



Perilya 2009 Energy Efficiency Opportunities Public Report

Energy Efficiency at Perilya

Recently, both federal and state governments have legislated formalised energy efficiency programs for large energy consuming businesses. As a part of the Federal Government's Energy Efficiency Opportunities program, Perilya Ltd is obligated to publicly report the outcomes of these assessments completed as required by the EEO program.

In 2007-08 Perilya Broken Hill Ltd undertook an Energy Assessment as per the Energy Efficiency Opportunity program requirements.

Over the 1 July 2008 to 30 June 2009 reporting period, Perilya Ltd (controlling corporation) consumed 635,000 GJ (gigajoules) of energy, and of that Perilya Broken Hill Ltd consumed 615,000 GJ.

Perilya Broken Hill Ltd has identified savings of 23,100 GJ with an average payback of up to 4 years. To date, 1,600 GJ of energy saving projects have been implemented.

This and past reports concerning Perilya's participation in the Energy Efficiency Opportunities program can be found at www.Perilya.com.au.

Perilya Energy Efficiency Program

Perilya, with a 2006-2007 energy consumption of a 650,000 GJ, has been a part of the Federal Government's Energy Efficiency Opportunity program since its inception.

Perilya Broken Hill Ltd was required to conduct a comprehensive Energy Assessment as the site consumed 627,000 GJ of the 650,000 GJ consumed by Perilya Ltd in the 2006-2007 period.

During the planning process of the assessment, Perilya Broken Hill Ltd decided to undertake the assessment in a two-part process.

Part 1 included the engagement of a specialist consultant to undertake a comprehensive assessment of the Perilya Broken Hill Ltd site. The aim of Part 1 of the assessment was to:

- Obtain energy saving ideas from recognised international energy experts.



- Provide a mechanism for implementation through the consultant, if required.
- Provide background information, such as an energy and mass balance, as required by legislation.
- Identify assessment gaps in information required to complete all legislated requirements, to be completed in part 2.

Part 1 was completed in 2008.

Part 2, currently under way, aims to complete the assessment by:

- Resolving assessment gaps identified in Part 1, and
- Modifying energy management processes within Perilya Broken Hill Ltd to comply with legislative requirements.

The completion of Part 1 and Part 2 of the assessment process will meet the intent and key requirements of the Energy Efficiency Opportunities legislation.

Perilya Broken Hill Ltd, Outcomes from Part 1 of the Energy Efficiency Opportunities assessment.

Perilya Broken Hill Ltd Energy Efficiency Opportunities Status Report						
Status of Opportunities		Number of opportunities	Estimated energy savings per annum by payback period (GJ)		Total estimated energy savings per annum (GJ)	Accuracy Range (%)
			0 to < 2 years	2 to < or = 4 years		
Outcome of assessment	Identified	12	20713	2405	23118	Better than +/-30%
Business Response	Under investigation	10	19096	2405	21501	Better than +/-30%
	To be implemented	0	0	0	0	Better than +/-30%
	Implementation commenced	0	0	0	0	Better than +/-30%
	Implemented	2	1617	0	1617	Better than +/-30%
	Not to be implemented	0	0	0	0	Better than +/-30%

Top Opportunities Identified Through Energy Efficiency Opportunities Assessments – Perilya Broken Hill Ltd

The brief to the specialist energy consultant was to identify all cost saving opportunities with respect to energy. Consequently costs saving opportunities were identified that did not necessarily relate to energy savings. An example of this includes maximising the use of off peak energy with respect to the operation of the concentrator. These cost saving initiatives already implemented are significant with savings expected to be in excess of \$400,000 per annum.

The top energy saving opportunities identified during the process include:

Upgrade of the underground Wirth Pumps

The Wirth pumps are situated underground and are significant energy users. These pumps pump process and underground water collected underground to the surface. During the assessment it was estimated that by replacing the pumps with an energy efficiency pump, energy savings of about \$28,000 per annum could be saved. The investment was expected to be in excess of \$400,000, thereby providing a payback in excess of 10 years. The energy management process implemented identified that these Wirth pumps are 18 years old and due for significant repairs in excess of \$600,000. The energy management team investigated the possibility of replacing these pumps with a more energy efficient pump, thereby avoiding possibly unnecessary capital expenditure and reducing energy costs.

Replacement of air compressors with suitably sized compressors

Perilya Broken Hill Ltd currently uses large centrifugal compressors. Only one centrifugal compressor is currently required and is oversized for the application.

Upgrading this compressor with smaller compressors, combined with a compressed air leak reduction strategy, is claimed to provide energy savings of \$489,000 per annum with a payback of 2.4 years. These savings were very dependent on reducing compressed air leaks.

Management review of this project indicated that the elimination of compressed air in certain parts of the plant might be possible. Additionally,

the repair of compressed air leaks in old infrastructure may not be possible due to its age and location.

This project is now under further investigation.

Improved utilisation of mobile fleet

Mobile plant is expensive to operate and therefore opportunities to reduce the operating hours of mobile plant can yield good energy savings. Multiple ideas for savings have been identified, with the aim of decreasing annual operating hours of machinery. Ideas included using synthetic oils, use of a taxi system, to reduce truck idling time and introduce remote refuelling.

Savings of over \$2 million dollars have been claimed. Review by the energy and management team indicate that there are many issues to work through before these savings can be achieved.

Management has decided to implement a taxi system and the process of implementing this has been commenced. Orders for vehicles have been placed and the energy team is considering processes to measure the effectiveness of the taxi systems. Annual energy cost reductions of \$149,000 per annum are expected with a payback of less than one year. The success of the program will be investigated in 2010.

Resizing of Operations

On 21 August 2008, Perilya announced a plan to resize the Broken Hill operation in light of low metal prices. The North Mine and Potosi operations were placed on Care and Maintenance.

Under the revised operating plan, total ore production was to reduce from 1.8 to 0.95 million tonnes per annum and Perilya anticipated a significant reduction in energy consumption for the Broken Hill operation. Ore production has in the past reporting period amounted to 1.6 million tonnes so energy consumption at Broken Hill has not decreased significantly. As a result of similar patterns of energy use to the assessment period, changes to opportunities data have not been investigated.



Declaration

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.

A handwritten signature in blue ink that reads "Paul Arndt". The signature is written in a cursive style with a horizontal line underneath it.

Paul Arndt
Managing Director & CEO