

PUBLIC REPORT 2013

Part 1 - Corporation details

Period to which the report relates

Start Period

End Period

Controlling corporation

Boral Limited

Table 1.1 - Major changes to corporate group structure or operations

Table 1.1 – Major changes to corporate group structure or operations in the last 12 months

Boral has undergone significant change since the beginning of the second cycle. During the reporting period, Boral Construction Materials and Cement amalgamated to form Construction Materials and Cement, Boral Cement's Waurn Ponds plant ceased producing clinker, and a number of plants have been rationalised nationally.

Coupled with recent market announcements that Boral Gypsum (Plasterboard) would be integrated into a fully incorporated joint venture, it is anticipated that Boral's corporate structure and energy profile will be markedly different for future reporting years. However, as the changes occurred late or post the reporting period, they have been reported as separate divisions as per the original Assessment Plan.

Notwithstanding the structural changes, Boral continues to utilise its internal Energy Efficiency Program (EEP) as the method for assessing energy use across its facilities. Driving the EEP program has been primary process for the second cycle assessments and continues to be used as additional assessments are conducted.

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*. All opportunities have been assessed to a level of accuracy that is commensurate with the financial investment required for implementation.



Michael Patrick Kane
CEO & Managing Director

Date

Part 2 - Assessment outcomes

Table 2.1 – Assessment details

Name of entity	Boral Construction Materials		
A. Total corporate energy use in the last financial year		1,794,000	GJ
B. Total energy use covered by assessments		446.456	GJ
C. Total percentage of energy use assessed (B ÷ A) x 100		2.5	%

Description of the way in which the entity carried out its assessment:

As part of Boral's Second Cycle Assessment Plan, the Construction Materials business proposed that representative assessments would be used as a mechanism to undertake energy assessments across its businesses. The assessment process for the construction materials business is ongoing with partial assessment of the asphalt business conducted during the reporting period.

As per the Assessment Plan, the primary vehicle for conducting energy assessments was Boral's internal energy efficiency program, where a cross functional team is assembled to undertake a "Kaizen Energy Event" to assess energy use at a specific site. It is also intended that projects will also be assessed for feasibility of roll out as per the Representative Assessment process.

The assessment process for Construction Materials is still currently in progress.

Table 2.2 - Energy efficiency opportunities identified in the assessment

Status of opportunities identified	Total Number of opportunities	Total estimated energy savings per annum (GJ)
Business response	Implemented	3896
	Implementation commenced	75,532
	To be implemented	0
	Under investigation	322
	Not to be implemented	9
Outcomes of assessment	14	79,758

Table 2.3 - Details of significant opportunities identified in the assessment

Description of opportunity No. 1	Type of information to be covered
<p>The opportunity involves the application of lagging on pipework that transfers bitumen and hot oil to reduce heat loss and reduce heating energy requirements at asphalt plants.</p> <p>The estimated savings of the project for the pilot site is 4489 GJ from the reduction in gas consumption, with an annual financial saving of approximately \$25,000, with a payback of less than two years.</p> <p>Estimated GHG saving for this project is 270 tonnes.</p> <p>This project is currently in progress.</p>	Equipment type
	Business response
	Energy saved (GJ)
	Greenhouse gas abated (CO2-e)
	\$ saved
	Payback period

Table 2.1 – Assessment details

Name of entity	Boral Cement		
A. Total corporate energy use in the last financial year		17,940,000	GJ
B. Total energy use covered by assessments		6,756,286	GJ
C. Total percentage of energy use assessed (B ÷ A) x 100		52.2	%

Description of the way in which the entity carried out its assessment:

In 2012, consultants were engaged to facilitate Boral Cement's energy assessments across all four of its manufacturing facilities. A cross functional team was assembled to assess energy use and opportunities at each of its manufacturing facilities. Once established, Boral's own internal engineers and technical managers assessed each project's feasibility for implementation. The process is largely similar to Boral's internal assessment process as detailed in the Assessment Plan. Currently, additional work is being completed by consultants to expand on the data gathered with additional focus on scoping out projects to build their business case and feasibility.

Table 2.2 - Energy efficiency opportunities identified in the assessment

Status of opportunities identified		Total Number of opportunities	Total estimated energy savings per annum (GJ)
Business response	Implemented	2	31,600
	Implementation commenced	0	0
	To be implemented	0	0
	Under investigation	2	0 (not yet estimated)
	Not to be implemented	1	0 (not estimated)
Outcomes of assessment		5	31,600

Table 2.3 - Details of significant opportunities identified in the assessment

Description of opportunity No. 1	Type of information to be covered
<p>The application of a grinding aid to increase the throughput of the grinding mill of the Cement plants at both the Maldon and Berrima plant.</p> <p>The estimated energy saving at Berrima is approximately 18,000 GJ per annum with an annual financial saving of approximately \$120,000. The payback period for this project is less than 2 years. Estimated greenhouse gas reduction for the Berrima project is 4,400 tonnes.</p> <p>The project has been implemented.</p>	Equipment type
	Business response
	Energy saved (GJ)
	Greenhouse gas abated (CO2-e)
	\$ saved
	Payback period

Table 2.1 – Assessment details

Name of entity	Boral Bricks		
A. Total corporate energy use in the last financial year		17,940,000	GJ
B. Total energy use covered by assessments		2,732,122	GJ
C. Total percentage of energy use assessed (B ÷ A) x 100		15.2	%

Description of the way in which the entity carried out its assessment:

Boral's Brick businesses undertook individual site assessments during the reporting period. The process was undertaken in house, through Boral's own internal Energy Efficiency Program. Boral's EEP required a cross functional team to be assembled to conduct a "Kaizen Energy Event", whereby energy was assessed with a view to reduce energy waste within each of the facilities.

This process was completed in Q4 of 2013, with a number of opportunities still currently being reviewed for their business feasibility.

Table 2.2 - Energy efficiency opportunities identified in the assessment

Status of opportunities identified		Total Number of opportunities	Total estimated energy savings per annum (GJ)
Business response	Implemented	13	1,118
	Implementation commenced	2	8,744
	To be implemented	0	0
	Under investigation	70	72,333
	Not to be implemented	30	51,892
Outcomes of assessment	Total identified	115	134,087

Table 2.3 - Details of significant opportunities identified in the assessment

Description of opportunity No. 1	Type of information to be covered
<p>Review of compressed air system assessment and air leak management across Boral brick sites</p> <p>The estimate savings (consolidated across Brick sites) for the project is approximately 3652 GJ, with a financial saving of \$29,550.</p> <p>Estimated greenhouse gas emissions abated from reduction in electricity consumption is approximately 1100 tonnes. The payback period for the project is less than two years.</p> <p>This project has commenced, with the majority implemented.</p>	Equipment type
	Business response
	Energy saved (GJ)
	Greenhouse gas abated (CO2-e)
	\$ saved
	Payback period

Table 2.1 – Assessment details

Name of entity	Boral Plasterboard		
A. Total corporate energy use in the last financial year		17,940,000	GJ
B. Total energy use covered by assessments		1,394,271	GJ
C. Total percentage of energy use assessed (B ÷ A) x 100		7.8	%

Description of the way in which the entity carried out its assessment:

The Plasterboard business undertook energy assessments through Boral's own internal assessment process. In Plasterboard, the primary process used to drive energy efficiency assessments is Boral's Energy Efficiency Program which required a cross functional team to be assembled to conduct an assessment of the plant and its energy use.

Known as "Kaizen Energy Event", the program aims to reduce energy waste throughout the plant and ensures there is sufficient coverage of expertise an authority to implement. The second cycle assessment process has been centered on the information and learnings generated from the first cycle assessments where consultants were used to facilitate the assessment process.

Table 2.2 - Energy efficiency opportunities identified in the assessment

Status of opportunities identified		Total Number of opportunities	Total estimated energy savings per annum (GJ)
Business response	Implemented	1	1440
	Implementation commenced	0	0
	To be implemented	0	0
	Under investigation	3	2347
	Not to be implemented	3	0
Outcomes of assessment		7	3787

Table 2.3 - Details of significant opportunities identified in the assessment

Description of opportunity No. 1	Type of information to be covered
<p>Review of the operation of the compressed air system, through optimisation of its operation and reduction of air leaks throughout the Camellia plant.</p> <p>The estimated energy savings for the project is approximately 1,440 GJ, with an annual financial saving of approximately \$60,000.</p> <p>This greenhouse gas emissions abated from the reduction in energy consumption is estimated to be approximately 352 tonnes.</p> <p>This project has been implemented.</p>	Equipment type
	Business response
	Energy saved (GJ)
	Greenhouse gas abated (CO ₂ -e)
	\$ saved
	Payback period