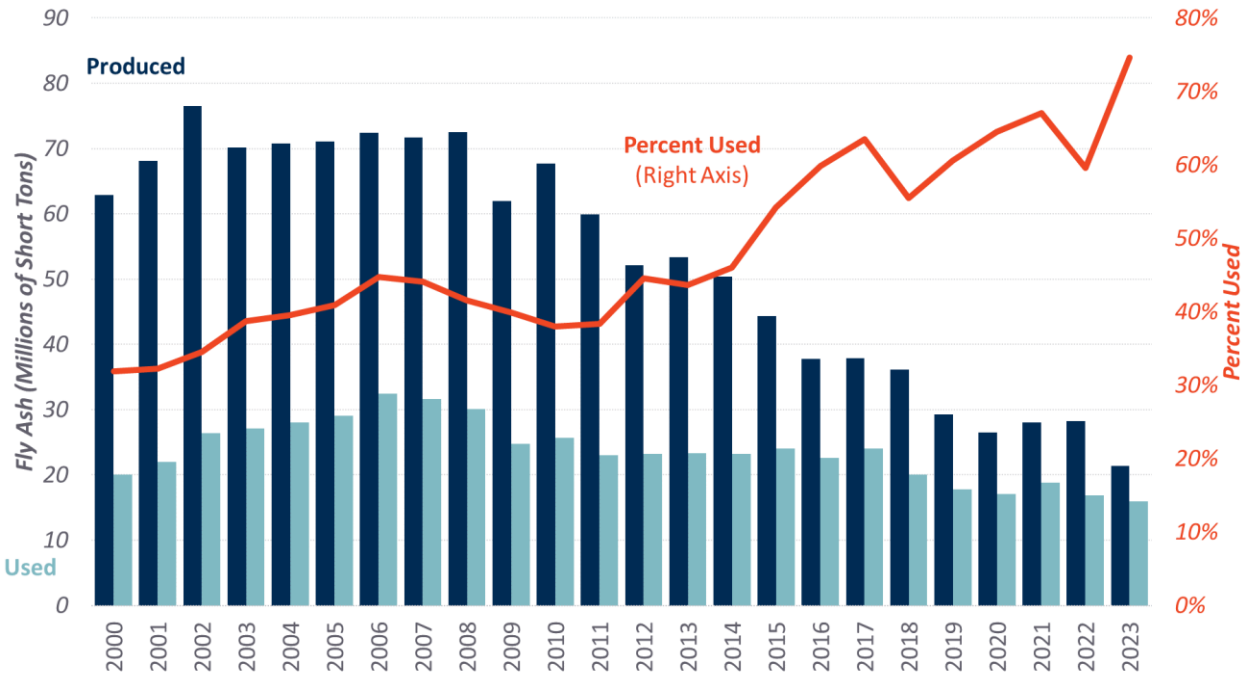
American Coal Ash Association – an organization that advances the environmentally responsible and technically sound use of coal ash as an alternative to disposal – has conducted a survey quantifying the production and use of coal combustion products in the United States each year since 1966. Data is 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.

Charts summarizing overall production and use data since 1991 and fly ash production and use since 2000 are included below. A complete copy of the 2023 survey results is on the final page.

All CCPs Production and Use with Percent Used



Fly Ash – Production and Use



American Coal Ash Association Phone: 720-870-7897
9980 S. 300 W., Suite 200
Sandy, UT 84070 Internet: www.ACAA-USA.org
Email: info@acaa-usa.org

2023 Coal Combustion Product (CCP) Production & Use Survey Report

Beneficial Utilization versus Production Totals (Short Tons)

2023 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	**21,423,716**	**5,676,177**	**3,322,110**	**17,424,765**	**5,392,015**	**3,296,140**	**0**	**10,176,388**	**66,711,312**
Total CCPs Used by Category	**15,994,917**	**3,471,766**	**384,810**	**17,144,903**	**6,360**	**44,416**	**0**	**9,272,650**	**46,319,822**
1. Concrete/Concrete Products /Grout	11,868,495	403,598	0	1,216,081	0	0	0	0	13,488,173
2. Blended Cement/ Feed for Clinker	3,304,658	1,324,489	123,110	2,034,977	0	0	0	0	6,787,233
3. Flowable Fill	343	0	0	0	0	0	0	0	343
4. Structural Fills/Embankments	0	44,950	0	0	0	0	0	0	44,950
5. Road Base/Sub-base	26,578	108,921	0	0	0	0	0	0	135,498
6. Soil Modification/Stabilization	275,732	0	0	11,067	0	0	0	0	286,800
7. Mineral Filler in Asphalt	1,137	0	0	0	0	0	0	2,846	3,983
8. Snow and Ice Control	0	36,789	2,587	0	0	0	0	0	39,377
9. Blasting Grit/Roofing Granules	0	30,949	259,113	0	0	0	0	0	290,062
10. Mining Applications	0	0	0	0	0	0	0	9,269,804	9,269,804
11. Gypsum Panel Products (formerly Wallboard)	0	0	0	13,061,563	0	0	0	0	13,061,563
12. Waste Stabilization/Solidification	363,046	0	0	0	6,360	0	0	0	369,406
13. Agriculture	0	0	0	733,938	0	0	0	0	733,938
14. Aggregate	0	0	0	62	0	0	0	0	62
15. Oil/Gas Field Services	115,067	0	0	0	0	44,416	0	0	159,483
16. CCR Pond Closure Activities	0	1,522,071	0	0	0	0	0	0	1,522,071
17. Miscellaneous/Other	39,862	0	0	87,216	0	0	0	0	127,078

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	15,994,917	3,471,766	384,810	17,144,903	6,360	44,416	0	9,272,650	**46,319,822**
Category Use to Production Rate (%)	**74.66%**	**61.16%**	**11.58%**	**98.39%**	**0.12%**	**1.35%**	**0.00%**	**91.12%**	**69.43%**
2023 Cenospheres Sold (Pounds)	0	**Data in this survey represents 75.272 GWs of Name Plate rating of the total industry wide approximate 182.5908 GW capacity based on EIA's May 2024 Electric Power Monthly**							