

## Controlling Corporation

KELLOGG AUSTRALIA HOLDINGS PTY LTD ACN: 102 893 952

## Period to which this report relates

Start JULY 2007

End JUNE 2009

## Part 1 – Information on assessments completed to date

**Table 1.1 – Description of the way in which the Corporate Group (or part of it) has carried out its assessments**

Kellogg (Aust.) Pty. Ltd. now operates **three** manufacturing facilities in Australia, two Ready to Eat Cereal plants (Botany and Frenchs Forest, NSW) and a snacks facility on the NSW Central Coast. Office headquarters are located in Pagewood, NSW with offices also located in Queensland, Victoria, South Australia and Western Australia.

In September 2008 Kellogg (Aust) Pty Ltd acquired Speciality Cereals Pty Ltd including the manufacturing facility located in the northern Sydney suburb of Frenchs Forest.

In April 2008, Kellogg (Aust.) Pty. Ltd., (ACN: 004 110 105), conducted an energy assessment of its Charmhaven facility. The technical review was carried out in accordance with Level 3 of Australian Standard 3598:2000. It identified opportunities for improvement in energy efficiency and developed a cost savings analysis for each. As part of the requirements of the technical review a site energy balance was performed to determine major uses of energy in the plant and assess consumption patterns and quantities.

The Energy Efficiency Assessment conducted at the Botany plant in 2006 accounted for 92% of the total energy use for the Kellogg group. When combined with the assessment of Charmhaven, Kellogg (Aust) Pty Ltd has now assessed 97% of the organisation's energy use. It is planned to undertake an energy assessment of Frenchs Forest plant in Quarter 4 2009.

The Botany site has made good progress in implementing the opportunities identified :

**Power Factor Correction (PFC):** As part of the implementation of the Energy Management System (EMS) Botany plant can now track energy usage and PFC and ensure this remains optimised.

**Steam injection into hot-well:** It was planned to stop steam injection into the hot-well (feed water to the boiler). Although this energy savings initiative was initially implemented there have been issues with continuing the practice due to the



variability of the hot-well temperature. It is important to minimise dissolved gases in the feed water to the boiler to prevent corrosion of the boilers and steam reticulation system. If the temperature of the hot-well drops dissolved gas levels will increase.

In 2010 Botany will upgrade the hot-well. As part of the upgrade a new control system will be installed designed to optimise water temperature and ensure that steam injection is only used when needed.

**Energy Management System (EMS) project:** This initiative related to improving the control and monitoring of individual processes. The EMS system did not meet internal hurdle rates for payback. During 2008 Kellogg (Aust) Pty Ltd applied for, and received, funding from the then Department of Environment and Climate Change (DECC) to support implementation of the Energy Management System. This followed further extensive analysis of the opportunities identified in the 2006 level three energy audit conducted by Enman Pty Ltd. The EMS system proposes to utilise new and existing PLC's and other distributed control devices and will have the facility to communicate with the existing Citect and Supervisory, Control And Data Acquisition, (SCADA), system for data logging, monitoring and reporting functions.

The EMS functions will control and monitor the following areas:

- Electricity sub-meters
- Water meters
- Gas meter
- Electricity metering and Demand management
- Potable and Non-potable water pump control
- Air compressor and cooling tower optimal control
- Chiller optimal control
- Boiler energy management control

Work has commenced and it is expected this will be complete by end 2009.



**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 <sup>1</sup>	Energy use per annum in GJ <sup>2</sup> in the current reporting year July 2008- June 2009 (July 2007-June 2008)
Botany	October 2006	488,948 (458,709)
Charmhaven	April 2008	27,833 (28,812)
<b>Total energy assessed</b>		516,781 (487,521)
<b>Total energy use of the group in the current reporting year</b>		530,993 (490,939)
<b>Total energy assessed expressed as a percentage of total current energy use</b>		97% (99%)

1. This should be the start and finish date (month and year) for the assessment (planned assessment dates were nominated in Table 3.1 of the approved ARS).
2. Energy Bandwidth may only be used if approved in the Assessment and Reporting Schedule.



## 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 $\pm 5\%$
N/A		



## 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: Charmhaven

Energy use of the entity during the current reporting period

2008-09 (2007-08)	27,833 (28,812)	GJ
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**Table 2.1 – 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	14	178	843	4735	5756
Business Response*	Under Investigation	1			863	863
	To be Implemented	7	178	699	607	1484
	Implementation Commenced	2			710	710
	Implemented	2		144		144
	Not to be Implemented	2			2555	2555



## 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: \_\_\_\_\_ Botany \_\_\_\_\_

Energy use of the entity during the current reporting period

488,948	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 – ≤ 4 years	> 4 years	
Outcomes of assessment*	Total Identified	34	18053	39273	5431	62757
Business Response*	Under Investigation	5	7344	28975	103	36422
	To be Implemented					
	Implementation Commenced	10	6120	8270	2113	16503
	Implemented	5	1898	298	233	2429
	Not to be implemented	14	2691	1730	2982	7403



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

### Part 2C - Details of at least three significant opportunities found through EEO assessments

**Table 2.5 – Description of 3 significant opportunities**

**Opportunity 1**

**Charmhaven: Power Factor Correction**

Power factor is defined as the ratio of real power to apparent power and is a simple way to describe how much of the current contributes to real power in the energy load. A power factor of one (*or 1.00*) indicates that 100% of the current is contributing to power in the load while a power factor of zero indicates that none of the current contributes to power in the load.

Low Power Factor loads can result in increased energy costs. A system with a low Power Factor, (for example 0.6), requires the supply company to feed much more power into the distribution system so that its customers can operate equipment and appliances.

Power Factor Correction, (PFC), units are installed in energy substations on the Charmhaven site. Following the initial energy audit Enman Pty Ltd returned to the site in early 2009 to further evaluate the opportunities identified. During this site assessment both PFC units were checked to determine the average correction factor. Review of annual peak demand (1,044 kVA on 5 February 2009), indicated the associated power factor dropped to 0.82, (82%) and was found to range from 0.78 (78%) to 0.88 (88%). This showed that there was a definite opportunity to improve the power factor. The installation of upgraded power factor correction equipment will assist in significantly reducing the site's peak demand. It is expected to reduce peak demand by 17%.

This work commenced in June 2009.

**Opportunity 2**

**Charmhaven: Upgrade to Air Handling Unit**

The air handling unit provides cooling for the main process area at the Charmhaven site. The unit has no outside air inlet and no economy cycle. The fresh air intake is from inside the factory.

The plant will install an outside supply air inlet to utilise outside air to cool the building when weather conditions allow. These conditions will be based on temperature set points which will be set depending on the required temperatures inside the



building. Reduction in energy usage can still be achieved even when the ambient air is not cool enough to provide complete cooling.

The plant will also install an economy cycle on the air handling unit. Based upon New South Wales' climate, it is expected that the economy cycle should operate 30% of the time. This will provide significant electricity savings by reducing the AHU and compressor load.

This work commenced in June 2009.

### **Opportunity 3**

#### **Charmhaven: Upgrade to Boilers**

The Energy Audit identified a number of improvements that could be made to the boilers. After internal review it was decided that the best approach to realizing these improvements was to replace the boilers with a new boiler that could meet needs in the processing area as well as utilities and staff amenities.

The new boiler will be energy efficient with improved controls and meet all OHS requirements.

This work is expected to be completed by end 2009/early 2010.



## Part 3 - Voluntary Contextual Information

### Table 3.1 – Contextual Information

In January Kellogg published its first Corporate Responsibility Report providing information about corporate responsibility approach, priorities and targets, and providing a baseline performance review.

The report can be viewed at the following website:

[www.kelloggcompany.com/CR](http://www.kelloggcompany.com/CR)

The Kellogg Company has committed to reduction targets of 15-20% reduction in water and energy usage, waste and greenhouse gas emissions by 2015, against a 2005 baseline.

Specifically the Australian business has committed to achieving at least these reductions in the areas nominated and is working with both internal and external stakeholders to drive improvement. These goals have been cascaded throughout the Supply Chain organisation.

Kellogg believes its employees can assist in this process by involving them more formally in the improvement process.

In the last year Kellogg Botany has developed a foundation for this through surveying employees on their understanding of environmental issues and commitment to participating in improvement programs, identifying volunteers who would like to be involved and conducting training.

In June 2009 Kellogg commenced a detailed review of its Global Environmental policies and standards aimed at ensuring that there will be global consistency with respect to environmental stewardship. This review will update the management framework as well as updating and establishing more rigorous standards in relation to water, air, waste, energy etc.



## Part 4 - Declaration

**Table 4.1 - Declaration of accuracy and compliance (mandatory information)**

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*.

**Jean-Yves Heude**  
Managing Director  
Kellogg (Aust.) Pty Ltd

Date: 15<sup>th</sup> December, 2009