



Australian Government
Department of Industry

Energy Efficiency
Opportunities



Queensland Nickel Pty Ltd

Energy Efficiency Opportunities

Public Report 2013



PUBLIC REPORT 2013

Part 1 - Corporation details

Controlling corporation

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

Queensland Nickel 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 for FY2013

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.

Clive Mensink
Managing Director

Date 5-02-2014



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	Palmer Nickel and Cobalt Refinery	
Total energy use in the last financial year	19,995,512	GJ
Total percentage of energy use assessed when assessments were undertaken	7.5	%

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

During the ongoing period of low global nickel price, focus has been placed on reducing the usage of high-cost consumables. Many opportunities to reduce cost have been identified during the reporting period, however, not all of these involve energy reduction.

* 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 $\pm 30\%$		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	
Business response	Implemented	3	2	40018	-	-	1	0.65	40018.65
	Implementation commenced	1	1	270	-	-	-	-	270
	To be implemented	1	-	-	-	-	1	~3.4 GJ/tonne Ni	3.4GJ/tonne Ni
	Under investigation	3	1	100	2	1100000 ~340 GJ/tonne	-	-	1100100GJ & 340 GJ/ tonne Ni
	Not to be implemented	-	-	-	-	-	-	-	-
Outcomes of assessment	Total identified	8	4	40388	2	1100000 & 340GJ/tonne Ni	2	0.65 & 3.4 GJ/tonne Ni	

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	
<p>Roaster fuel oil additive.</p> <p>The heavy fuel oil added to the roasters burns relatively inefficiently due to the presence of asphaltines which become carbon soot leaving the roasters (~15% loss on ignition). There are additives available to enhance the combustion of the HFO in the roasters. This efficiency would be in the form of less HFO usage for the roasting process.</p>	Equipment type	
	Business response	
	Energy saved (GJ)	
	Greenhouse gas abated (CO2-e)	
	\$ saved	
	Payback period	
Description of opportunity No. 2	Voluntary Information	
<p>Addition of Sodium Bisulphite</p> <p>Addition of Sodium Bisulphite to CCD circuit enhances the recovery of Nickel and Cobalt by ~0.3% with no additional energy usage. The energy saving per tonne of product depends on the annual throughput. The payback period is highly variable and dependent upon the global price of nickel and cobalt and on the value of the Australian dollar. Project currently on hold due to low nickel price.</p>	Equipment type	
	Business response	
	Energy saved (GJ)	
	Greenhouse gas abated (CO2-e)	
	\$ saved	
	Payback period	
Description of opportunity No. 3	Voluntary Information	
<p>Reduction of Ball Mill use.</p> <p>There are two ball mills onsite. Usually both ball mills run all the time at low speeds. They run on electricity. Changing the operation so that only one ball mill is running at higher speeds and the other is on standby, can reduce the electricity usage.</p>	Equipment type	
	Business response	
	Energy saved (GJ)	
	Greenhouse gas abated (CO2-e)	
	\$ saved	
	Payback period	