

Energy Efficiency Opportunities Annual Report



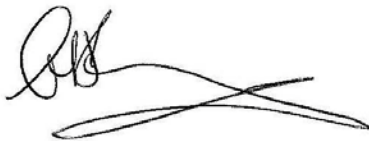
 **Gunns**[™]
LIMITED

2010

Forward

Declaration from the Gunns Limited Managing Director

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*.

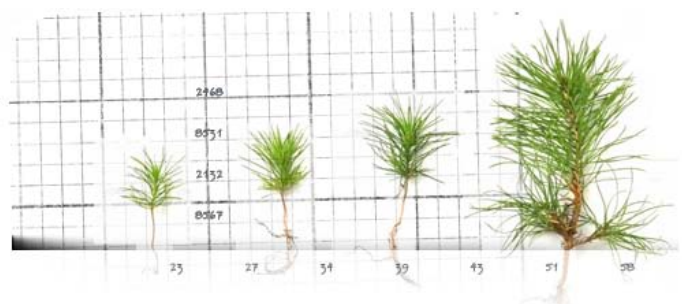


Greg L'Estrange
Managing Director
Gunns Limited



Contents

1	Introduction to Energy Efficiency	4
2	Company Restructure	6
3	Additional Energy Reporting	7
4	Energy Use Profile	8
5	Opportunity Identification	10
5.1	New Assessments Completed During the Reporting Period	11
5.1.1	<i>Deanmill Site</i>	11
5.1.2	<i>Manjimup Site</i>	12
5.1.3	<i>Somerset Veneers Site</i>	13
5.1.4	<i>Tamar Site</i>	14
5.2	Update of Assessments from Previous Reporting Period	14
5.3	Top Opportunities	15
6	Conclusion	16



1 Introduction to Energy Efficiency

This report presents the results of the energy efficiency opportunity assessments for Gunns Limited's (Gunns) third reporting period, which commenced 1 July 2009 and concluded 30 June 2010.

Since the Federal *Energy Efficiency Opportunities (EEO) Act* (the Act) was introduced, Gunns have assessed more than 86% of the group's energy consumption and successfully identified a range of energy saving initiatives. The purpose of the EEO Act was to establish mandatory energy efficiency assessments and reporting for large energy using companies.

During the current reporting period Gunns used 1.96 PJ of energy, a 2% increase from the last reporting period. This increase is attributable to the acquisition of four sawmills located across Tasmania and Victoria.

In accordance with the Assessment and Reporting Schedule four new EEO assessments were undertaken during the reporting period.

Gunns continued to use the customised 'Gunns EEO Assessment System' which provided a systematic approach for undertaking assessments. The system provides company specific policy and procedural information for embarking on an assessment at a site level to ensure compliance with all key elements.

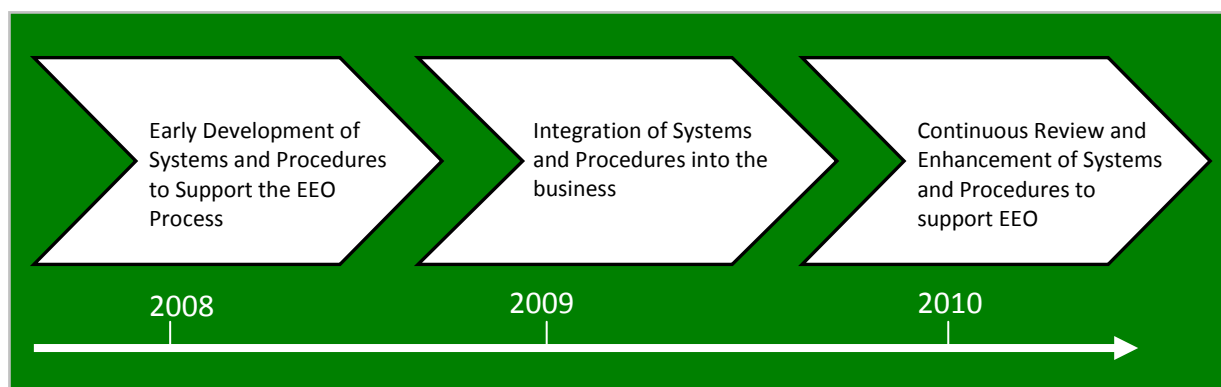


Figure 1: Progress of EEO implementation at Gunns

Through continuous review and improvement, Gunns have also incorporated a range of new initiatives during the reporting period. These include:

1. Implementation of Internal audit program.

To verify compliance with the EEO legislative requirements, Gunns have completed internal audits on all sites assessed during prior reporting periods. The audits were completed using a combination of site visits, desktop audits and interviews with key personnel. The results of the audit were documented in a report and corrective actions developed to foster improvements.

2. Improved energy accounting and opportunities tracking through implementation of the Envirochart Database System.

Envirochart, a web based management tool, is used across all of Gunns sites to measure and report on energy use, greenhouse gas emissions and energy efficiency opportunity projects. The system is accessible at all levels of the business and is a vital tool for verification of the energy use data.



3. Energy Management Policy Update.

The Gunns Energy Management Policy was reviewed and updated in 2010 as part of a continuous improvement process to ensure its objectives and content are kept up to date.

4. Introduction of Energy Management Newsletter.

Publication of the quarterly Energy Management Newsletter commenced during the reporting period. The newsletter is circulated to all employees with the intention of communicating outcomes of assessments, sharing opportunity ideas, improving the employees understanding of the Gunns energy profile and providing updates on legislative changes.

2 Company Restructure

During the reporting period a number of acquisitions and divestments have occurred. These changes have transpired as Gunns undergoes a major restructure to focus on its core business as a manager and processor of plantation forests. All non-core assets have been, or are planned to be, divested.

Notable changes to the corporate structure during the reporting period include:

Acquisitions	<ul style="list-style-type: none">• ITC sawmilling business in Victoria and Tasmania• Great Southern Pulpwood Schemes 1998-2006 (Excluding Tiwi Islands)
Divestments	<ul style="list-style-type: none">• Retail/Mitre 10 Stores in Tasmania to Danks/Woolworths• Tamar Ridge Wine business to Brown Brothers• Hinman, Wright Manser construction business to Hazel Bros• Adelaide Prefabrication business to Pine Design
Transactions in Place	<ul style="list-style-type: none">• Jarrah Business in WA (Divestment)• FEA sawmill in Tasmania (Acquisition)• Tamar Woodchip Mill (Closure)• Hampshire Woodchip Mill (Closure)• Ling Siding Sawmill (Closure)• Massey Greene Woodchip Mill (Closure)

The strategic restructure also signifies the company's commitment to the Tasmanian Forest Statement of Principles Agreement for which Gunns intend to exit from all operations that are involved in the processing of timber harvested from native forests.

More recently, economic conditions combined with the commitment to the Tasmanian Forest Agreement has resulted in Gunns announcing the closure of its Tasmanian woodchip mills during the 2010-11 reporting period.

The divestment and projected closure of a number of Gunns mills has had a significant impact on the progress of implementing or investigating energy efficiency opportunities.

3 Additional Energy Reporting

Additional to EEO reporting, Gunns also report energy use and greenhouse gas emissions through the:

- **Carbon Disclosure Project.**
Gunns voluntarily reported under the Carbon Disclosure Project (CDP) for the first time in May 2010. The CDP is an international investor led initiative proposing the disclosure of corporate information relating to climate change related risks and opportunities to be used in the investment decision making process. The disclosed information is publicly available.
- **Annual Financial Report**
Annual energy use and greenhouse gas emissions have also been voluntarily reported through the Gunns Annual Financial Report, available on the Gunns website: www.gunns.com.au
- **National Greenhouse and Energy Reporting Scheme (NGERS)**
This scheme requires mandatory reporting of all Gunns energy use and greenhouse emissions annually.

Gunns are committed to accurately monitoring and reporting energy use in aim of reducing carbon emissions and operating costs.

4 Energy Use Profile

In this reporting period almost 85% of Gunns energy was derived from renewable energy sources. This included energy from woodwaste, a waste product of sawmills, as well as utilisation of hydropower in Tasmania. The remaining portion of Gunns energy use was derived from fossil fuels including diesel, liquid petroleum gas and some electricity.

The table below summarises the total energy use and greenhouse gas emissions for those sites which have undergone EEO assessments.

Table 1: Energy use assessed				
Group member	Site	Period over which assessment was undertaken	Energy use per annum in GJ in the current reporting year	Greenhouse gas emissions (Scope 1 + 2) t CO₂-e
Gunns Timber Products	Tarpeena	Jan 2008 – June 2008	900, 432	18, 203
	Ling Siding	Jan 2009 – June 2009	197, 702	2, 719
	Lindsay Street	Jan 2008 – June 2008	159, 973	1, 565
	Smithton	Jan 2009 – Nov 2009	114, 056	1, 183
	Kalangadoo	Jan 2009 – Nov 2009	122, 428	944
	Deanmill	Jan 2010 – Nov 2010	18, 999	3, 921
	Manjimup	Jan 2010 – Nov 2010	54, 952	3, 991
	Somerset Veneers	Jan 2010 – Nov 2010	51, 950	407
Gunns Forest Products	Hampshire	Jan 2008 – June 2008	14, 247	914
	Triabunna	Jan 2009 – Nov 2009	19, 331	1, 277
	Tamar	Apr 2010 – Nov 2010	29, 971	1, 975
Total energy assessed			1, 684, 041	
Total energy use of the group in the current reporting year			1, 955, 630	
Total energy assessed expressed as a percentage of total current energy use			86.11%	

A portion of the energy measured at Tarpeena, Smithton, Ling Siding and Lindsay Street was outside the desired accuracy range, as described below.

Accuracy of energy use data		
Entity	% achieved	Reasons for not achieving data accuracy to within $\pm 5\%$
Tarpeena, Smithton, Ling Siding, Lindsay Street	$\pm 20\%$ for wood waste component	At present, key factors such as weight, material density and moisture content make the estimation of the instantaneous calorific value of the fuel complex ¹ . During the reporting period, Gunns have assigned a project team dedicated to improving the wood waste accuracy measurement.

¹ In accordance with the EEO regulations, the Department has been advised of the wood waste level of accuracy being $>5\%$

5 Opportunity Identification

Completed assessments have identified a range of possible ideas to save energy as well as reduce greenhouse gas emissions.

Gunns undertook four new assessments during the current reporting period and also reviewed the opportunity status of the seven assessments completed in the prior reporting periods.

Descriptions of ideas under investigation or implemented and the overall results of assessments are provided below.



Figure 2: Location of New Assessment Sites

5.1 New Assessments completed during the reporting period

5.1.1 Deanmill Site

Gunns Timber Products operates two hardwood sawmills in the south-west of Western Australia, producing jarrah sawn hardwood. The Deanmill site processes the jarrah hardwood from log to pre-drying. The timber is then transported to the Manjimup site for planing and preparation for selling.

The Deanmill site, which first began operations in 1912, uses both electricity and diesel for energy. In 2010 it was announced the site would be divested from Gunns.

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	3	736	568		1304
Business Response	Under Investigation	1		568		568
	To be Implemented					
	Implementation Commenced					
	Implemented	2	736			736
	Not to be Implemented					



5.1.2 Manjimup Site



The Manjimup site processes jarrah hardwood received from the Deanmill site for the domestic and international market. This processing involves using pre-dryers and kilns to season the timber before it is planed and moulded in preparation for sale.

Renewable energy in the form of wood waste accounts for 67% of energy consumed at this site. Similar to Deanmill, this site is also being divested from the Gunns corporation.

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	2	86	478		564
Business Response	Under Investigation	2	86	478		564
	To be Implemented					
	Implementation Commenced					
	Implemented					
	Not to be Implemented					

5.1.3 Somerset Veneers Site

Gunns Veneers is located on the north coast of Tasmania. As the world's largest producer of eucalypt veneer, it offers the market a range of veneered panel products to complete the interface between forest production and end users.

The main source of energy at this site is woodwaste, a renewable energy source, which accounts for 90% of consumed energy.

During the 2010-11 reporting period, the Somerset Veneers site is being reviewed for divestment. Hence the progress on implementing opportunities has been delayed pending the outcome.

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	2		517		517
Business Response	Under Investigation	2		517		517
	To be Implemented					
	Implementation Commenced					
	Implemented					
	Not to be Implemented					



5.1.4 Tamar Site

The Tamar facility produces woodchips for export to the Asian market. Located in the North East of Tasmania, the site contains two wood chipping mills, for which the energy is derived from electricity and diesel.

From 2011 the Tamar facility will be closing as a result of the Gunns restructure. Due to this strategic direction, no opportunities have been identified for investigation as they would be irrelevant.

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	0				0
Business Response	Under Investigation					
	To be Implemented					
	Implementation Commenced					
	Implemented					
	Not to be Implemented					

5.2 Update of Assessments from Previous Reporting Period

Assessments at Tarpeena, Ling Siding, Hampshire, Tarpeena, Kalangadoo, Triabunna and Smithton were reviewed. A cumulative summary of those opportunities investigated to an accuracy of 30% or better is provided below.

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	13	3307	2663	1635	7605
Business Response	Under Investigation	3	698			698
	To be Implemented					
	Implementation Commenced					
	Implemented	6	2609	20	300	2929
	Not to be Implemented [#]	4		2643	1335	3978

- Opportunities for sites which are closing down are now classified as 'not to be implemented'. Also, as reported last year, the opportunity to upgrade all lighting to high efficiency was not implemented as it did not have a cost effective payback period. Instead, a policy is being introduced to replace all lighting at end of life to high efficiency standard. This will ultimately save an estimated 769, 000 kWh of energy per year.

5.3 Top Opportunities

Opportunities identified during the reporting period included:

Opportunity 1	Variable Speed Drive	UNDER INVESTIGATION
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At Somerset veneers, the air compressor uses 22% of the sites electricity use. By upgrading the air compressor to one with a variable speed drive 101 400 kWh of electricity can be saved per annum. This would reduce the sites electricity consumption by 7%.

The variable speed drive reduces energy costs by:

- Eliminating the inefficiency transition period from full to no load power
- Avoiding excessive off load power consumption
- Maintaining the net pressure band to within 0.10 bar, 1.5psi
- Reducing overall average working pressure
- Minimising system leakage due to a lower system pressure

The Kalangadoo and Triabunna sites have also investigated using variable speed drive technology for their air compressor systems, with payback varying between 3 – 5 years.

Opportunity 2	Power Quality Filter	UNDER INVESTIGATION
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Power quality filters are power electronics based electrical equipment that provide a solution for active filtering of harmonics, smooth reactive power compensation and load balancing.

Functions of the unit include:

- Removal of imbalances between the 3 phases of a power supply, or imbalances between the phases and the neutral line.
- Filtering out of damaging harmonic signals in the power supply that can reduce the life of electrical equipment.
- Provision of power factor correction.

For the Deanmill and Manjimup sites, the power filter has a payback period of between 2-3 years.



Opportunity 3	Boiler upgrade	UNDER INVESTIGATION
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The boiler at Somerset Veneers accounts for 90% of their energy consumption. An opportunity to upgrade the 68 year old boiler to a new gas fired boiler was investigated and had a payback period of less than 4 years.

6 Conclusion

Based on the information presented above, Gunns considers that the intent and key requirements of the EEO legislation have been met.

Gunns are continually committed to improving energy efficiency throughout their operations and in the forthcoming year are planning to:

- Advance identified opportunities investigations; and
- Continue to review and enhance internal EEO systems and procedures.

