

PUBLIC REPORT 2010

Controlling Corporation

Alcoa Australia Holdings

Period to which this report relates

Start 1 July 2009

End 30 June 2010

(eg. for a Corporate Group with the trigger-year 2005-06, the report will cover the period 1.7.2006-30.6.2010)

Part 1 – Information on assessments completed to date

Table 1.1 – Description of the way in which the Corporate Group (or part of it) has carried out its assessments

This report details AAH reporting for the Mining, Refining, and Smelting operations covering the 12 month period Jul 09 to Jun 10. A separate report for the Rolled Products group is attached.

Strategic or Operational reviews are conducted every 3 years at all Alcoa Refining locations. These programs included a detailed energy assessment using a team of internal energy experts led by Alcoa's Global Refinery Technical Manager for Energy. The protocol used in the assessment covered essentially the same requirements of the EEO assessment guidelines in addition to meeting the standard requirements for Alcoa's internal technical and strategic review.

Alcoa's Western Australian Mines engaged an external audit team to review overall energy usage from its operations, and to identify energy saving and efficiency opportunities. As a result key projects were identified and investigated through the Mining Water and Energy Reduction Lead Team. The Water and Energy Reduction team is a 6 weekly meeting attended by mining energy experts, representatives from the mining management lead team, environmental planning as well as representatives from all mining operational departments. This forum assesses energy saving opportunities and works to implement projects that provide reduction in greenhouse gas emissions whilst being economically viable.

The Smelting team reviewed the energy management systems, leadership, communication, energy measurement and data analysis, and opportunities for further improvement in the light of the EEO guidelines and came up with a list of potential actions which addresses gaps identified. The ALCOA smelting group are subject to periodic Manufacturing Analyses and Technical Reviews. An external consultant undertook an energy assessment under the Victorian EPA energy program in 2003. Also the Alcoa Energy Efficiency group (EEO) conducted an Energy Survey in 2004 at both smelter sites. A list of potential projects with energy impact was developed. Energy efficiency is an ongoing process in Aluminium smelters and a significant number of opportunities have been identified and implemented at both smelters prior to the EEO initiative.

Part 1 – Information on assessments completed to date (continued)

Table 1.2 – Energy use assessed		
Group member and/or business unit and/or key activity and/or site (or part thereof) that has had an assessment completed by 30 June 2010 (Include all assessments completed to date for the current 5 year cycle).	Period over which assessment was undertaken¹	Energy use for the period 1.7.2009 to 30 June 2010 of the assessed entity (or part thereof) expressed in GJ²
Pinjarra Refinery	March 26 th to April 4 2007	45,090,943
Kwinana Refinery	Sept 12 to Sept 20 2007	26,712,405
Wagerup Refinery	Oct 21 to Nov 1 2007	28,793,947
WA Mining	Jan 10 to March 26 2008	1,514,674
Portland Smelter	May 13 to July 30 th 2008	16,360,796
Pt Henry Smelter	May 8 th to July 30 th 2008	11,147,242
Total energy use of assessed entities (or part thereof)		
Total energy use of the whole corporate group in the period 1.7.2009 to 30 June 2010		129,620,007
Total energy use of assessed entities (or part thereof) for the period 1.7.2009 to 30.6.2010 expressed as a percentage of total energy use for the period 1.7.2009 to 30.6.2010		100%

1. This should be the start and finish date (month and year) for the assessment (planned assessment dates were nominated in Table 3.1 of the approved ARS).

2. Energy Bandwidth may only be used if approved in the Assessment and Reporting Schedule.

Table 1.3 – Accuracy of energy use assessed data		
Entity	% achieved	Reasons for not achieving data accuracy to within ±5%

Part 2 - Energy Efficiency Opportunities that have been identified and evaluated

Part 2B - Update of assessments reported in previous Public Reports

Name of Group member or business unit or key activity or site: _____ Refining _____

Total energy use for the period 1.7.2009 to 30.6.2010 of the assessed entity (or part thereof) from which the opportunities identified below were generated (and is reported in Table 1.2).

100,597,295	GJ
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Table 2.3 – Opportunities assessed to an accuracy of better than or equal to (\leq) $\pm 30\%$

Status of opportunities identified		Total Number of opportunities	Estimated energy savings per annum by payback period (GJ)						Total estimated energy savings per annum (GJ)
			0 – < 2 years		2 – \leq 4 years		> 4 years		
			No of Opps	GJ	No of Opps	GJ	No of Opps	GJ	
Business Response	Under Investigation								
	To be Implemented	1			1	254040			254040
	Implementation Commenced								
	Implemented	3	1	109500	2	889140			998640
	Not to be Implemented								
Outcomes of assessment	Total Identified	4	1	109500	3	1143180			1252680

Part 2B - Update of assessments originally reported in previous Public Reports (continued)

Name of Group member or business unit or key activity or site: _____Refining_____

Total energy use for the period 1.7.2009 to 30.6.2010 of the assessed entity (or part thereof) from which the opportunities identified below were generated (and is reported in Table 1.2).

100,597,295	GJ
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Table 2.4 – Opportunities assessed to an accuracy of worse than (>) ±30%

Status of opportunities identified		Total Number of opportunities	Estimated energy savings per annum by payback period (GJ)						Total estimated energy savings per annum (GJ)
			0 – < 2 years		2 – ≤ 4 years		> 4 years		
			No of Opps	GJ	No of Opps	GJ	No of Opps	GJ	
Business Response	Under Investigation	3	3	654628					654628
	To be Implemented								
	Implementation Commenced								
	Implemented	1	1	325033					325033
	Not to be Implemented	3			1	876000	2	1109600	1985600
Outcomes of assessment	Total Identified	7	4	979660	1	876000	2	1109600	2965260

Part 2B - Update of assessments reported in previous Public Reports

Name of Group member or business unit or key activity or site: _____Mining_____

Total energy use for the period 1.7.2009 to 30.6.2010 of the assessed entity (or part thereof) from which the opportunities identified below were generated (and is reported in Table 1.2).

1,514,674	GJ
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Table 2.3 – Opportunities assessed to an accuracy of better than or equal to (<=) ±30%

Status of opportunities identified	Total	Estimated energy savings per annum by payback	Total estimated energy
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		Number of opportunities	period (GJ)						savings per annum (GJ)
			0 – < 2 years		2 – ≤ 4 years		> 4 years		
			No of Opps	GJ	No of Opps	GJ	No of Opps	GJ	
Business Response	Under Investigation								
	To be Implemented								
	Implementation Commenced								
	Implemented								
	Not to be Implemented								
Outcomes of assessment	Total Identified								

Part 2B - Update of assessments originally reported in previous Public Reports (continued)

Name of Group member or business unit or key activity or site: _____ Mining _____

Total energy use for the period 1.7.2009 to 30.6.2010 of the assessed entity (or part thereof) from which the opportunities identified below were generated (and is reported in Table 1.2).

1,514,674	GJ
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Table 2.4 – Opportunities assessed to an accuracy of worse than (>) ±30%

Status of opportunities identified		Total Number of opportunities	Estimated energy savings per annum by payback period (GJ)						Total estimated energy savings per annum (GJ)
			0 – < 2 years		2 – ≤ 4 years		> 4 years		
			No of Opps	GJ	No of Opps	GJ	No of Opps	GJ	
Business Response	Under Investigation	2	2	3571					3571
	To be Implemented								
	Implementation Commenced								
	Implemented								
	Not to be Implemented	1	1	74535					74535
Outcomes of assessment	Total Identified	3	3	78106					78106

Part 2B - Update of assessments reported in previous Public Reports

Name of Group member or business unit or key activity or site: _____ Smelting _____

Total energy use for the period 1.7.2009 to 30.6.2010 of the assessed entity (or part thereof) from which the opportunities identified below were generated (and is reported in Table 1.2).

27,508,038	GJ
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Table 2.3 – Opportunities assessed to an accuracy of better than or equal to (\leq) $\pm 30\%$

Status of opportunities identified		Total Number of opportunities	Estimated energy savings per annum by payback period (GJ)						Total estimated energy savings per annum (GJ)
			0 – < 2 years		2 – \leq 4 years		> 4 years		
			No of Opps	GJ	No of Opps	GJ	No of Opps	GJ	
Business Response	Under Investigation								
	To be Implemented								
	Implementation Commenced								
	Implemented	2	2	73302					73302
	Not to be Implemented								
Outcomes of assessment	Total Identified	2	2	73302					73302

Part 2B - Update of assessments originally reported in previous Public Reports (continued)

Name of Group member or business unit or key activity or site: _____Smelting_____

Total energy use for the period 1.7.2009 to 30.6.2010 of the assessed entity (or part thereof) from which the opportunities identified below were generated (and is reported in Table 1.2).

27,508,038	GJ
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Table 2.4 – Opportunities assessed to an accuracy of worse than (>) ±30%

Status of opportunities identified		Total Number of opportunities	Estimated energy savings per annum by payback period (GJ)						Total estimated energy savings per annum (GJ)
			0 – < 2 years		2 – ≤ 4 years		> 4 years		
			No of Opps	GJ	No of Opps	GJ	No of Opps	GJ	
Business Response	Under Investigation	4	4	51188					51188
	To be Implemented								
	Implementation Commenced								
	Implemented	2	2	26768					26768
	Not to be Implemented	5	5	81439					81439
Outcomes of assessment	Total Identified	11	11	159395*					159395

* Note: 2010 value corrected due to data duplication in 2009

Part 2 - Energy Efficiency Opportunities that have been identified and evaluated

Part 2C - Details of at least three significant opportunities found through EEO assessments

Table 2.5 – Description of 3 significant opportunities

Opportunity 1
<p>During the original sites assessments a need was identified to develop cross site based Energy Teams along with organisation charts detailing responsibilities of the team members. The location team provide input from a range of expertise, various departments, and management levels helping to ensure opportunities are identified and assessed thoroughly. Processes were also implemented where projects are captured in specific site registers.</p>
Opportunity 2
<p>Reduce Bakes gas consumption through implementing radio communication system to allow monitoring and control. The introduction of faster wireless communication increases the amount of data transfer between the gas feed control, “autofire” system and the firing frames, eliminating data transfer queuing. This essentially increases the control and ability to adjust gas consumption and other operating parameters.</p>
Opportunity 3
<p>At the Portland Smelter an opportunity was identified, trialed and implemented involving reducing the number of A398 scrubbing units online at a time. This involved running of only 7 (N-1) A398 reactors in each bank of 8 (N=8) to provide the required level of fume extraction yet enable the conservation of energy. By maintaining the units to provide required performance levels sufficient extraction can be provided while using less energy. However, a review of environmental expectations led to the energy efficiency project being suspended to maximise emission reduction potential.</p>
Opportunity 4



Part 3 - Voluntary Contextual Information

Table 3.1 – Contextual Information

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Table 3.2 – Energy use expressed in Greenhouse Gas emissions and as an energy use indicator

Period of energy use _____ to _____

Name of group member/ business unit/ key activity/site	Energy use pa (GJ)	Energy use pa (GGE)	Energy use as an indicator*
Total			

Table 3.3 - Opportunities assessed to an accuracy of better than or equal to (<=) ±30% (\$ value)

Status of opportunities identified		Number of opportunities	Estimated energy savings per annum by payback period (\$)			Total estimated energy savings per annum (\$)
			0 – < 2 years	2 – ≤ 4 years	> 4 years	
Business Response*	Under Investigation					
	To be Implemented					
	Implementation Commenced					
	Implemented					
	Not to be Implemented					
Outcomes of assessment*	Total Identified					

Part 3 - Voluntary Contextual Information (continued)

Table 3.4 – Changes in energy use as an indicator			
Name of group member/ business unit/ key activity/site	Current energy use as an indicator	Previous energy use as an indicator	Reasons for change
Total			

Part 4 - Declaration

Table 4.1 - Declaration of accuracy and compliance (mandatory information)	
The information included in this report has been reviewed and noted by the board of directors and is to the best of my knowledge, correct and in accordance with the <i>Energy Efficiency Opportunities Act 2006</i> and <i>Energy Efficiency Opportunities Regulations 2006</i> .	
	Alan Cransberg, Chairman Alcoa Australia Holdings Pty Ltd
	Date