

## Energy Efficiency Opportunities Public Report 2011

### Alcan Gove Pty Limited

#### Controlling Corporation

Alcan Gove Pty Limited

#### Period to which this report relates

**Start**

1 January 2011

**End**

30 June 2011

#### 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 covers the reporting obligations for Alcan Gove Pty Limited. Alcan Gove Pty Limited undertook its assessment in 2008. Energy use data in this report are for the financial year 2011 (1 July 2010 to 30 June 2011). Alcan Gove's EEO progress reporting is transitioning from calendar year reporting to financial year reporting as communicated and approved by the Department of Resources, Energy & Tourism.

In the first half of 2011 the following progress was achieved:

- Two energy efficiency opportunities were *implemented* with estimated savings of 586TJ; and
- Five energy efficiency opportunities with estimated energy savings 943TJ in the *Implementation Commenced* category continued to progress toward implementation.

As at 1 July 2011, ten opportunities had been implemented with energy savings of 3,690TJ. Six opportunities are in the *Implementation Commenced* or *To be Implemented* category. These have a combined estimated energy saving of 1,110TJ. In 2011 Alcan Gove Pty Limited participated in a verification under Section 24 of the Energy Efficiency Opportunities Act that was conducted by the Department of Resources, Energy and Tourism. As at 30 June 2011, evaluation and assessment of all but one opportunity had proceeded to the stage of decision making.

Tables 2.3 and 2.4 describe the status of the identified EEO opportunities as at 1 July 2011.



<b>Table 1.2 – Energy use assessed</b>		
<b>Group Member and/or business unit and/or key activity and /or site that has had an assessment completed by the end of this reporting period</b>	<b>Period over which the assessment was undertaken</b>	<b>Energy use per annum in GJ in the current reporting year*</b>
Rio Tinto Alcan Gove	July to December 2008	25,878,000
<b>Total energy assessed</b>		<b>25,878,000</b>
<b>Total energy use of the group in the current reporting year</b>		<b>25,878,000</b>
<b>Total energy assessed expressed as a percentage of total current energy use</b>		<b>100%</b>

\* Any discrepancies with totals are related to rounding to the nearest 100GJ. Energy use includes energy losses from the generation of electricity and steam.

<b>Table 1.3 – Accuracy of energy use data</b>		
<b>Entity</b>	<b>% achieved</b>	<b>Reasons for not achieving data accuracy to within ±5%</b>
Not applicable		

## Part 2 – Energy Efficiency Opportunities that have been identified and evaluated

Based on the definition in the EEO Reporting templates, Alcan Gove's understanding of an 'opportunity' is *any potential change to a system, activity or piece of equipment that:*

- is identified during an EEO assessment;
- is consistent with legal requirements such as Occupational Health & Safety; and
- may result in energy savings projects with payback periods of four years or less.

### Part 2A – New Assessments completed during the reporting period

Part 2A is not applicable. No new assessments were completed during the reporting period.



## Part 2B – Update of assessments originally reported in previous reporting periods

Name of group member or business unit or key activity or site: **Rio Tinto Alcan Gove**

Amount of energy assessed which generated the results below (and is reported in Table 1.2)

25,878,000	GJ
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**Table 2.3 – Opportunities assessed to an accuracy of ±30% or better**

Status of opportunities identified		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	
Outcomes of assessment	Total Identified	20	2,916,800	2,012,200	2,000	4,931,100
Business Response**	Under Investigation	1	240,000	0	0	240,000
	To be Implemented	1	167,100	0	0	167,100
	Implementation Commenced	5	943,200	0	0	943,200
	Implemented	9	1,400,000	1,179,200	0	2,579,200
	Not to be Implemented	4	166,600	833,000	2,000	1,001,600

\* Any discrepancies are related to rounding errors to the nearest 100GJ.

\*\* The number of opportunities in each row of the business response section total to the number of opportunities assessed to this level of accuracy in the 'Total Identified' row. This is the business response as at 1 July 2011.

Note:

Following work undertaken during the reporting period, the estimated energy savings and associated financial savings were revised for the opportunity in the *Under Investigation* category.



Name of group member or business unit or key activity or site: **Rio Tinto Alcan Gove**

Amount of energy assessed which generated the results below (and is reported in Table 1.2)

25,878,000	GJ
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<b>Table 2.4 – Opportunities assessed to an accuracy of ±30% or worse</b>						
Status of opportunities identified		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	
Outcomes of assessment	Total Identified	3	1,110,700	0	0	1,110,700
	Business Response**					
	Under Investigation	0	0	0	0	0
	To be Implemented	0	0	0	0	0
	Implementation Commenced	0	0	0	0	0
	Implemented	1	1,110,700	0	0	1,110,700
	Not to be Implemented	2	0	0	0	0

\* Any discrepancies are related to rounding errors to the nearest 100GJ.

\*\* The number of opportunities in each row of the business response section total to the number of opportunities assessed to this level of accuracy in the 'Total Identified' row. This is the business response as at 1 July 2011.

Note:

The evaluations for the two *Not to be Implemented* opportunities were not completed because the opportunities fall outside the greater than the four year payback period.



## 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**

**Monitoring and reporting (*Implemented*)**

Provision of accurate and timely energy management data, particularly the end use of steam which is not currently reported (eg: digestion and evaporation steam energy). The aim of the opportunity is to identify and reduce inefficiencies resulting from poor information and subsequently improve decision making processes leading to improved energy efficiency.

**Progress update:** The tools developed by this project have been implemented and are used for online energy consumption monitoring and energy balance optimisation i.e., for determining energy inputs, outputs and users around the Gove Site. The resultant model of the Gove plant for optimising plant operation and its applications for viewing and archiving plant data continues to be used successfully. It has proved to be a great benefit to the site for determining savings. While the direct energy savings associated with the project are small, the wider implications of the improved energy monitoring have enabled new opportunities to be identified which have major energy savings.

**Steam Trap audit and repairs (*Implementation commenced*)**

Steam is wasted through leaking and faulty steam trap systems. This opportunity aims to identify and rectify steam wastage.

**Progress update:** Following on from the steam trap audit and the associated report recommendations, routine maintenance is ongoing. However, due to maintenance being prioritised to other site areas, not all the steam traps have been repaired. A more rigorous method of tracking steam trap repairs will be implemented towards the end of 2011. Further audits will be undertaken to determine the improvement.

**Digestion Heat Exchangers (HEX) heat transfer coefficient improvements (*Implemented*)**

This opportunity aims to increase the heat transfer by improved scale removal and cleaning procedures in process heaters so that the need for live steam is reduced.

**Progress update:** During 2010, a chemical inhibitor was implemented full time on site. From the analysis of the resultant plant data, significant improvements in heat transfer coefficients have been realised together with a corresponding reduction in the requirement for live steam.

The strategic path forward has been reviewed including consumption rates of the finalised inhibitor. The site is continuing to see a benefit from the use of the chemical inhibitor.

## Part 3 – Voluntary Contextual Information

**Table 3.1 – Contextual Information**

The Rio Tinto group acquired Alcan Gove Pty Limited in October 2007. Although retaining the company name as a controlling corporation, Alcan Gove Pty Limited is now known internally within the organisation as Rio Tinto Alcan – Gove Operations or Rio Tinto Alcan Gove.

Rio Tinto Alcan Gove has been involved in the Greenhouse Challenge Plus programme since the programme's inception and has voluntarily submitted its annual greenhouse gas emissions inventory since 2001. Rio Tinto Alcan Gove is a significant energy user and has been active in identifying energy efficiency improvement projects prior to the introduction of the Energy Efficiency Opportunities Act

Information on energy use by Rio Tinto globally is also included in Rio Tinto's Sustainable Development review which is published annually. Since 2007 this review has been incorporated into the Rio Tinto Annual report. These reports can be found on the Rio Tinto website: [www.riotinto.com](http://www.riotinto.com).

## 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 *Energy Efficiency Opportunities Act 2006* and *Energy Efficiency Opportunities Regulations 2006*.

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**David Peever, Managing Director, Rio Tinto Australia**  
**Authorised representative of the Chief Executive Officer,**  
**Alcan Gove Pty Limited**

Date **30/11/11**