



**Ash Development
Association of Australia**

Ash Development Association of Australia

Annual Membership Survey Results

January - December 2009

Prepared by
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Membership Survey Results: 2009

The Ash Development Association of Australia (ADAA) conducts an annual survey for information regarding coal combustion products (CCPs) production and sales by members and non-members for each calendar year. This report provides results for the 2009 calendar year.

Information provided by members and non-members is collated and then aggregated into a national set of results and include CCP production levels, and nominated uses for all CCP products. For the calendar period January to December 2009, approximately 18% of all CCPs produced were utilised within various civil and construction applications throughout Australasia.

The survey results include all generators, marketers, (processing and marketing companies) and users for the total production and resulting sales by each end use. Where required, data is supplemented with importation data and other secondary data¹ sources for accuracy purposes.

The key results for the calendar period 2009 survey were:

- Approximately 13.7Mt (million tonnes) of CCPs were produced within Australasia. On a per capita basis, this equates to about 623 kg/person
- Some 2.5Mt (or 18%) of CCPs have been effectively utilised in various value-added products or to some beneficial end over the period. On a per capita basis, this equates to about 113kg/person recycled or reused.
- Approximately 1.5 Mt (or 11%) was used in high value-added applications such as cementitious applications or concrete manufacture.
- About 0.5 Mt (or 3%) were used in non-cementitious applications
- Some 0.1 Mt (or .07%) was used in projects offering some beneficial use (e.g. onsite mine site remediation, local haul roads etc.). These uses typically generate no economic return, that is, cost recovery only.
- Surplus CCPs (11.3 Mt) are typically placed into onsite storage ponds awaiting some future opportunity for economic reuse
- More than 29 million tonnes of CCPs [fly ash] have been used in cementitious applications or concrete manufacture from 1975 to 2009 [34 years]

In summary the recovery and reuse of CCPs provide significant positive environmental impacts, including resource conservation and in this case, the reduction of greenhouse gas emissions from the processing of virgin resources.

The following table provides more detail for individual category sales of CCPs for the 2009 calendar year.

¹ Company annual reports and other published data sources

Table 1 - 2009 CCP Sales and Production Survey

		Ash Development Association of Australia 2009 CCP Production & Use Survey			
SECTION A. Fuel or Coal Used		Tonnes Consumed	Avg % Ash Content	Ash (Auto-Calc)	
Bituminous (Black Coal)		51,169,480	22.85%	11,694,056	
Sub-bituminous		7,700,405	13.16%	1,013,426	
Lignite (Brown Coal)		44,288,013	2.38%	1,054,756	
Total Coal Burned (Auto-calc)		103,157,898	13.34%	13,762,237	
SECTION B. CCPs Beneficial Use Calculations (Tonnes)		Fly Ash	Bottom Ash	Cenospheres	Combined (Auto-Calc)
1. Total Produced in 2009 (Jan-Dec)		11,565,066	2,135,889	54,727	13,755,682
2. Total 2009 Production not used [Stored]		0	73,392	0	73,392
3. Total 2009 Production Placed in Storage Inventory in 2009		9,564,831	1,561,124	47,534	11,173,489
4 Total of 2009 Production Used (Auto-Calc)		2,000,234	501,374	7,193	2,508,802
5. Amount removed or diverted from storage during 2009		0	0	0	0
6. Total of All Used in 2009 (Auto-Calc)*		2,000,234	501,374	7,193	2,508,802
SECTION C. CCP Use (Tonnes)		Fly Ash	Bottom Ash	Cenospheres	Combined (Auto-Calc)
Category 1					
Cement/Concrete Products /Grout		1,551,995	19,500	0	1,571,495
Cement/ Raw Feed for Clinker					
Mineral Fillers					
Category 2					
Flowable Fill CLSM					
Structural Fills/Embankments					
Road Base/Sub-base		308,083	223,708	0	531,791
Soil Modification/Stabilization					
Mineral Filler in Asphalt					
Agriculture					
Aggregate					
Category 3					
Mining Applications (e.g. Backfill)		113,943	0	0	113,943
Waste Stabilization/Solidification					
Miscellaneous/Other					
Total Use (C1, C2, C3)*(Auto-calc)		1,974,021	243,208	0	2,217,229
SECTION D. Summary Results		Fly Ash	Bottom Ash	Cenospheres	Combined (Auto-Calc)
7. Total of All Sold in 2009 (Auto-Calc)*		1,974,021	243,208	0	2,217,229
6. Total of All Beneficially Used in 2009 (Auto-Calc)*		26,213	258,166	7,193	291,572