

PUBLIC REPORT 2012

Part 1 - Corporation Details

Controlling Corporation

Insert the name of the Controlling Corporation exactly as it is registered with the EEO Program.

Newmont Australia Holdings 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

No major changes to Newmont's Australian operations occurred during the last 12 months. Energy consumption at Newmont Boddington Gold increased by 10% during the period, driven by a 19% increase in ore processing.

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*.


Phillip Starkle
Group Executive Business

Date 19/12/12

Part 2 - Assessment Outcomes

Table 2.1 – Assessment Details

Name of entity	Newmont Boddington Gold	
Total energy use in the last financial year	6,103,082	GJ
Total percentage of energy use assessed when assessments were undertaken	100	%
Description of the way in which the entity carried out its assessment		
<p>The assessment of the Boddington operation was conducted during 2011. This involved the establishment of a site energy team comprising representatives from various areas of the operation. External experts were engaged to conduct much of the detailed data analysis and project evaluation. The systems and processes established as part of the assessment have been progressively documented within the site's Energy and Greenhouse Gas Management Plan and other supporting documents.</p> <p>During 2012 investigations continued into the projects identified during the 2011 assessment. These were mainly conducted by the same external experts that conducted the original detailed analysis. This process has also resulted in the identification of additional projects. Formal re-assessment of this site is proposed to be conducted during 2015 as part of the second cycle of the EEO program.</p>		

Name of entity	Newmont Tanami Operation	
Total energy use in the last financial year	2,404,395	GJ
Total percentage of energy use assessed when assessments were undertaken	100	%
Description of the way in which the entity carried out its assessment		
<p>The assessment of the Newmont Tanami Operation was conducted during 2007 and 2008 and has been discussed in previous public reports. It is proposed to conduct another assessment of this site in 2013 as part of the second cycle of the EEO program.</p>		

Name of entity	Newmont Jundee Operation	
Total energy use in the last financial year	1,516,897	GJ
Total percentage of energy use assessed when assessments were undertaken	100	%
Description of the way in which the entity carried out its assessment		
<p>The assessment of the Newmont Jundee Operation was conducted during 2009 and has been discussed in previous public reports. It is proposed to conduct another assessment of this site in 2015/16 as part of the second cycle of the EEO program.</p>		

Table 2.2 - Energy efficiency opportunities identified in the assessment

Name of Entity – Newmont Boddington Gold									
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	1	0	0	0	0	0	0	0
	Implementation Commenced	0	0	0	0	0	0	0	0
	To be Implemented	2	2	8,372	0	0	0	0	8,372
	Under Investigation	9	4	26,092	3	6,048	2	5,076	37,216
	Not to be Implemented	3	3	19,464	0	0	0	0	19,464
Outcomes of assessment	Total Identified	15	9	53,928	3	6,048	2	5,076	65,052
Status of opportunities identified to an accuracy of worse than ±30%									
Business Response	Implemented	0	0	0	0	0	0	0	0
	Implementation Commenced	0	0	0	0	0	0	0	0
	To be Implemented	0	0	0	0	0	0	0	0
	Under Investigation	1	0	0	0	0	1	109,200	109,200
	Not to be Implemented	0	0	0	0	0	0	0	0
Outcomes of assessment	Total Identified	1	0	0	0	0	1	109,200	109,200

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

Name of Entity – Newmont Tanami Operation									
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	1	1	2,320	0	0	0	0	2,320
	Implementation Commenced	0	0	0	0	0	0	0	0
	To be Implemented	0	0	0	0	0	0	0	0
	Under Investigation	10	5	63,285	4	238,865	0	0	304,573
	Not to be Implemented	0	0	0	0	0	0	0	0
Outcomes of assessment	Total Identified	11	6	65,605	4	238,865	0	0	306,893
Status of opportunities identified to an accuracy of worse than ±30%									
Business Response	Implemented	0	0	0	0	0	0	0	0
	Implementation Commenced	0	0	0	0	0	0	0	0
	To be Implemented	0	0	0	0	0	0	0	0
	Under Investigation	1	0	0	0	0	1	117,939	117,939
	Not to be Implemented	0	0	0	0	0	0	0	0
Outcomes of assessment	Total Identified	1	0	0	0	0	1	117,939	117,939

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.

Secondary crusher gap automation	Voluntary Information	
<p>Ore feed to the High Pressure Grinding Rollers (HPGR's) at Boddington is first crushed in the secondary cone crushers. Historically the crusher gap setting was fixed, however, during the EEO site visit, it was discovered that a senior operator occasionally decreased the gap setting where the opportunity arose, specifically when:</p> <ul style="list-style-type: none"> • Throughput limitations are not located in the secondary crushers • Current draw in the crushers was low enough to allow finer crushing. <p>The operating regime of the crushers was subsequently changed, such that the gap setting adjustments became automated rather than reliant on operator input. Thus the gap is tightened where feed rate is not constrained by the secondary crushers and power is available, while it is opened when increased throughput is required.</p> <p>Analysis of the impact of this change on the processing circuit is difficult due to the complex and inter-related nature of the circuit. It is anticipated that the final manifestation of improved upstream crushing will be a higher ball mill throughput and a slight improvement in the specific energy of the ball mills, however this is yet to be quantified or confirmed.</p>	Equipment Type	Secondary cone crushers
	Business Response	Implemented
	Energy saved (GJ)	Not determined
	Greenhouse gas abated (CO ₂ -e)	Not determined
	\$s saved	Not determined
	Payback period	Not determined



Optimise South pit haul grade profile	Voluntary Information	
<p>The Boddington's mine route planning data was provided, showing coordinates of all major haul roads, including elevations. Similar data was provided for two case studies of alternative routes.</p> <p>Databased historical information about truck movements was provided. This data was virtually load-by-load, allowing very detailed analysis. Parameters included:</p> <ul style="list-style-type: none"> • load location & dump location identification • truck ID and payload • haul times, distances, and effective flat hauls (EFH) • return times , distances, and effective flat hauls • waiting, spotting, hauling, queuing, backing, tipping and travelling times <p>The data gave insight into the relative importance of different routes and allowed analysis of the above parameters on a route-by-route basis.</p> <p>An opportunity was identified to improve energy efficiency of the trucks through the optimisation of the South pit haul route grade.</p> <p>Routes that are comprised of a mixture of level and downhill sections result in fuel consumption on the level sections, despite dissipation of excess energy on the downhill sections through engine braking, brakes and retarder.</p> <p>Modelling has also revealed improved efficiency for the corresponding uphill haul.</p> <p>Discussions with site revealed that two sections of haul road could be optimised without major disruption to the haulage operations.</p> <p>The first section involves backfilling over a distance of 900m to a depth of up to 11m while the second involves backfilling over a distance of 330m to a depth of up to 7.5m. The fuel savings would result on the return trip with a more-even downhill grade, where currently there is excessive retarder use on steep downhill grade, followed by fuel use on a slight uphill grade.</p>	Equipment Type	Haul trucks
	Business Response	For further investigation
	Energy saved (GJ)	8,372 GJ pa
	Greenhouse gas abated (CO2-e)	617 tonnes pa
	\$s saved	\$230,000 pa
	Payback period	Not determined

Village air conditioning	Voluntary Information	
<p>By far the largest electrical load in the village at Boddington is the air conditioning units. A number of opportunities relating to air conditioning were subsequently identified. Some of these are discussed below.</p> <p>Evaporative vs refrigerative - It is estimated that the numerous split system air conditioners in the dining rooms use a combined total of 200 MWh of electricity for cooling per annum, at a cost of \$12 k. Given Boddington's moderate climate compared to many mine sites, and the typically low humidity during summer months, it is believed that an appropriately sized evaporative air conditioning system would be an effective alternative means of cooling these area. The existing split system units would continue to be used for heating when required, and could also be used for cooling if there are occasional days of extreme heat or humidity when the evaporative cooling is not adequate. The two cooling systems would need to be interlocked, to prevent them both being used at the same time.</p> <p>Evaporative cooling uses negligible electricity, but a considerable amount of water. The quantity of suitable quality water required would need to be considered.</p> <p>Evaporative air conditioning has already been installed in the kitchen, but split system units are used in the dining areas (i.e. partial implementation of this project.</p> <p>Remote control – It was identified that improved control over air conditioning use in accommodation units would reduce energy waste. Energy is wasted whenever air conditioners are left on in vacant rooms, or when temperature setpoints are excessively low for cooling or high for heating. A commonly used rule of thumb is that a 1°C increase in thermostat setting will save around 10% of the cooling costs.</p> <p>A commercially available remote control is able to limit the temperature setpoint to between 22°C and 26°C and has a button that the occupant can press upon leaving the room, which turns the a/c off for between 4 and 14 hrs.</p> <p>These remote controls have not yet been purchased or trialled and will continue to be investigated.</p>	Equipment Type	Air conditioning
	Business Response	Partial implementation
	Energy saved (GJ)	4,608 GJ pa
	Greenhouse gas abated (CO2-e)	1,050 tonnes pa
	\$s saved	\$48,200 pa
	Payback period	<4 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.

Part 3 – Transition to Second Cycle

This table should only be completed by 2005-06 trigger-year corporations transitioning to the second cycle.

In December 2011 many corporations reported energy efficiency opportunities that were still under investigation as at 30 June 2011. This report should advise what your business response to these opportunities has been – implemented or not to be implemented. If you intend to further investigate these opportunities, they should be reported in the future Public Reports as opportunities identified in the second cycle.

Status of opportunities identified to an accuracy of better than or equal to $\pm 30\%$		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	
As reported in December 2011	Under Investigation	25	13	141,711	9	266,020	2	5,076	415,230
Business Response as at 30 June 2012	Implemented								
	Not to be Implemented	3	3	19,464					19,464
	To be evaluated/reported in the second cycle	22	10	122,247	9	266,020	2	5,076	395,766