



Energy Efficiency Opportunities Public Report 2011

Whitehaven Coal Limited

Part 1 - Corporation Details

Controlling Corporation

Whitehaven Coal Limited

Period to which this report relates

From 1 July 2009 To 30 June 2011


Table 1.1 - Major Changes to Corporate Group Structure or Operations

Table 1.1 – Major Changes to Corporate Group Structure or Operations	
No major changes have occurred during the 2010-2011 Financial Year (FY).	

Table 1.2 – Aggregate energy assessed covered in this report

Total energy use covered by all assessments in this report	1,362,834	GJ
Total energy assessed as percentage of total energy use of the corporate group	83.2	%

Declaration

Declaration of accuracy and compliance	
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> .	
	Tony Haggarty, Managing Director
	Date 15/12/2011

Part 2 - Assessment Outcomes

Table 2.1 – Assessment Details

Description of the way in which the entity carried out its assessment

The Assessment and Reporting Schedule was prepared and submitted in December 2010 and approved in March 2011. Following this, an energy efficiency consultant was engaged to assist with the Energy Efficiency Opportunities (EEO) process. An EEO team was formed which comprised the Project Managers for the Rocglen, Tarrawonga and Werris Creek operations, Maintenance Manager – Open Cuts, Open Cut Electrical Supervisor, Group Environmental Manager and Environmental Officers.

Site meetings were held on a monthly basis between July 2011 and November 2011. During the initial meeting, the management team used the Department of Energy, Resources and Tourism Energy Efficiency Opportunities (DRET EEO) template to rate various categories of current energy management performance. The members of the workshop discussed each item and, based on their knowledge, a 'group score' was decided for each item. Recommended actions were then agreed upon to improve the score and improve energy management generally.

A high level Mass and Energy Balance (MEB) was prepared by the consultant and provided and explained to the Whitehaven EEO team.

A brainstorming workshop comprising staff and management representatives considered each major mine process with a view to identifying opportunities for energy reductions. Energy savings were investigated further by the energy consultant (in consultation with Whitehaven technical staff) and refined during subsequent meetings.

Name of group member	Period over which assessment was undertaken	Total energy use in last financial year (GJ)	Energy use assessed in this entity as a percentage of total entity energy use (%)	Energy use assessed in this entity as a percentage of total corporate energy use (%)	Accuracy of estimates related to energy use assessed
Werris Creek Open Cut Coal Mine	March – December 2011	496,753	100	30.3	±5%
Tarrawonga Open Cut Coal Mine	March – December 2011	540,029	100	33.0	±5%
Rocglen Open Cut Coal Mine	March – December 2011	326,054	100	19.9	±5%

Table 2.2 - Energy efficiency opportunities identified in the assessment – Rocglen

Part 1 - Status of opportunities assessed to an accuracy of greater than ±30%		Annual Net Value of Savings arising from Opportunities by Payback Period and Fuel Type										
		No of Opps	Energy type		Payback (years)						Annual net energy savings (GJ)	Annual net financial benefits (\$s)
			Electricity	Diesel	0<2		2 to 4		4+			
					No. of Opps	GJ pa	No. of Opps	GJ pa	No. of Opps	GJ pa		
Business Response	Implemented	1	0	1	1	101	0	0	0	0	101	2,599
	Implementation Commenced	1	0	1	1	40	0	0	0	0	40	1,101
	To be Implemented	2	0	2	2	310	0	0	0	0	310	8,418
	Under Investigation	11	0	11	6	14,535	3	3,143	2	382	18,060	467,382
	Not to be Implemented	2	0	2	0	0	0	0	2	5,928	5,928	244,197
Total opportunities identified		17	0	17	10	14,987	3	3,143	4	6,309	24,440	723,697
Part 2 - Status of opportunities assessed to an accuracy of less than 30%												
Business Response	Implemented	0	0	0	0	0	0	0	0	0	0	0
	Implementation Commenced	0	0	0	0	0	0	0	0	0	0	0
	To be Implemented	2	0	2	1	165	1	241	0	0	406	10,424
	Under Investigation	0	0	0	0	0	0	0	0	0	0	0
	Not to be Implemented	0	0	0	0	0	0	0	0	0	0	0
Total opportunities identified		2	0	2	1	165	1	241	0	0	406	10,424

Table 2.2 - Energy efficiency opportunities identified in the assessment – Tarrawonga

Part 1 - Status of opportunities assessed to an accuracy of greater than ±30%		Annual Net Value of Savings arising from Opportunities by Payback Period and Fuel Type										
		No of Opps	Energy type		Payback (years)						Annual net energy savings (GJ)	Annual net financial benefits (\$s)
			Electricity	Diesel	0<2		2 to 4		4+			
					No. of Opps	GJ pa	No. of Opps	GJ pa	No. of Opps	GJ pa		
Business Response	Implemented	1	0	1	1	118	0	0	0	0	118	2,700
	Implementation Commenced	0	0	0	0	0	0	0	0	0	0	0
	To be Implemented	4	0	4	3	538	1	241	0	0	779	19,400
	Under Investigation	11	0	11	6	21,121	4	3,939	1	330	25,390	810,996
	Not to be Implemented	1	0	1	0	0	0	0	1	2,033	2,033	55,300
Total opportunities identified		17	0	17	10	21,777	5	4,180	2	2,363	28,320	888,396
Part 2 - Status of opportunities assessed to an accuracy of less than 30%												
Business Response	Implemented	0	0	0	0	0	0	0	0	0	0	0
	Implementation Commenced	1	0	1	1	421	0	0	0	0	421	11,461
	To be Implemented	0	0	0	0	0	0	0	0	0	0	0
	Under Investigation	0	0	0	0	0	0	0	0	0	0	0
	Not to be Implemented	0	0	0	0	0	0	0	0	0	0	0
Total opportunities identified		1	0	1	1	421	0	0	0	0	421	11,461

Table 2.2 - Energy efficiency opportunities identified in the assessment – Werris Creek

Part 1 - Status of opportunities assessed to an accuracy of greater than ±30%		Annual Net Value of Savings arising from Opportunities by Payback Period and Fuel Type										
		No of Opps	Energy type		Payback (years)						Annual net energy savings (GJ)	Annual net financial benefits (\$s)
			Electricity	Diesel	0<2		2 to 4		4+			
					No. of Opps	GJ pa	No. of Opps	GJ pa	No. of Opps	GJ pa		
Business Response	Implemented	2	1	1	2	372	0	-	0	-	372	13,462
	Implementation Commenced	0	0	0	0	-	0	-	0	-	-	-
	To be Implemented	4	2	2	2	346	1	45	1	-	391	723,117
	Under Investigation	11	5	6	6	20,477	4	4,160	1	-	24,638	3,117,788
	Not to be Implemented	2	0	2	0	-	0	-	2	15,744	15,744	703,529
Total opportunities identified		19	8	11	10	21,195	5	4,206	4	15,744	41,145	4,557,897
Part 2 - Status of opportunities assessed to an accuracy of less than 30%												
Business Response	Implemented	0	0	0	0	-	-	-	-	-	-	0
	Implementation Commenced	0	0	0	0	-	-	-	-	-	-	0
	To be Implemented	1	1	0	1	65	-	-	-	-	65	4,482
	Under Investigation	1	1	0	0	-	1	140	-	-	140	9,703
	Not to be Implemented	0	0	0	0	-	-	-	-	-	-	0
Total opportunities identified		2	2	0	1	65	1	140	-	-	204	14,186

Table 2.3 - Description of three significant opportunities identified in the assessment

Reduce Engine Idle Times – Rocglen, Tarrawonga and Werris Creek
<p>Status: To be implemented</p> <p>Whitehaven has an existing policy of encouraging all equipment operators to shut down diesel engines when they are not expected to be required for the next ten minutes e.g. lunch breaks or breakdowns. The standard Caterpillar turbo idle down timer is set for a five minute idle down time to allow the turbos to cool down. Some mine sites have reduced this five minute period to three minutes or even less by allowing the drivers to choose an appropriate time depending on the time already spent at low load. Whitehaven thinks that a reduction to three minutes is achievable. Potential savings based on three two minute reductions per CAT 777 or 785 truck per day for each site are:</p> <p>Rocglen: $6 \text{ idle minutes} \times 0.36 \text{ L/min} \times 13 \text{ trucks} \times 270 \text{ days} = 7,582 \text{ L} (293 \text{ GJ pa})$.</p> <p>Tarrawonga: $6 \text{ idle minutes} \times 0.36 \text{ L/min} \times 9 \text{ trucks} \times 270 \text{ days} = 5,249 \text{ L} (203 \text{ GJ pa})$.</p> <p>Werris Creek: $6 \text{ idle minutes} \times 0.36 \text{ L/min} \times 14 \text{ trucks} \times 270 \text{ days} = 8,165 \text{ L} (315 \text{ GJ pa})$.</p>
High Efficiency AC Motors – Rocglen, Tarrawonga and Werris Creek
<p>Status: Implemented</p> <p>Whitehaven has a purchasing policy specifying that only high efficiency motors are used for applications exceeding 45 kW. It is estimated that this has improved overall electrical energy efficiency by approximately 2% which equates to the following approximate savings:</p> <p>Rocglen: 9,281 kWh or 34 GJ per annum.</p> <p>Tarrawonga: 10,800 kWh or 39 GJ per annum.</p> <p>Werris Creek: 22,000 kWh or 79 GJ per annum.</p>
Timers on Mobile Lighting Plant – Werris Creek
<p>Status: Implemented</p> <p>The Werris Creek site has installed timers on all lighting towers to shut them down during daylight hours. Although this requires occasional adjustment of timer hours it was considered preferable to installing PE cells which would require cleaning of deposited dust to ensure they work correctly. The installation of the timers is estimated to be saving approximately 292 GJ per annum.</p>

Part 3 – Voluntary Contextual Information

Voluntary information is not available for the reporting period.