



LION NATHAN
AUSTRALIA

ENERGY EFFICIENCY OPPORTUNITIES

PUBLIC REPORT No. 2

DECEMBER 2009

Controlling Corporation: LION NATHAN

Period to which this report relates

Start July 2008

End June 2009

Part 1 – Information on assessments completed to date

Table 1.1 – Description of the way in which Lion Nathan has carried out its assessments

Lion Nathan Limited (LN) is a major alcoholic beverage company with operations in Australia and New Zealand. It employs over 1800 Australians and 1400 New Zealanders, and is ASX100 certified. Lion Nathan has around 90 per cent of its assets in two core brewing businesses in Australia and New Zealand. It also has a small premium wine business, distillery and spirits operation. Beer and wine are exported to more than 20 countries. Refer www.lion-nathan.com.au

In Australia, Lion Nathan has been a member of Greenhouse Challenge Plus since 1996 and has won eight awards under the program for outstanding achievement in greenhouse abatement. Lion Nathan Australia also became a Greenhouse Challenge Plus Leader in 2006.

In November 2007, Lion Nathan was awarded “Greenhouse Friendly™” certification for one of its new beer brands, “Barefoot Radler” which is manufactured at the South Australian Brewery site in Adelaide. Barefoot Radler was launched into the market in January 2008 and was Australia’s first certified carbon neutral beer.

As a participant in the Carbon Disclosure Project (CDP) and in large part due to our CDP reporting, Lion Nathan was recognized in 2008 and 2009 by the Goldman Sachs JBWere Climate Leadership Index for carbon risk management within the Food, Beverage & Tobacco sector.

Lion Nathan is strongly committed to environmental programs which form part of the company’s overall strategy for continually improving its environmental performance and sustainability. Many of these programs focus on energy and waste reduction and are therefore either core objectives or complement the EEO Program. Programs include the following:-

- Greenhouse Challenge Plus since 1996
- AS/NZS ISO 9001:2000 certification at all sites
- Environmental Management Systems based on the AS/NZS ISO 14001:2004 framework
- Signatory to the National Packaging Covenant since 2001



- Founding member (1979) of the Beverage Industry Environment Council, now known as the Australian Food & Grocery Council's "Packaging Stewardship Forum".
- Participant in the National Pollutant Inventory since its inception in 1999
- Participant in various State water and energy efficiency management programs including the DEUS Energy Savings Program at Tooheys Brewery
- Signatory to the National Greenhouse & Energy Reporting scheme

Involvement in these programs has resulted in significant improvements in Lion Nathan's environmental performance and our existing practices have been further enhanced by including the requirements of the EEO program.

In 2005 Lion Nathan had its Australian breweries assessed by an international consulting company prior to embarking on a major capital upgrade program, Project Key, aimed at improving efficiency and environmental performance. The total capital works for the group is over \$150million and implementation is nearing completion.

This capital works upgrade program is aimed at providing energy savings of approximately 25% for the group. This will reduce energy for the group by 33% compared to energy usage 10 years ago. It is estimated that our two largest breweries, accounting for approx. 70% of our total energy usage will be at world best energy practice when the program is completed.

Under the EEO Program, Lion Nathan has so far identified 41 projects with an estimated saving of 267,580 GJ. Details of the assessment results are shown in Table 2.1 & 2.3 In this reporting period (2008/09) Castlemaine Perkins completed its planned energy assessment. The assessment was similar to the process previously developed & implemented for the Toohey's (Sydney) site in 2007/08.

In addition, energy management groups have been formed at Lion Nathan and site Energy Champion nominated at each site. These groups meet regularly to ensure that energy efficiency objectives and the EEO program are achieved and new opportunities are identified, shared and implemented.

A new Sharepoint website has also been implemented for Lion Nathan's EEO program where energy data, KPI's, meetings, procedures, documents, records and other information are stored and shared across the Group.

The data obtained has been collated and reported to the Department (DRET). Following approval by the DRET, this public report will be published on our website.

The work described above indicates that Lion Nathan is proactively demonstrating leadership in energy efficiency and meeting the intent of the EEO program.

Table 1.2 – Energy use assessed

Group member and/or business unit and/or key activity and/or site that has had an assessment completed by the end of this reporting period.	Period over which assessment was undertaken ¹	Energy use per annum in GJ ² in the current reporting year
Tooheys Ltd	2005-6 (under NSW DEUS program)	358,987
Catlemaine Perkins Ltd	2005- and updated 2009 (March to Sept)	265,983
Total energy assessed		624,970
Total energy use of the group in the current reporting year		979,270
Total energy assessed expressed as a percentage of total current energy use		64%

Part 1 – Information on assessments completed to date (continued)

Table 1.3 – Accuracy of energy use data

Entity	% achieved	Reasons for not achieving data accuracy to within ±5%
Tooheys Ltd	+/-4%	
Catlemaine Perkins Ltd	+/-4%	

Part 2 - Energy Efficiency Opportunities that have been identified and evaluated

Part 2A - New Assessments completed during the reporting period

Name of Group member or business unit or key activity or site: **Castlemaine Perkins Ltd**

Energy use of the entity during the current reporting period

265,983	GJ
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Table 2.1 – Opportunities assessed to an accuracy of ±30% or better

Status of opportunities identified		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	
Outcomes of assessment*	Total Identified	25	102,384	81,992	89,689	195,147
Business Response*	Under Investigation	6	0	0	31,649	31,649
	To be Implemented	8	3,074	23,386	0	26,461
	Implementation Commenced	1	0	1,375	0	1,375
	Implemented	4	0	77,622	16,935	94,557
	Not to be Implemented	6	0	0	41,104	41,104

Part 2 - Energy Efficiency Opportunities that have been identified and evaluated

Part 2B - Update of assessments originally reported in previous reporting periods

Name of Group member or business unit or key activity or site: **Tooheys Ltd**

Energy use of the entity during the current reporting period

358,987	GJ
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Table 2.3 - Opportunities assessed to an accuracy of $\pm 30\%$ or better

Status of opportunities identified		Number of opportunities	Estimated energy savings per annum by payback period (GJ)			Total estimated energy savings per annum (GJ)
			0 - < 2 years	2 - \leq 4 years	> 4 years	
Outcomes of assessment*	Total Identified	16	500	6000	65,933	72,433
Business Response*	Under Investigation	7	0	0	25,436	25,436
	To be Implemented	0	0	0	0	0
	Implementation Commenced	0	0	0	0	0
	Implemented	9	500	6,000	40,497	46,997
	Not to be Implemented	0	0	0	0	0

Part 2 - Energy Efficiency Opportunities that have been identified and evaluated

Table 2.5 – Description of 4 significant opportunities

Opportunity 1

Installation of Gas Fired Boilers - Castlemaine Perkins

The existing coal fired steam boilers were replaced with state of the art new natural gas fired boilers , providing operational, maintenance and energy savings. The new system includes: two energy efficient boilers with low NOx burners , oxy trim burner control, variable speed burner fans, an efficient de-aerated water system, a waste heat recovery boiler (economiser), and a boiler blow down heat exchanger.

The boilers have resulted in annual energy savings equivalent to over 50,000GJ of natural gas from improved thermal efficiency and approximately 250,000 kWh or 900 GJ of electricity from the improved boiler fans.

Opportunity 2

Waste Water Recycling Plant - Castlemaine Perkins

Castlemaine Perkins installed a waste water treatment plant which treats effluent on site to ultra high purity with final stage reverse osmosis. This water is used in no product applications such as cooling towers, boilers, cleaning etc. In the process of treating the waste, methane gas is captured and will be re-used in the boilers.

This plant is presently in the final commissioning stages, and natural gas savings in excess of 8,000GJ are expected. There is an increase in electrical energy use, but this is less than the water savings. In 2008/9 the site used 25% less water than it did in 2005/6.

Opportunity 3

Tri-Generation Plant - Tooheys

The EEO assessment of the Tooheys site identified the opportunity of a co-generation plant. This could either use the waste hot water directly in the process, or in an absorption chiller. For cost and operational reasons the absorption chiller (tri-

generation) option was preferable.

A 2MW gas engine is now being installed that will provide approximately 2MW electrical output, 1MW of steam and 1MW of hot water that will be used in the absorption chiller.

The plant was partially funded by the NSW department of Climate Change and Water, due to the significant reduction in the site's electrical peak demand and the CO2 emission savings.

Opportunity 4

Boiler Blowdown Heat recovery - Castlemaine Perkins

Currently, boiler blowdown is discharge directly to trade waste without any heat recovery. This project involves the installation of the pipework for the boiler blow down heat exchanger. Blow down water will then be used to pre-heat make-up water. This will also reduce the cooling of the trade waste water during summer.

This project is estimated to cost \$30,000 and save \$12,800 p.a. with a 2.3 year payback period

Part 4 - Declaration

Table 4.1 - 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*.


 Rob Murray

Chief Executive Officer, Lion Nathan