Australian Government
Department of Industry

Energy Efficiency Opportunities

PUBLIC REPORT TEMPLATE 2013

Part 1 - Corporation details

Controlling corporation

Insert the name of the controlling corporation exactly as it is registered with the EEO Program.

Gold Fields Australia Pty Ltd

Table 1.1 - Major changes to corporate group structure or operations

Table 1.1 – Major changes to corporate group structure or operations in the last 12 months
During the reporting year 2012/2013 the St Ives Gold Mine completed the transition from Contractor Mining to Owner/Miner in both the underground and open pits mining areas. The high cost Heap Leach operations also ceased during this time. Agnew Gold Mine altered their mining strategy by stopping the low grade - high cost Rajah and Main lodes to focus on the Kim lode which has better ground conditions and grade. The region also underwent restructuring during the latter part of 2012 and the early part of 2013. This was to align with the new Corporate Strategy as well as positioning the organisation to sustain the lower gold price.

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 and Head of Australian Operations **Date** 17 Dec 2013

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Part 2 - Assessment outcomes

Table 2.1 – Assessment details

It is compulsory to complete a separate table for each entity* that has been assessed

Name of entity	St Ives Gold Mining Company Pty Ltd

Total energy use in the last financial year	1,637,821	GJ
Total percentage of energy use assessed when assessments were undertaken	92.1	%

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

A Corporate target of 2% savings on Energy Intensity (year-on-year) was established at the end of 2012. This target was translated to the amount of energy required to produce an ounce of gold i.e. GJ/Oz. The target is incorporated into the senior managers' KPIs and captured in their Balanced Scorecards. Monthly reporting against the targets and the introduction of an energy dashboard ensure that the stakeholders have insight to the energy metrics on an ongoing basis.

St Ives Gold Mine managed to pull the intensity back from an average of 4.06GJ/oz during the calendar year of 2012, to an average of 3.96GJ/Oz for the first six months of 2013, signifying an improvement of 2.5%.

Furthermore this site introduced the Micromine – Pitram mine control and management reporting solution that records, manages and processes mine site data in real-time. Benefits of this system include the tracking of equipment performance and operator behaviour which provide data for continuous improvement which relate to energy efficiency opportunities.

* Entity is group member, business unit, or key activity. Please note that, for individual sites that use more than 0.5 PJ of energy, all energy use must be assessed (less a small proportion for non-integral energy use).

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Table 2.2 - Energy efficiency opportunities identified in the assessment

It is compulsory to complete a separate table for each entity that has been assessed

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	2	2	128,636.36					128,636.36
	Implementation commenced	0							
	To be implemented	0							
	Under investigation	2	2	13,758					
	Not to be implemented	0							
Outcomes of assessment	Total identified	4	4	142,394.36					142,394.36

Please note that corporate groups **are not required** to report opportunities with a payback greater than four years. Reporting this data is voluntary.

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Part 2 - Assessment outcomes

Table 2.1 – Assessment details

It is compulsory to complete a separate table for each entity* that has been assessed

Name of entity	Agnew Gold Mining Company Pty Ltd

Total energy use in the last financial year	424,403	GJ
Total percentage of energy use assessed when assessments were undertaken	99.46	%

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

A Corporate target of 2% savings on Energy Intensity (year-on-year) was established at the end of 2012. This target was translated to the amount of energy required to produce an ounce of gold i.e. GJ/Oz. The target is incorporated into the senior managers' KPIs and captured in their Balanced Scorecards. Monthly reporting against the targets and the introduction of an energy dashboard ensure that the stakeholders have insight to the energy metrics on an ongoing basis.

Agnew Gold Mine managed to pull the intensity back from an average of 2.81GJ/oz during the calendar year of 2012, to an average of 2.3GJ/Oz for the first six months of 2013, signifying a massive18% improvement in energy intensity.

* Entity is group member, business unit, or key activity. Please note that, for individual sites that use more than 0.5 PJ of energy, all energy use must be assessed (less a small proportion for non-integral energy use).

Table 2.2 - Energy efficiency opportunities identified in the assessment

It is compulsory to complete a separate table for each entity that has been assessed

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	2	2	30,998.36					30,998.36
	Implementation commenced	0							
	To be implemented	0							
	Under investigation	0							
	Not to be implemented	0							
Outcomes of assessment	Total identified	2	2	30,998.36					30,998.36

Please note that corporate groups **are not required** to report opportunities with a payback greater than four years. Reporting this data is voluntary.

Table 2.3 - Details of significant opportunities identified in the assessment

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

Description of opportunity No. 1	Voluntary Information	
Diesel powered mobile lighting towers for illumination of mining areas during night shift provided by external contractor. These units were replaced by more efficient LED type lighting towers which use less diesel and require less maintenance. Programmed dusk-dawn operation allows for automated switching.	Equipment type	Mobile Lighting Towers
	Business response	Implemented
	Energy saved (GJ)	5,326GJ
	Greenhouse gas abated (CO2-e)	370.157 t CO2-e
	$ saved	A$504,674
	Payback period	2.9

Description of opportunity No. 2	Voluntary Information	
At Agnew the low grade high cost Rajah and Main lodes stopped, with a resulting focus on high grade Kim lode. This allowed for the optimisation of the mobile equipment fleet including the rationalisation of gear not suited to the improved mining strategy. The review on the utilisation of mobile equipment resulted in the removal of 1 x truck, 1 x Jumbo, 1 x loader, 1 x production drill and 12 LV's from operations. Furthermore the optimisation of bus rosters contributed to further savings on diesel consumption. This site also focussed on mill optimisation by reducing dilution from 40-50% to less than 5%.	Equipment type	Mobile fleet
	Business response	Implemented
	Energy saved (GJ)	24,492.09GJ
	Greenhouse gas abated (CO2-e)	1,462.67 t CO2-e
	$ saved	A$1,031,426
	Payback period	0-2 Years

Description of opportunity No. 3	Voluntary Information	
At St Ives the open pits optimisation resulted in mining activities being concentrated closer to the mill which meant shorter haulage distances. This operation also moved from Contractor Mining to Owner Operator with a new fleet of mobile equipment. The new mobile fleet is more energy efficient than the aged contractor fleet.	Equipment type	Mobile fleet
	Business response	Implemented
	Energy saved (GJ)	128,636.31GJ
	Greenhouse gas abated (CO2-e)	8,940.22 t CO2-e
	$ saved	A$6,207,069
	Payback period	0-2 Years

Please note that the *Description of the opportunity* above should include information on the specific nature and type of opportunity as well as information on the type of equipment and/or process involved.