



## FIRST PUBLIC REPORT TEMPLATE

**Controlling Corporation**

Wesfarmers Limited

**Period to which this report relates**

(See sub-section 22(2) of the Act and Regulation 7.1 of the *Energy Efficiency Opportunities Regulations (the Regulations) 2006*)

**Start**

July 2006

**End**

Dec 2008

## Part 1 - Summary of assessments conducted thus far

**Table 1.1 – Summary of assessments conducted**

Wesfarmers Limited consumed 18.96 PJ of energy in 2006/2007 financial year as a group. As a result of the acquisition of the Coles assets during 2007/2008, Wesfarmers Limited increased its consumption to 31.07 PJ of fuels for energy with 13.6 PJ of this energy being used as feedstock.

In the period from July 2006 to Dec 2008, Wesfarmers Limited conducted Energy Efficiency Opportunities assessments of the **Home Improvement and Office Supplies Division, Resources Division and Chemicals and Fertilisers Division**. The Resources Division comprised of major facilities at Curragh and Premier Coal. The Chemicals and Fertilisers Division sites comprised of major facilities at Kwinana and the Australian Vinyls facility in Victoria. A representative assessment method has been used to assess the Home Improvement and Office Supplies Division.

The assessment of the **Chemicals and Fertilisers Division** has been conducted from July 2007 to September 2008. The energy consumption in the financial year 2007/2008 was 3.42 PJ (note: 6.96 PJ's of fuel was used as feedstock) and 99% of this was assessed including the recently acquired Australian Vinyls assets in Victoria.

The assessment of the **Resources Division** has been conducted from July 2007 to September 2008. The energy consumption in the financial year 2007/2008 was 3.33 PJ. The total energy consumed in 2007/2008 at Premier Coal was 0.62 PJ and 98% of this has been assessed. Premier Coal has a Business Improvement (BI) program which has many elements in common with the EEO program's continuous improvement approach. As part of the BI program, workshops have been conducted throughout the business to identify opportunities for improvement. These workshops covered the bulk of the Premier Coal's activities and identified several energy efficiency opportunities. Following these workshops, several energy efficiency projects were investigated further with the assistance of external energy efficiency experts and their progress is being tracked as part of Premier's BI program.

The assessment at Curragh has been conducted from July 2007 to November 2008. Energy opportunity assessment was conducted in accordance with details provided in the ARS in compliance with the intent of the Energy Efficiency Opportunities legislation. Actions have been implemented against all six key elements of assessment framework. Initial reduction projects were identified in cross functional team discussions with relevant personnel between October 2007 and July 2008. This process was followed with a workshop of key personnel on 11 November 2008. The opportunities identified were reviewed with savings and cost quantified by Curragh's Environmental and Business Improvement Departments.

A representative assessment of the **Home Improvement and Office Supplies Division** was conducted from Feb 2008 to Jun 2008. The energy consumption for Bunnings Group Limited in the financial year 2007/2008 was 0.694 PJ. One full EEO site assessment for a typical large format Bunnings Warehouse Store has been conducted from January 2007 to January 2008.

Energy assessments have been conducted following with the key requirements of the Energy Efficiency Opportunities program. Specifically, the assessments have included energy management reviews, baseline data collection and analysis, energy efficiency opportunities identification and analysis.

<b>Table 1.2 - Group member/business unit/key activity/site that have been assessed</b>	<b>Energy use per annum in the year the assessment is completed *</b>	<b>Energy data accuracy (if not within <math>\pm 5\%</math>) **</b>	<b>Reasons for not achieving data accuracy to within <math>\pm 5\%</math> **</b>
<b><u>Home Improvement and Office Supplies Division</u></b>			
(i) Bunnings Group Limited	3,843 *		
<b><u>Chemicals and Fertilisers Division (CSBP Limited including Australian Vinyls)</u></b>			
(i) Chemical North – CSBP Limited	2,639,757		
(ii) Kwinana General – CSBP Limited	163,025		
(iii) Chemical East – CSBP Limited	90,356		
(iv) Fertiliser – CSBP Limited*	65,368		
(v) Australian Vinyls	405,385		
<b><u>Resources Division</u></b>			
(i) Wesfarmers Premier Coal Limited	627,045		
(ii) Curragh	2,706,560		
<b>Total</b>	<b>6,701,339</b>		
<b>Total as a percentage of total energy use of the group covered by this report</b>	<b>28.2</b>		

\* Energy assessed at Box Hill Site, Victoria.

## Part 2 - Outcomes of and business response to opportunities that have been identified and evaluated for each group member, business unit, key activity or site assessed

(See paragraphs 3-6 of Schedule 4 and Schedule 6 of the Regulations)

Group member/business unit/key activity/site >0.5 PJ name: **Home Improvement and Office Supplies Division**

Table 1.3 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 – < 2 years	2 – ≤ 4 years		
Outcomes of assessment	Identified (accuracy ≤ ±30%)	6	700	0	700	±30%
	Identified (accuracy > ±30%)	0	-	-	-	-
	**Total Identified	6	700	-	700	±30%
***Business Response	Under Investigation	6	700	-	700	±30%
	To be Implemented	0	-	-	-	-
	Implementation Commenced	0	-	-	-	-
	Implemented	0	-	-	-	-
	Not to be Implemented	0	-	-	-	-

\*The accuracy range for projected or actual costs, benefits and energy savings.

\*\*You must ensure that this row is the sum of the two rows above it.

\*\*\* The data contained in each row of the business response area must total to the data contained in the 'Total Identified' row.

**Note:** An opportunity is any potential change to a system, activity or piece of equipment that:

- is identified during an EEO assessment;
- is consistent with legal requirements such as OHS, and
- may result in energy savings projects with payback periods of 4 years or less.

Group member/business unit/key activity/site >0.5 PJ name: **Chemicals and Fertilisers Division**

Table 1.3 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 – < 2 years	2 – ≤ 4 years		
Outcomes of assessment	Identified (accuracy ≤ ±30%)	11	20,200	16,300	36,500	Less than +/- 30%
	Identified (accuracy > ±30%)	8	11,400	6,200	17,600	Greater than +/- 30%
	**Total Identified	19	31,600	22,500	54,100	Greater than +/- 30%
***Business Response	Under Investigation	3	9,900	5,300	15,200	Greater than +/- 30%
	To be Implemented	11	18,100	3,200	21,300	Greater than +/- 30%
	Implementation Commenced	3	1,200	14,000	15,200	Greater than +/- 30%
	Implemented	2	2,400	-	2,400	Greater than +/- 30%
	Not to be Implemented	-	-	-	-	Greater than +/- 30%

\*The accuracy range for projected or actual costs, benefits and energy savings.

\*\*You must ensure that this row is the sum of the two rows above it.

\*\*\* The data contained in each row of the business response area must total to the data contained in the 'Total Identified' row.

**Note:** An opportunity is any potential change to a system, activity or piece of equipment that:

- is identified during an EEO assessment;
- is consistent with legal requirements such as OHS, and
- may result in energy savings projects with payback periods of 4 years or less.

Group member/business unit/key activity/site >0.5 PJ name: **Resources Division**

Table 1.3 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 – < 2 years	2 – ≤ 4 years		
Outcomes of assessment	Identified (accuracy ≤ ±30%)	0	-	-	-	-
	Identified (accuracy > ±30%)	8	208,274	-	208,274	Greater than +/- 30%
	**Total Identified	8	208,274	-	208,274	Greater than +/- 30%
***Business Response	Under Investigation	3	189,421	-	189,421	Greater than +/- 30%
	To be Implemented	0	-	-	-	Greater than +/- 30%
	Implementation Commenced	3	17,221	-	17,221	Greater than +/- 30%
	Implemented	2	1,632	-	1,632	Greater than +/- 30%
	Not to be Implemented	0	-	-	-	-

\*The accuracy range for projected or actual costs, benefits and energy savings.

\*\*You must ensure that this row is the sum of the two rows above it.

\*\*\* The data contained in each row of the business response area must total to the data contained in the 'Total Identified' row.

**Note:** An opportunity is any potential change to a system, activity or piece of equipment that:

- is identified during an EEO assessment;
- is consistent with legal requirements such as OHS, and
- may result in energy savings projects with payback periods of 4 years or less.

## Details of at least three significant opportunities found through EEO assessment – Wesfarmers Limited

(See paragraph 7 of Schedule 4 of the Regulations)

Details must include a brief description of the opportunity and may optionally include details of the costs of implementation, energy/dollar savings and any other benefits (such as greenhouse reductions).

**Table 1.4**

**Opportunity 1: Repair of significant air leak**

**Division: Chemicals and Fertilisers**

A significant air leak was detected in the Stream 1 Dryer Dust Collector pulse air system at Australian Vinyls. Stream 1 Dryer is a fluidised bed dryer, which uses steam to heat internal panels and warm air to fluidise the bed. This is the method employed to dry the Poly Vinyl Chloride resin prior to despatch. An air study was conducted during a maintenance shut down to ascertaining the base load of air use around the plant. This showed significant air still being used in the Stream 1 Dryer, even though it was not operating. The air leak was repaired and this saved approximately 47kW of power from the running of the General Plant Compressors. The base loading on the GP compressor is now also back down to approximately 70%, prior to this air leak study and repair it was as high as 96%. This reduction in air demand has reduced the immediate need to install an additional air compressor.

**This project has been implemented.**

**Opportunity 2: Insulation of steam lines from header to steam traps**

**Division: Chemicals and Fertilisers**

It was identified that steam lines from the header to steam traps around the new CSBP Western Australia Nitric Acid/Ammonium Nitrate plant were uninsulated. Approximately 720m of steam line was determined to require insulation. Energy savings per year are estimated to be 7920GJ, while the cost of installation of additional lagging is estimated at \$129600.

**This project will be implemented with completion expected in 2009-2010.**

**Opportunity 3: Regular condition monitoring and repair of steam traps**

**Division: Chemicals and Fertilisers**

These projects involve the regular monitoring of steam trap condition in the CSBP Western Australia Chemicals North and Chemicals East plants to ensure timely repairs. Total energy savings of approximately 1200GJ per annum are expected from regular and ongoing maintenance.

**These projects are to be implemented and will be ongoing.**

Table 1.4 – cont.

<p><b>Opportunity 4: Cat 793C Productivity</b>  <b>Division: Resources</b></p>
<p>The objective of this project is to look at the total cycle of the truck from the digging unit to the dump, to assess where the largest variances are in cycle time from a Benchmark perspective. Premier Coals P&amp;H 2800 Shovel 14 was chosen as the digging unit to benchmark against as this is the most productive machine in the fleet, with the largest potential cost and energy efficiency impact. The cycle was broken down into individual components of Spotting Time, Loading Time, Hauling Full Time, Dumping Time, Returning Empty time, and then Queuing Time. The largest variances from reasonable expectations were then focused on by a team comprising of Production Operators and Supervisors, Mechanical Fitters and Planners was formed.</p>
<p><b>Opportunity 5: Coal Recovery Project</b>  <b>Division: Resources</b></p>
<p>The objective of this project is to increase coal recovery on Premier Coal's tenements. This has a three-fold benefit of increasing reserves, reducing energy consumption and lowering costs by as less overburden has to be stripped with the machines to win the coal. A team of Production Operators, Supervisors and the Mine Geologist was set up to analyse the total cycle of uncovering coal and subsequent mining process to find the root causes of coal loss. The objective then is to revise standards and practice to increase recovery of coal.</p>

### Part 3 - Voluntary Contextual Information

Reporting corporations may supply additional information that provides more context to the public report.

#### Energy Usage and Greenhouse Gas Emissions

Total direct and indirect greenhouse emissions for the Group in 2007/2008 (converted to carbon dioxide equivalents) were estimated at 6.36 million tonnes. This was 3.71 million tonnes above emissions reported last year and compares with 2.75 million tonnes in 2005/2006. The increase is almost all due to the acquisition of the Coles Group Limited, and includes its emissions for the entire year, including the period when the Coles businesses were not owned by Wesfarmers. Total estimated energy use for our Group in 2007/2008 was 31.07 million gigajoules, an increase of about 64 per cent on last year. Again, most of the increase was due to the acquisition of the Coles Group Limited, and the inclusion of the data from those businesses for the full 12 months.

#### Energy Efficiency Initiatives

Our Chemicals and Fertilisers division in developing its expanded ammonium nitrate production facilities incorporated a state-of-the-art scrubbing system to significantly reduce levels of particulate emissions,

Our Resources division reduced its total greenhouse emissions, energy used and water consumed in a year when it also achieved record coal production levels.

Our Home Improvement and Office Supplies Division (Bunnings) achieved a 8.1 per cent reduction in net carbon dioxide emissions per hundred thousand dollars of revenue. A trial of a new low wattage light fitting was undertaken at Bunning's Frankston store in Victoria in December 2007 and the trial identified that energy consumption reductions of around 35 per cent were attainable once the new lighting system was installed. This initiative was rolled out nationally to 10 other warehouses during the 2007/2008 financial year. Also during the 2007/2008 year 60 warehouses were fitted with a switching device that reduces electricity consumption during shelf filling operations outside of normal trading hours. This device allows store lighting to be reduced to 60 per cent of its normal operating capacity. Data collected from the Nerang store in Queensland found that electricity consumption was reduced during the out of hours fill period by up to 10 per cent through the use of this device.

### Part 4 - Declaration

(See paragraph 8 of Schedule 4 of the Regulations and paragraph 22(4)(c) of the Act)

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*.

Chair of the Board of Directors/CEO/Managing Director/equivalent officer (state position)