



**Ash Development  
Association of Australia**

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## **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 data<sup>1</sup> 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.

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<sup>1</sup> Company annual reports and other published data sources

**Table 1 - 2009 CCP Sales and Production Survey**

		<b>Ash Development Association of Australia 2009 CCP Production &amp; Use Survey</b>			
<b>SECTION A. Fuel or Coal Used</b>		<b>Tonnes Consumed</b>	<b>Avg % Ash Content</b>	<b>Ash (Auto-Calc)</b>	
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	
<b>Total Coal Burned (Auto-calc)</b>		<b>103,157,898</b>	<b>13.34%</b>	<b>13,762,237</b>	
<b>SECTION B. CCPs Beneficial Use Calculations (Tonnes)</b>		<b>Fly Ash</b>	<b>Bottom Ash</b>	<b>Cenospheres</b>	<b>Combined (Auto-Calc)</b>
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 <b>Total of 2009 Production Used (Auto-Calc)</b>		<b>2,000,234</b>	<b>501,374</b>	<b>7,193</b>	<b>2,508,802</b>
5. Amount removed or diverted from storage during 2009		0	0	0	0
6. <b>Total of All Used in 2009 (Auto-Calc)*</b>		<b>2,000,234</b>	<b>501,374</b>	<b>7,193</b>	<b>2,508,802</b>
<b>SECTION C. CCP Use (Tonnes)</b>		<b>Fly Ash</b>	<b>Bottom Ash</b>	<b>Cenospheres</b>	<b>Combined (Auto-Calc)</b>
<b>Category 1</b>					
Cement/Concrete Products /Grout		1,551,995	19,500	0	1,571,495
Cement/ Raw Feed for Clinker					
Mineral Fillers					
<b>Category 2</b>					
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					
<b>Category 3</b>					
Mining Applications (e.g. Backfill)		113,943	0	0	113,943
Waste Stabilization/Solidification					
Miscellaneous/Other					
<b>Total Use (C1, C2, C3)*(Auto-calc)</b>		<b>1,974,021</b>	<b>243,208</b>	<b>0</b>	<b>2,217,229</b>
<b>SECTION D. Summary Results</b>		<b>Fly Ash</b>	<b>Bottom Ash</b>	<b>Cenospheres</b>	<b>Combined (Auto-Calc)</b>
7. <b>Total of All Sold in 2009 (Auto-Calc)*</b>		<b>1,974,021</b>	<b>243,208</b>	<b>0</b>	<b>2,217,229</b>
6. <b>Total of All Beneficially Used in 2009 (Auto-Calc)*</b>		<b>26,213</b>	<b>258,166</b>	<b>7,193</b>	<b>291,572</b>