



## PUBLIC REPORT 2013

### Part 1 - Corporation details

#### Controlling corporation

BGC (Australia) Pty Ltd

#### 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**

There were no significant changes to the corporate group structure or operations in the last 12 months to 30 June 2013.

BGC's clay brick manufacturing facility, Brikmakers, used more than 0.5 PJ of energy in the 2010-11 baseline year and also in the 2012-2013 reporting period.

#### Declaration

##### 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.

Sam Buckeridge  
**Managing Director**

18 December 2013

## Part 2 - Assessment outcomes

**Table 2.1 – Assessment details**

<b>Name of process</b>	Diesel consuming heavy goods vehicles	
<b>Total energy use in 2012-13 by BGC (Australia) Pty Ltd</b>	2.25	PJ
<b>Total percentage of 2012-13 energy use assessed</b>	15.60	%

BGC (Australia) Pty Ltd adopted a new approach to assessments for this second EEO cycle. Rather than assessing each business division in isolation as per the first EEO cycle, assessments are now conducted on a cross-divisional basis and focus on the process of similar technologies. There are several advantages to this approach including:

- 1) Reduces duplication of assessments from the first five-year EEO cycle.
- 2) Leverages collective internal knowledge, which now extends into Divisions that would not usually be captured by the EEO process.
- 3) Transferrable into client EEO obligations outside of BGC's operational control, making it a potential value proposition for clients.

### Summary of new assessments to 30<sup>th</sup> June 2013

#### **Diesel Consuming Heavy Goods Vehicles**

The term *Heavy Goods Vehicle* was applied to all vehicles that had a gross vehicle mass above 12 tonnes. Representative assessments were conducted on a sample of assets and results were then applied to the broader population of those assets. The assessments were conducted across three BGC divisions (Contracting, Quarries and Transport) and considered:

- Asset makes and models;
- Gross vehicle mass;
- Site (comparison between all plant deployed on each site);
- Task (comparison between all plant undertaking similar tasks); and
- Idle time (where data was available).



**Table 2.2 - Energy efficiency opportunities identified in the assessment**

Status of opportunities identified to an accuracy of better than or equal to ±30%		Total 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		
			No. of opps	GJ	No. of opps	GJ	No. of opps	GJ	
Business Response	Implemented								
	Implementation commenced	(2)	(2)	(40,654)					(40,654)
	To be implemented	2	2	4,401					4,401
	Under investigation	2 (2)	2 (2)	1,948 (3,105)					1,948 (3,105)
	Not to be implemented	(1)	(1)	(1,315)					(1,315)
Outcomes of assessment	Total identified	4 (5)	4 (5)	6,349 (45,074)					6,349 (45,074)

*NOTE: Opportunities listed in parentheses are those from the first five-year EEO reporting cycle that were specified as 'Under Investigation' at the end of the cycle. Two remain under investigation, two have commenced implementation and one is not to be implemented.*

**Table 2.3 – Example of a significant opportunity identified in the assessment: hydrogen injection**

Description of opportunity		
<p>This technology was developed for diesel engines to reduce particulate emissions and increase fuel economy. Hydrogen and oxygen are electrolysed from water and drawn into the engine intake in small amounts to change the combustion efficiency, which should translate into fuel savings and reduce greenhouse gas emissions. A computer control module manages the safety, generation and electrolysis cell cooling systems. Accordingly the system can be tuned to specific diesel engines to maximise benefits. External tests on Road Trains identified apparent savings of up to 20% on fuel consumption.</p>	Business response	Under Investigation
	Potential energy saved (GJ)*	1,305
	Potential t CO2-e abatement*	347
	Estimated payback period	0 - 2 years
	* proposed trial on 4 x prime-movers at BGC Transport initially, ie not applied to total population. CO2-e reduction over 4 years with 5% bio-diesel blend per current specification.	