



PUBLIC REPORT FOR FINANCIAL YEAR 2012/13

Part 1 - Corporation details

Period to which the report relates

Start Period

1 July 2012

End Period

30 June 2013

Controlling corporation

Insert the name of the controlling corporation exactly as it is registered with the EEO Program.

Cristal Inorganic Chemicals 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

The corporate structure for the Bunbury Operations has been aligned with the National Greenhouse and Energy Reporting (NGER) with the controlling corporation being Cristal Inorganic Chemicals Australia Pty Ltd. A subsidiary, Cristal Pigment Australia Ltd is, located in Bunbury, WA, and has operated for fifty years providing employment for over 300 people and injecting more than \$180 million per annum back into the local economy. Cristal manufactures titanium dioxide (TiO₂) pigments for the coatings and plastics markets in the Asia Pacific region with revenue in excess of \$300 million per annum. Cristal with an annual energy usage across the two operating sites of approximately two Petajoules, has participated in the Australian Government's Energy Efficiency Opportunities (EEO) program since it was introduced in 2006.

A down turn in the international market and the high Australian dollar has caused pigment production at The Bunbury Operations to be reduced leading to a higher GJ/tonne of final product.

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

David Courtney, Acting Director –Manufacturing Asia/Pacific

Date

24/12/2013

Part 2 - Assessment outcomes

It is compulsory to complete Tables 2.1 to 2.3 for each entity (subsidiary, business unit, key activity or site) that has been assessed.

Table 2.1 – Assessment details

Name of entity	Cristal Pigment Australia Ltd (Bunbury Operations)	
A. Total corporate energy use in the last financial year (source: S19 NGER Report Scope 1&2 less coke calorific content)	1799200	GJ
B. Total energy use covered by assessments	1795000	GJ
C. Total percentage of energy use assessed $(B \div A) \times 100$	99.8	%

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

The Manufacturing business unit conducted an assessment of the main production process that resulted in the optimisation of existing boiler operations, including start up and shut down, through changes to operating procedures and training. Improvements in metering and the completion of an energy mass balance on both sites identified additional opportunities to save energy. The key metric, GJ per tonne of TiO₂, is tracked monthly with improved energy efficiency, since the start of the EEO participation, of 16%. The resulting energy savings are reported in Table 2 of this report.

In addition, the progressing of this program has resulted in energy efficiency considerations being better integrated into the range of existing business improvement and approval processes. FY 2012-13, was the second year of the second five year assessment cycle. Our aim is to maintain the momentum with further energy improvements at 2% per annum.



Energy Consumption GJ/TiO₂ at the Bunbury Operations





New boiler at Australind. To be commissioned in late 2013.



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	22	155350
	Implementation commenced	8	81364
	To be implemented	0	0
	Under investigation	3	56550
	Not to be implemented	7	52650
Outcomes of assessment	Total identified	40	345914

Please note that corporate groups **are not required** to report opportunities with a payback greater than four years. Reporting this data is voluntary.



Table 2.3 - Details of significant opportunities identified in the assessment

It is compulsory to report at least 1 example of a significant opportunity for improving the energy efficiency for the controlling corporation that has been identified in assessments. If a corporation has structured assessments to relate to business units or key activities they should report one significant opportunity for each of those entities to which the assessment applies.

Description of opportunity No. 1	Type of information to be covered
<p>Optimizing final milling conditions: Maximizing milling conditions when on-line and further reducing steam demand when not feeding the mills has resulted in real savings without compromising pigment quality.</p> <p>Energy saving per year 46000 GJ</p>	Equipment type
	Business response: Implemented
	Energy saved (GJ)
	Greenhouse gas abated
	\$ saved
	Payback period 2
Description of opportunity No. 2 - voluntary	Type of information to be covered
<p>Rationalisation of boiler. Installation of a new boiler. This will replace five smaller boilers and will be able to run at higher pressure and temperatures to improve efficiency</p> <p>Energy saving per year 50,000 GJ</p>	Equipment type
	Business response:
	Energy saved (GJ)
	Greenhouse gas abated (CO2-e)
	\$ saved
	Payback period >4

Please note that the *Description of opportunity* above should include information on the specific nature and type of opportunity as well as information on the type of equipment and/or process involved.

