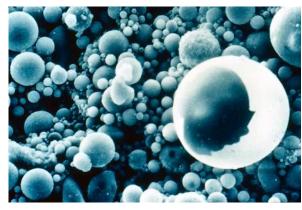
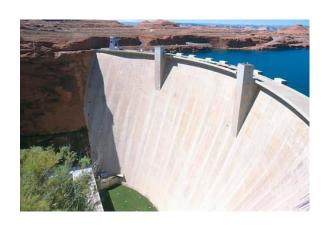
EO 12866 Meeting - RIN 2050-AG98 - Coal Combustion Residues







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 reaffirming support for two major uses – fly ash in concrete and FGD gypsum in wallboard:



2017 Production and Use Results

American Coal Ash Association Phone: 720-870-7897 38800 Country Club Drive

Fax: 720-870-7889

Farmington Hills, MI 48331 Internet: www.ACAA-USA.org Email: info@acaa-usa.org			2017 Coal Combustion Product (CCP) Production & Use Survey Report						
		E	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
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
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
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	15,859,600
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	89,909
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 Produ	ction 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%	64.449
2017 Cenospheres Sold (Pounds)	147,958	Data in this survey re Monthly.	presents 145.2070)1 G∀s of Name Pla	te rating of the total indu	stry wide approximate 26	3.0478 G₩ capaci	ty based on EIA's J	uly 2017 Electric Power
CCPs Imported in 2016 (Short Tons)	0	Pronenty.							
CCPs Exported in 2016 (Short Tons)	0								

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

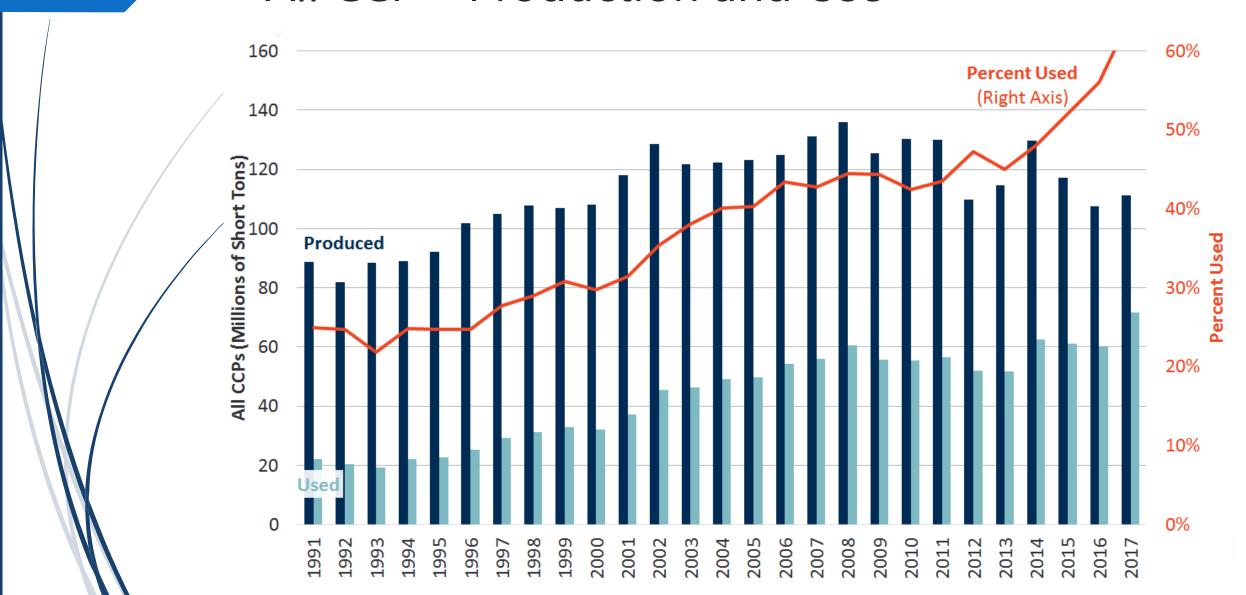
2017 - 64.44% - 71.8 million tons

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.

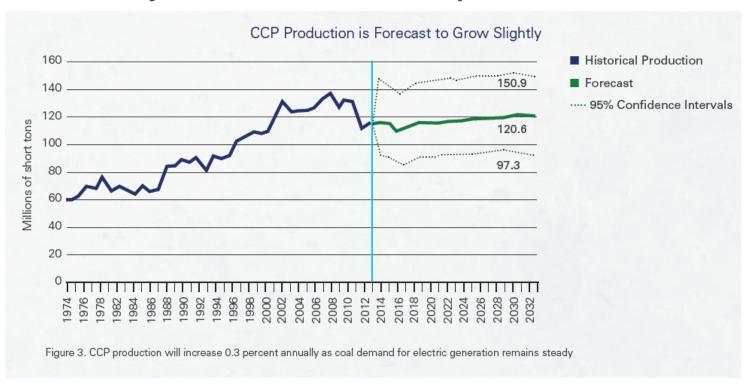


All CCP – Production and Use



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

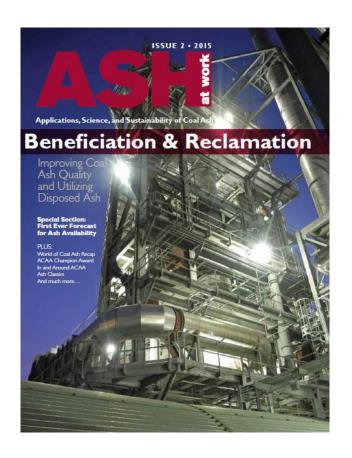




Beneficiation and Reclamation

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.

- 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

Thomas H. Adams, Executive Director

(720) 870-7897

info@acaa-usa.org

