

ENERGY EFFICIENCY OPPORTUNITIES

PUBLIC REPORT FOR ALCOA AUSTRALIA ROLLED PRODUCTS PTY LTD

Alcoa Australia Rolled Products Pty Ltd (Alcoa ARP) is part of Alcoa's Global Rolled Products group and operates aluminium flat rolled products facilities at Point Henry near Geelong in Victoria and at Yennora in Western Sydney, New South Wales. The business also operates an aluminium recycling facility at the Yennora site.

In May 2008, Alcoa ARP initiated an energy assessment of its facilities, in line with the *Energy Efficiency Opportunities Act 2006* and the key requirements of the assessment framework. A Level 2 energy audit (defined in AS3598:2000) was completed at both the Point Henry and Yennora sites, covering 80% of each locations total energy use. Both these assessments involved a range of people from a variety of areas within Alcoa ARP, including senior managers, engineering specialists, environmental coordinators and finance managers at both sites. Alcoa ARP also employed external consultants to assist with conducting the energy assessments and ensuring the six key elements required for the EEO were achieved.

Alcoa ARP has been operating in Australia since 1965, and today produces around 165,000 tonnes of rolled aluminium. The recycling facility at Yennora is the largest of its kind in Australia and recycles approximately 70,000 tonnes of scrap aluminium a year.

Alcoa ARP reports monthly to Alcoa Inc, the parent company in USA, and has internal key performance indicators on energy consumption across both sites. Alcoa ARP is committed to reducing energy consumption at both the Point Henry and Yennora sites and senior leadership has committed to ensure that the intent and the key requirements of the EEO legislation have been, and will continue, to be met.

Energy Consumption

Total energy usage between July 2006 and June 2008 decreased at Point Henry Victoria from 1,735,122 to 1,587,890 GJ; and from 1,429,852 to 1,177,503 GJ at Yennora, New South Wales. Energy consumption was assessed to within 10-20% accuracy and depended on a variety of factors including existence and adequacy of energy measurement meters present at both sites.

Energy Saving Opportunities

With the assistance of previously completed energy assessments, a number of opportunities were identified for both the Point Henry and Yennora Alcoa ARP sites. Summary of opportunities are listed for each site in Table 1 and 2 below. The opportunities identified in the site assessments strengthen some of the earlier identified and recommended actions to reduce energy. The tables also display the energy savings that have been recently implemented at both sites.

It should be noted that energy savings associated with projects under investigation are not included in the tables. Further engineering investigations are required to more accurately quantify the associated energy savings for these projects.

Table 1 Point Henry, Victoria Status of opportunities		Number of Opportunities	Estimated energy savings per annum by payback period (GJ)			Total estimated energy savings per annum (GJ)	Accuracy range (%)
			0 – < 2 years	2 – ≤ 4 years	>4 years		
Outcomes of assessment	Identified (accuracy ≤ ±30%)	3	49,200	-	-	49,200	15%
	Identified (accuracy > ±30%)	13	-	-	49,050	49,050	>30%
	Total Identified	16	49,200	-	49,050	98,250	>30%
Business Response	Implemented in the last 12 months as part of previous assessment	4	-	-	76 950	76,950	<10%
	Implementation Commenced	3	47 850	-		47,850	< 30%
	Proposed to be Implemented	3	1 350	-	10 400	11,750	± 30%
	Further investigation required	7	-		38,650	38,650	>30%
	Not to be Implemented	3	Projects not to be progressed due to being financially unviable or impractical				

Table 2 Yennora, New South Wales Status of opportunities		Number of Opportunities	Estimated energy savings per annum by payback period (GJ)			Total estimated energy savings per annum (GJ)	Accuracy range (%)
			0 – < 2 years	2 – ≤ 4 years	>4 years		
Outcome of Assessments	Total Identified	12	20,475	9,932	84,666	115,073	>30%
Business Response	Implemented in the last 12 months as part of previous assessment	3	84,990	-	11,961	96,951	<10%
	Implementation Commenced	0	-	-	-	-	-
	Proposed to be Implemented	3	7,971	-	6,795	14,766	> 30%
	Further investigation required	9	12,504	3,137	84,666	100,307	>30%
	Not to be Implemented	0	-				

Details of significant opportunities found through EEO assessments

Opportunity 1

Sheet Finishing - Coil Coating Line

Lower Explosive Limit (LEL) instrumentation to reduce airflow.

Savings in energy consumption and greenhouse gas emission can be achieved by adjusting instrumentation associated with the Coil Coating Line and decreasing the Lower Explosive Limit (LEL). At present the full energy savings have not been directly quantified, however Alcoa ARP recognise the reduction in dilution air and heating requirements will contribute energy savings. The project is proposed for completion July 2009.

Opportunity 2

Hot Rolling Mill - Rebuild of Preheat furnace #3.

Preheat furnace #2 rebuild was completed in 2007 and significant energy savings were achieved. Preheat 3 has 10%+ energy loss per cycle due to the poor condition of the refractory, door opening frame and seal. Savings estimated at 4% of preheat energy input. The project is proposed for completion July 2010.

Opportunity 3

Site - Meter installations

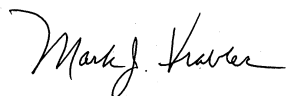
Installing new electrical and gas meters and routinely maintaining and calibrating meters in parts of both sites will improve the energy data captured and allow for improved accuracy in estimating energy saving opportunities. The installation of meters has been included in the 2008 to 2009 financial year budget. This will allow Alcoa ARP to report energy data with a greater level of accuracy into the future.

DECLARATION

The information included in this report has been reviewed and noted by the board and is to the best of my knowledge, correct and in accordance with the *Energy Efficiency Opportunities Act 2006* and *Energy Efficiency Opportunities Regulations 2006*.

The report will be published on the Alcoa Internet website and will become a part of the Corporation's Sustainability Report.

Yours sincerely



Mark Vrablec

Managing Director

Alcoa Australia Rolled Products Pty Ltd