Australian Government
Department of Resources, Energy and Tourism

Energy Efficiency Opportunities

PUBLIC REPORT 2011

Part 1 - Corporation Details

Controlling Corporation

Insert the name of the Controlling Corporation exactly as it is registered with the EEO Program. The period to which the report relates is the total period of participation up to 30 June prior to when the report is due.

Gold Fields Australia Pty Ltd

Period to which this report relates

From 1 July 2006 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

Table 1.2 – Aggregate energy assessed covered in this report

Total energy use covered by all assessments in this report	2,186,769	GJ
Total energy assessed as percentage of total energy use of the corporate group*#	96	%

* If this report covers only part of the corporate group, than the percentage should be computed on the total energy use for that part of the group covered in this report

Please note that corporations are required to assess 80% or more of their energy use in the first five-year assessment cycle and 90% or more in subsequent five-year assessment cycles. Accordingly, for those corporations with a 2005-06 trigger year (i.e. those corporations at the end of their first-five year assessment cycle), the value in "Percentage of corporation's energy use assessed" above, must be more than 80%.

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 *Energy Efficiency Opportunities Act 2006* and *Energy Efficiency Opportunities Regulations 2006*.	
	Richard Weston - Executive Vice President Australasia, Gold Fields Australia Pty Ltd
	Date: 21st December 2011

Part 2 - Assessment Outcomes

Table 2.1.1 – Assessment Details

It is compulsory to complete a separate table for each group member, business unit, or key activity that has been assessed

Name of group member or business unit or key activity	St Ives Gold Mining Company Pty Ltd	
Total energy use in the last financial year	1,776,492	GJ
Energy use assessed in this entity as a percentage of total entity energy use*	95.6	%
Energy use assessed in this entity as a percentage of total corporate energy use	81.0	%
Accuracy of above estimates related to energy use assessed - only required if not ±5% or better		%
Period over which assessment was undertaken	01/07/10 to 30/06/11	

Table 2.1.2 – Assessment Details

It is compulsory to complete a separate table for each group member, business unit, or key activity that has been assessed

Name of group member or business unit or key activity	Agnew Gold Mining Company Pty Ltd	
Total energy use in the last financial year	410,277	GJ
Energy use assessed in this entity as a percentage of total entity energy use*	97.8	%
Energy use assessed in this entity as a percentage of total corporate energy use	18.7	%
Accuracy of above estimates related to energy use assessed - only required if not ±5% or better		%
Period over which assessment was undertaken	01/07/10 to 30/06/11	

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

Gold Fields Australia worked with the Department Resources, Energy & Tourism to complete a desktop and full site EEO Verification on its Australian operations. An Action Plan was developed and accepted in November 2011. To this end, key elemental requirements highlighted for remedial action completion are currently in progress. The Verification has provided an important platform to consolidate the EEO Program within Gold Fields Australia

During the financial year 2010/11, Gold Fields Australia endeavoured to maintain the 6 key elements of the Assessment framework and the associated ARS. An Energy Efficiency policy was established and distributed along with Energy Efficiency presentations and newsletters. Site roles have been streamlined in the face of mounting labour pressures however the processes associated with EEO have been maintained through key processes on and off the sites. Personnel in Environmental, Underground & Open Pit Mining, Surveying, Engineering and Processing contributed to the effective collection of data, opportunity generation and assessment, and reporting processes. Commercial personnel based at the mine sites and in the corporate office assisted by collating financial and operating data to facilitate submission. External auditors were utilised to validate reported energy data.

An Energy Mass Balance (EMB) program was formalised toward the end of the reporting period and further developments will enhance its effectiveness within future EEO processes. Gold Fields has adopted a global initiative in standardised data collection and reporting. It is envisaged that the EMB will combine with this platform to produce a more comparable and effective tool for energy reconciliation.

Existing and embedded processes such as Continuous Improvement (CI) continue to function within the operations, to engage personnel who are experienced with both the operation and the roles they perform. Business Improvement (BI) units were formed or strengthened at the sites during the reporting period. While this initiative looks at many commercial aspects of the business, there are synergies that the EEO and BI processes can build upon, specifically in opportunity generation, analysis and cost structure.

The reporting period saw the continuance of fewer opportunities than in previous terms. This however was offset by opportunities that were of a larger scale with a heavier capital investment. Two such opportunities included site-wide fuel additive trials and the establishment of a wind assessment tower for wind farm exploration.

With the completion of the first five-year cycle for the EEO Program, Gold Fields looks to the second cycle equipped with learning's from the Verification, an opportunity to closer align the Assessment and Reporting schedules with current and future mine projections, and a broader experience of industry benchmarks and EEO practices.

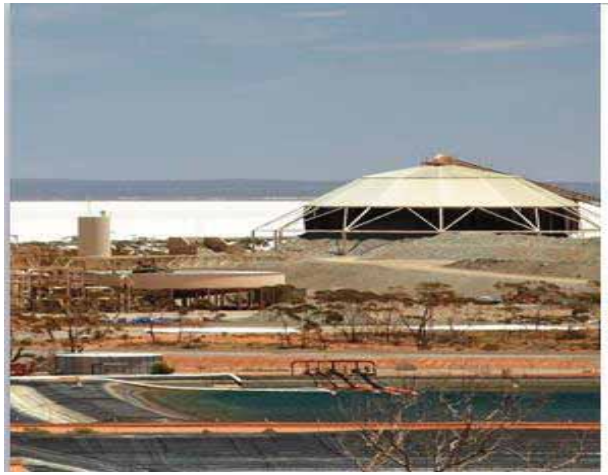
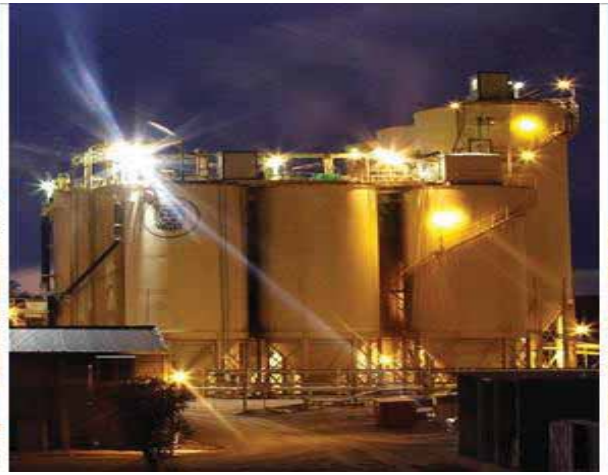


Table 2.2 - Energy efficiency opportunities identified in the assessment

St Ives Gold Mining Company Pty Ltd

Table 2.2.1 – Energy efficiency opportunities identified in the assessment

Part 1. Status of opportunities identified to an accuracy of better than or equal to ±30%		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	Implemented	10	8	169,891	1	2	1	4,598	174,491
	Implementation Commenced	NIL	-	-	-	-	-	-	-
	To be Implemented	1	-	-	1	5,867	-	-	5,867
	Under Investigation	2	2	160	-	-	-	-	160
	Not to be Implemented	2	1	56,356	1	4	-	-	56,360
Assessment outcome	Total Identified	15	11	226,407	3	5,873	1	4,598	236,878
Part 2. Status of opportunities identified to an accuracy of worse than ±30%		**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	Implemented	5	1	17,048	2	6,585	2	86,779	110,412
	Implementation Commenced	2	1	1,816	-	-	1	6,528	8,344
	To be Implemented	1	1	665	-	-	-	-	665
	Under Investigation	5	3	22,784	2	105,120	-	-	127,904
	Not to be Implemented	2	1	2,593	1	612	-	-	3,205
Assessment outcome	Total Identified	15	7		5		3		250,530

Please note that Corporate Groups **<u>are not required</u>** to report opportunities with a payback greater than 4 years. Reporting this data is voluntary.

Agnew Gold Mining Company Pty Ltd

Table 2.2.2 – Energy efficiency opportunities identified in the assessment

Part 1. Status of opportunities identified to an accuracy of better than or equal to ±30%		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	Implemented	3	1	347	-	-	2	2,351	2,698
	Implementation Commenced	2	-	-	-	-	2	4,502	4,502
	To be Implemented	6	3	3,942	2	8,767	1	563	13,272
	Under Investigation	NIL	-	-	-	-	-	-	-
	Not to be Implemented	NIL	-	-	-	-	-	-	-
Assessment outcome	Total Identified	11	4	4,289	2	8,767	5	7,416	20,472
Part 2. Status of opportunities identified to an accuracy of worse than ±30%		**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	Implemented	3	1	3,472	2	8,800	-	-	12,272
	Implementation Commenced	1	-	-	-	-	1	3,800	3,800
	To be Implemented	NIL	-	-	-	-	-	-	-
	Under Investigation	16	3	3,947	8	36,968	5	13,208	54,123
	Not to be Implemented	NIL	-	-	-	-	-	-	-
Assessment outcome	Total Identified	20	4	7,419	10	45,768	6	17,007	70,195

Table 2.3 - Details of significant opportunities identified in the assessment

Corporate Groups are required to provide at least 3 examples of significant opportunities for improving the energy efficiency of the group that have been identified in assessments.

Description of Opportunity	Voluntary Information	
1. A pair of series-configured slurry pumps was used to transport tailings from the Processing Plant to the Tails Storage Facility, at a distance greater than 5 kilometres. An opportunity was taken to utilise an exhausted open pit mine for tailings relocation. This location was less than 1 kilometre away from the Processing Plant which greatly reduced the electrical energy required to pump the slurry. The head pressure of the pipe is a lot lower and only one pump is now required to perform the duty, at a much lower rate of electrical energy consumption.	Business Response	Implemented
	Energy saved (GJ)	6,528
	Greenhouse gas abated (CO2-e)	533
	$s saved	199,465
	Payback period (years)	3

Description of Opportunity	Voluntary Information	
2. A Variable Speed Drive (VSD) installation is in final assessment to replace an inadequate mine ventilation system. This fan installation is the mines main exhaust ventilation system. The VSD will allow the mine operators more flexibility and control over ventilation via fan speed control. This will also affect the energy consumption of the fan and reduce electricity demands. This installation will also allow some secondary fans within the mine to be shutdown or in some cases, removed.	Business Response	To be Implemented
	Energy saved (GJ)	7,568
	Greenhouse gas abated (CO2-e)	2,229
	$s saved	252,288
	Payback period	4

Description of Opportunity	Voluntary Information	
3. Energy efficient light fittings have been installed in workshops, warehouses and on plant to reduce energy consumption. An added benefit has been the reduction in maintenance tasks to replace filament and ballasted light fittings.	Business Response	Implementation Commenced
	Energy saved (GJ)	1,816
	Greenhouse gas abated (CO2-e)	75
	$s saved	9,420
	Payback period	2