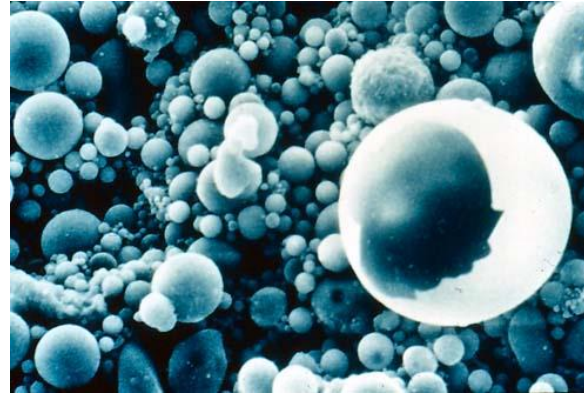


# EO 12866 Meeting - RIN 2050-AG98 - Coal Combustion Residues



Perspectives on Coal Ash Beneficial Use

American Coal Ash Association

June 20, 2019

# American Coal Ash Association

- Founded in 1968
- Headquartered in Farmington Hills, MI
- 140 members – utilities, marketers, contractors, equipment suppliers, consultants, academics
- Mission is to encourage beneficial use of Coal Combustion Products in ways that are
  - *environmentally responsible,*
  - *technically sound,*
  - *commercially competitive,*
  - *supportive of a sustainable global community.*

# Coal Combustion Products



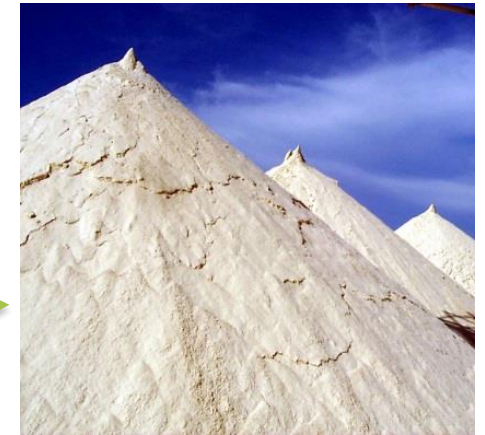
← **Fly ash** – cement manufacture, concrete products, geotechnical

**Bottom ash** – aggregate, geotechnical →



← **Boiler slag** – roofing granules, blasting grit

**Flue gas desulfurization gypsum** – wallboard, agriculture, cement →



# EPA Support for Beneficial Use

EPA on February 7, 2014, released an exhaustive study re-affirming support for two major uses – fly ash in concrete and FGD gypsum in wallboard:

- ◆ *"...environmental releases of constituents of potential concern (COPCs) from CCR fly ash concrete and FGD gypsum wallboard during use by the consumer are comparable to or lower than those from analogous non-CCR products, or are at or below relevant regulatory and health-based benchmarks for human and ecological receptors... **EPA supports the beneficial use of coal fly ash in concrete and FGD gypsum in wallboard.** The Agency believes that these beneficial uses provide **significant opportunities to advance Sustainable Materials Management (SMM).**" <https://www.epa.gov/coalash/coal-ash-reuse>*



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

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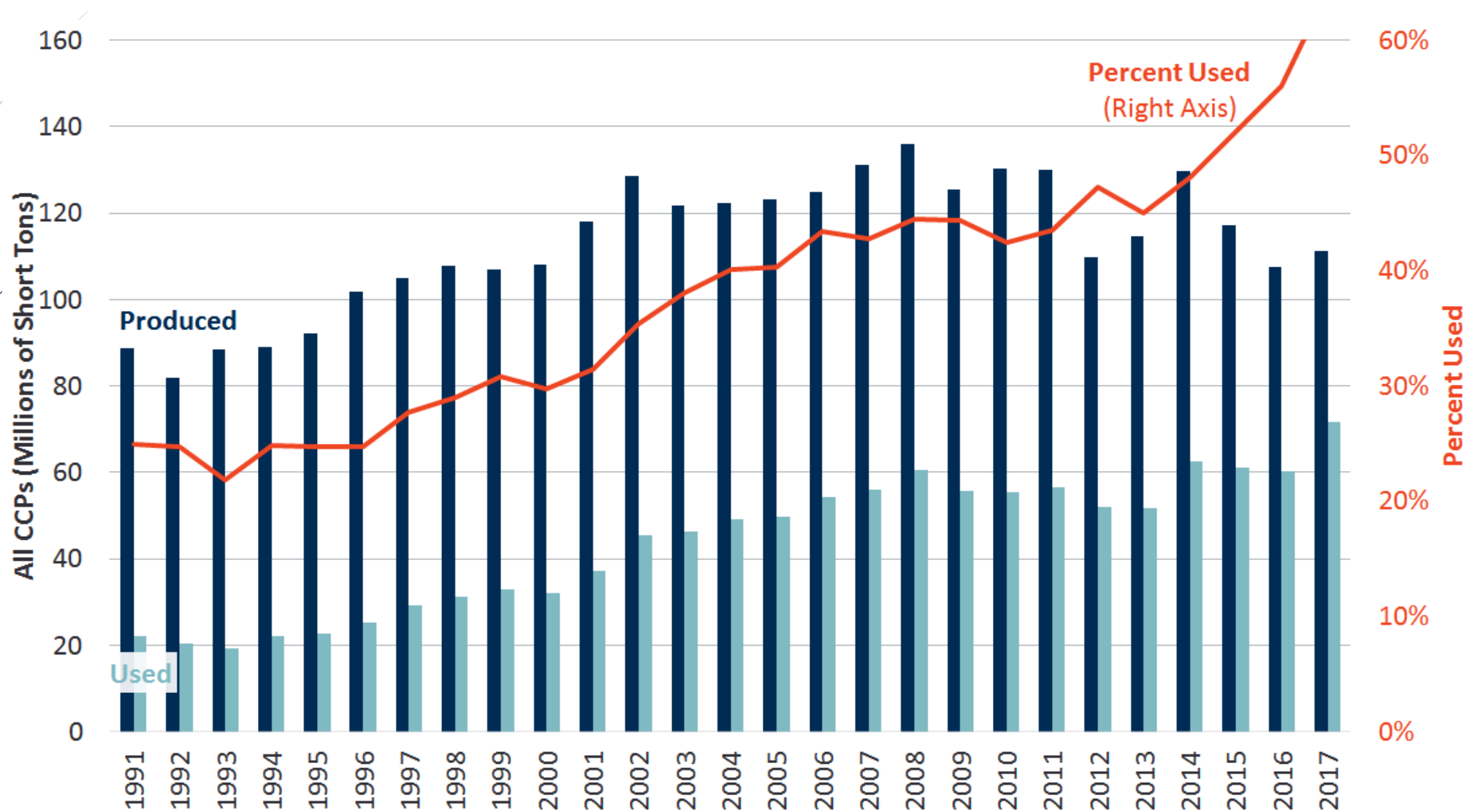
# 10 Years – Overall Utilization

2008	- 44.53%	- 60.6 million tons
2009	- 44.30%	- 55.6 million tons
2010	- 41.20%	- 52.4 million tons
2011	- 43.50%	- 56.6 million tons
2012	- 47.28%	- 51.9 million tons
2013	- 44.79%	- 51.4 million tons
2014	- 48.00%	- 62.4 million tons
2015	- 52.05%	- 61.1 million tons
2016	- 56.01%	- 60.2 million tons
2017	- 64.44%	- 71.8 million tons

*2012 -2017 utilization rates higher in part because of decreases in coal consumption attributed to natural gas competition and regulations closing older power plants.*

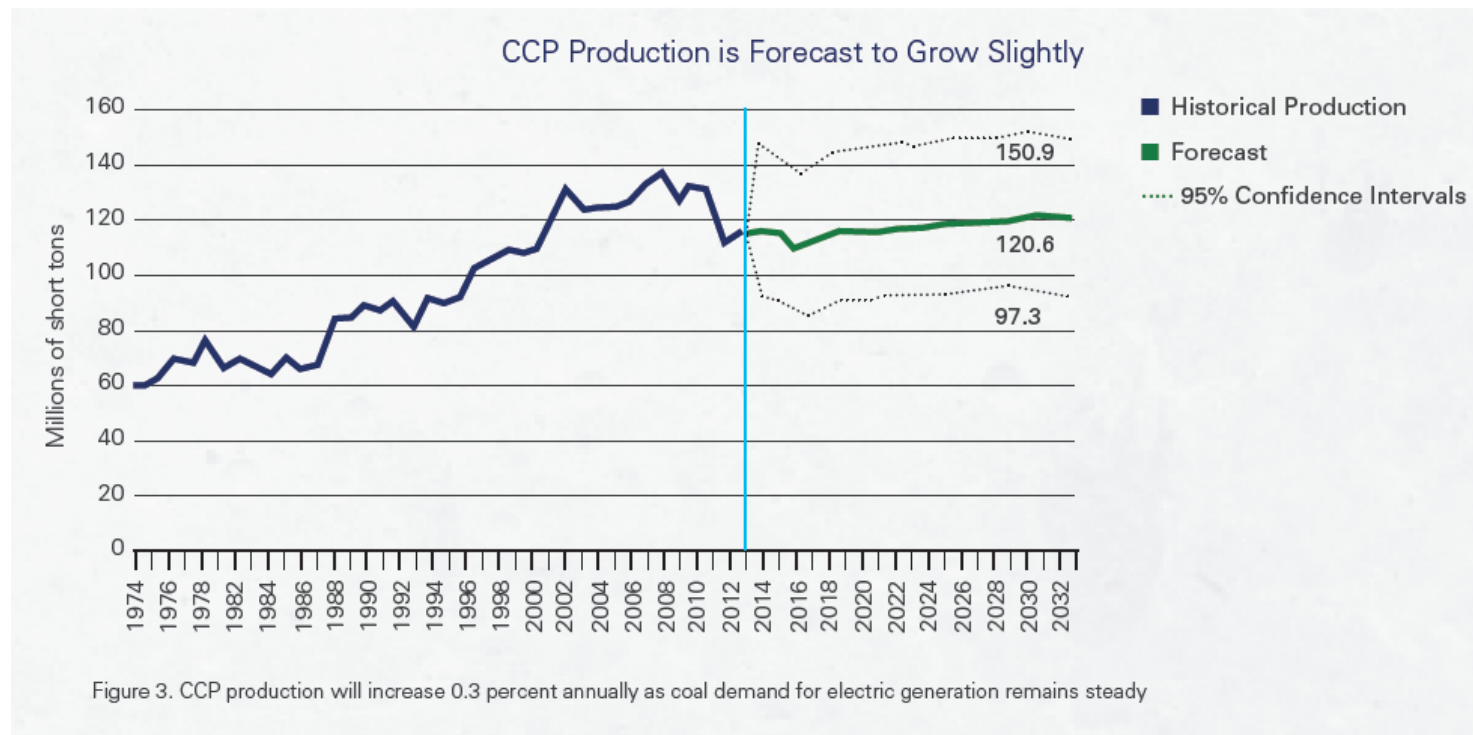
*If 2009-2013 had simply remained equal with 2008's utilization, 26.4 million tons less coal ash would have been deposited in landfills and impoundments.*

# All CCP – Production and Use



# Outlook for Future Supply

Despite closure of coal-fueled power plants in response to environmental regulations and competition from other energy sources, coal is expected to remain a major source of U.S. electricity





# Beneficiation and Reclamation

Beneficial use industry today is actively developing strategies and technologies for:

- Improving quality of ash
- Harvesting previously disposed ash
- Grinding bottom ash
- Blending ashes and natural pozzolans



# Harvesting Ash for Beneficial Use

ASTM E3183 – the new *“Standard Guide for Harvesting Coal Combustion Products Stored in Active and Inactive Storage Areas for Beneficial Use”* has been published.



SEFA 'STAR' System – Winyah Station,  
South Carolina



Boral Dry Stack Harvesting –  
Washingtonville, Pennsylvania

# 2015 CCR Rule Exempts Beneficial Use

Rule includes a four-part definition of beneficial use intended to prevent disposal activities from masquerading as beneficial use.

1. The CCR must provide a **functional benefit**.
2. The CCR must **substitute for the use of a virgin material**, conserving natural resources that would otherwise need to be obtained through practices, such as extraction.
3. The use of the CCR must **meet relevant product specifications**, regulatory standards or design standards when available, and when such standards are not available, the CCR is not used in excess quantities.
4. When **unencapsulated** use of CCR involving **placement on the land of 12,400 tons or more in non-roadway applications**, the user must demonstrate and keep records, and provide such documentation upon request, that environmental releases to groundwater, surface water, soil and air are comparable to or lower than those from analogous products made without CCR, or that environmental releases to groundwater, surface water, soil and air will be at or below relevant regulatory and health-based benchmarks for human and ecological receptors during use. CCR must provide a functional benefit. CCR must substitute for the use of a virgin material, conserving natural resources that would otherwise need to be obtained through practices, such as extraction.

# Beneficial Use Issues Needing Correction

Three items related to the beneficial use definition require correction:

- The 12,400-ton threshold for evaluating non-roadway unencapsulated uses
- Definition of “piles” staged for future beneficial use
- Status of clay mines

# 12,400 Tons – A Math Error

**Regulatory Intent:** Non-roadway unencapsulated beneficial use (i.e. structural fills) could behave like a landfill. Therefore, if such use is larger than the smallest landfill in EPA's database, provide additional evaluation to show environmental acceptability.

**Issue Needing Correction:** EPA misinterpreted data in the rulemaking record to arrive at the 12,400 ton limit.

**Recommended Approach:** ACAA believes the fourth qualification criterion is unnecessary inasmuch as structural fills are addressed in "relevant product specifications, regulatory standards or design standards" as called for in the third qualification criterion.\*

Alternatively, EPA should change the limit to 74,800 tons – the volume of the actual "smallest landfill" presented in the rulemaking record.

◇ \* ASTM E2277 - Standard Guide for Design and Construction of Coal Ash Structural Fills



## "Piles" – A Regulatory Inconsistency

**Regulatory Intent:** Prevent excessive quantities of CCRs from being speculatively stored for beneficial use.

**Issue Needing Correction:** Inconsistent regulatory treatment of materials stored on utility property versus beneficial use manufacturer property.

**Recommended Approach:** It is worth noting that the rulemaking record provides no damage cases associated with storage and no analysis associated with the issue.

When correcting the inconsistent regulatory treatment, EPA should ensure it does not create barriers to beneficial use.

# Clay Mines – An Unintended Consequence

**Regulatory Intent:** Placement in sand and gravel pits and quarries was expressly excluded from the definition of beneficial use.

**Issue Needing Correction:** The addition of the word “mineral” in the final rule publication unintentionally expanded the scope of the restriction without presenting any damage cases or taking public comment – leading to the treatment of clay mine placement as a prohibited beneficial use.

**Recommended Approach:** Return to the original definition of sand and gravel pits or quarries. Remove the word “mineral,” which has been misinterpreted and has potential for future misinterpretation without regulatory justification.

# Thank You!

## American Coal Ash Association

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