

PUBLIC REPORT TEMPLATE 2011

Please note that this template has been updated based on feedback from a number of Corporations during the recent review of regulations. It is not compulsory for you to use this Public Report template. You may wish to continue to use the previous template, or you may report in another format of your choice. Either is acceptable provided you report all the information required by the EEO Act and Regulations.

There is an explanatory document at pages 5-14 of this template that fully explains how to complete it. There is also some targeted guidance on the template itself.

Part 1 - Corporation Details

Controlling Corporation

Period to which this report relates

Insert the name of the Controlling Corporation exactly as it is registered with the EEO Program. The period to which the report relates is the total period of participation up to 30 June prior to when the report is due.

Tiwest Pty Ltd

From

1 July 2006

To

30 June 2011

Table 1.1 - Major Changes to Corporate Group Structure or Operations

Table 1.1 – Major Changes to Corporate Group Structure or Operations

A plant expansion to 150,000 tonnes per annum was commissioned at the Kwinana Pigment Plant in June 2010. A number of energy efficiency opportunities were implemented as part of the expansion.

Tiwest Pty Ltd commenced ownership of the Kwinana Cogeneration Facility (electricity and steam generation) on 1 March 2011. The facility will be assessed under the revised Energy Efficiency Opportunities Regulations in 2012.

When Tiwest developed its Assessment and Reporting Schedule the Cooljarloo mine was not listed for assessment in the first EEO cycle. However, since that time the definition of who accounts for the fuel used by contractor-operated equipment was changed to be the National Greenhouse and Energy Reporting Act's definition of 'operational control'. This change has resulted in the site triggering the threshold for a mandatory assessment (0.5 PJ/year energy consumed) and the site's details have therefore been included within this Public Report.

Table 1.2 – Aggregate energy assessed covered in this report

Total energy use covered by all assessments in this report	5,000,000 - 5,500,000	GJ
Total energy assessed as percentage of total energy use of the corporate group**	87	%

* If this report covers only part of the corporate group, than the percentage should be computed on the total energy use for that part of the group covered in this report

Please note that corporations are required to assess 80% or more of their energy use in the first five-year assessment cycle and 90% or more in subsequent five-year assessment cycles. Accordingly, for those corporations with a 2005-06 trigger year (i.e. those corporations at the end of their first-five year assessment cycle), the value in "Percentage of corporation's energy use assessed" above, must be more than 80%.

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*.

Anthony Orrell
Director/Company Secretary

Date 21. 12 . 2011



Part 2 - Assessment Outcomes

Table 2.1 – Assessment Details

It is compulsory to complete a separate table for each group member, business unit, or key activity that has been assessed

Name of group member or business unit or key activity	Kwinana Pigment Plant		
Total energy use in the last financial year	2,500,000 – 3,000,000	GJ	
Energy use assessed in this entity as a percentage of total entity energy use*	100	%	
Energy use assessed in this entity as a percentage of total corporate energy use	45	%	
Accuracy of above estimates related to energy use assessed - <u>only required if not ±5% or better</u>		%	
Period over which assessment was undertaken		01/07/2006	30/06/2008
Description of the way in which the entity carried out its assessment	<p>The Assessment was undertaken in accordance with the guidance provided in the Department of Resources, Energy and Tourism's "Energy Efficiency Opportunities Assessment Handbook". A gap analysis was completed to determine which elements of the Assessment Framework were already in place at KPP and to identify if there were any elements that required improvement. A project plan was developed to address areas requiring improvement. Energy Mass Balances were also developed for each key stage of the process of pigment production to allow better understanding of the key energy uses. An initial workshop was conducted with key operations personnel to develop a list of energy efficiency opportunities.</p> <p>Energy efficiency has now been integrated into all elements of the site's Certified Management System (or environmental management system). Ongoing tracking of energy use and identification, assessment and implementation of feasible energy efficiency opportunities occurs through general site business processes (ie annual environmental performance review, business planning and budget development). All budget submissions must include the potential energy use changes associated with the proposal. There has also been sharing of potential opportunities between other international pigment plants operated by the owners of KPP.</p>		

* Please note that, for individual sites that use more than 0.5PJ of energy, all energy use must be assessed (less a small proportion for non integral energy use).

Table 2.2 - Energy efficiency opportunities identified in the assessment

It is compulsory to complete a separate table for each group member, business unit, or key activity that has been assessed

Table 2.2 – Energy efficiency opportunities identified in the assessment

Status of opportunities identified to an accuracy of better than or equal to $\pm 30\%$		Total Number of opportunities	Estimated energy savings per annum by payback period (GJ)						Total estimated energy savings per annum (GJ)
			0 – < 2 years		2 – \leq 4 years		> 4 years		
			No of Opps	GJ	No of Opps	GJ	No of Opps	GJ	
Business Response	Implemented	7	5	180,319	1	341,176	1	3,360	524,855
	Implementation Commenced	1			1	3,200			3,200
	To be Implemented	2	1	67,000			1	14,765	81,765
	Under Investigation	2	2	113,401					113,401
	Not to be Implemented	5	4	324,700			1	883	325,583
Outcomes of assessment	Total Identified	17	12	685,420	2	344,376	3	19,008	1,048,804
Status of opportunities identified to an accuracy of worse than $\pm 30\%$									
Business Response	Implemented								
	Implementation Commenced								
	To be Implemented								
	Under Investigation	2	1	18,639	1	3,290			21,929
	Not to be Implemented	1			1	26,406			26,406
Outcomes of assessment	Total Identified	3	1	18,639	2	29,696			48,335

Please note that Corporate Groups **are not required** to report opportunities with a payback greater than 4 years. Reporting this data is voluntary.



Part 2 - Assessment Outcomes

Table 2.1 – Assessment Details

It is compulsory to complete a separate table for each group member, business unit, or key activity that has been assessed

Name of group member or business unit or key activity

Chandala Processing Plant

Total energy use in the last financial year

1,500,000 – 2,000,000

GJ

Energy use assessed in this entity as a percentage of total entity energy use*

100

%

Energy use assessed in this entity as a percentage of total corporate energy use

29

%

Accuracy of above estimates related to energy use assessed - only required if not ±5% or better

%

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Period over which assessment was undertaken

1/07/2008

30/06/2009

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

As per Tiwest's Assessment & Reporting Schedule 2006, a planned assessment of the second activity group (Chandala Processing Plant) was completed during 1 July 2008 to 30 June 2009.

Assessment processes utilised in the previous reporting period were revised to incorporate Chandala's activities whilst meeting the Energy Efficiency Opportunities (EEO) Industry Guidelines (Department of Industry, Tourism & Resources, 2006) and the Tiwest Energy Efficiency Opportunities Procedure.

Through existing resources and technical specialists, the assessment was completed in house including the facilitation of identifying opportunities. A gap analysis of existing Tiwest management systems at the time, against the requirements of the six key elements of the Assessment Framework provided a data baseline. An action plan was developed and implemented to integrate energy efficiency opportunity requirements into the corporate and site Business and Environmental Management Systems.

Chandala's EEO sub committees, involving key operations and maintenance personnel, held opportunities identification workshops throughout the reporting period. Opportunities identified were further reviewed to detail costs, benefits and payback periods for each opportunity. Implementation plans for feasible opportunities were then developed by the relevant project owner. Progress of the investigation and implementation of opportunities is tracked by the site Energy Efficiency Champion on a quarterly basis and documented on a spreadsheet.

Energy efficiency opportunity program requirements have been integrated into existing business systems or into the site environmental management system where relevant. Tiwest believes that the intent and key requirements of the Energy Efficiency Opportunities legislation has been met.

Chandala has corrected 'energy from coal' values which were reported incorrectly in 2008/09 EEO report.



- * Please note that, for individual sites that use more than 0.5PJ of energy, all energy use must be assessed (less a small proportion for non integral energy use).



Table 2.2 - Energy efficiency opportunities identified in the assessment

It is compulsory to complete a separate table for each group member, business unit, or key activity that has been assessed

Table 2.2 – Energy efficiency opportunities identified in the assessment									
Status of opportunities identified to an accuracy of better than or equal to $\pm 30\%$		Total Number of opportunities	Estimated energy savings per annum by payback period (GJ)						Total estimated energy savings per annum (GJ)
			0 – < 2 years		2 – \leq 4 years		> 4 years		
			No of Opps	GJ	No of Opps	GJ	No of Opps	GJ	
Business Response	Implemented	3	1	15,000			2	1,108	16,108
	Implementation Commenced								
	To be Implemented								
	Under Investigation	3	1	30,000			2	306,399	336,399
	Not to be Implemented	1	1	2,000					2,000
Outcomes of assessment	Total Identified	7	3	47,000	0	0	4	307,507	354,507
Status of opportunities identified to an accuracy of worse than $\pm 30\%$									
Business Response	Implemented	1	1	5,616					5,616
	Implementation Commenced								
	To be Implemented	1			1	950			950
	Under Investigation	4	2	3,263	1	408,000	1	68,000	479,263
	Not to be Implemented	1	1	7,500					7,500
Outcomes of assessment	Total Identified	7	4	16,379	2	408,950	1	68,000	493,329

Please note that Corporate Groups **are not required** to report opportunities with a payback greater than 4 years. Reporting this data is voluntary.



Part 2 - Assessment Outcomes

Table 2.1 – Assessment Details

It is compulsory to complete a separate table for each group member, business unit, or key activity that has been assessed

Name of group member or business unit or key activity

Cooljarloo

Total energy use in the last financial year

500,000 – 1,000,000

GJ

Energy use assessed in this entity as a percentage of total entity energy use*

100

%

Energy use assessed in this entity as a percentage of total corporate energy use

13

%

Accuracy of above estimates related to energy use assessed - only required if not ±5% or better

%

Period over which assessment was undertaken

1/07/2010

30/06/2011

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

Tiwst engaged a consultant to complete an Energy Efficiency Opportunities (EEO) compliance assessment of existing Tiwst management systems against the requirements of the six key elements of the Assessment Framework. Subsequently, a consultant was engaged to assist in the development of an Energy Mass Balance for the site and to assist in identifying and assessing opportunities for the site.

Cooljarloo's EEO sub committees, involving key operations personnel, held an opportunities identification workshop in conjunction with the consultant during the reporting period. Opportunities identified were further reviewed to detail costs, benefits and payback periods for each opportunity. Progress of the investigation and implementation of opportunities is documented, tracked and reported to Site Management.

EEO program requirements have been integrated into existing business systems or into the site Environmental Management System where relevant. Tiwst believes that the intent and key requirements of the EEO legislation has been met.

* Please note that, for individual sites that use more than 0.5PJ of energy, all energy use must be assessed (less a small proportion for non integral energy use).



Table 2.2 - Energy efficiency opportunities identified in the assessment

It is compulsory to complete a separate table for each group member, business unit, or key activity that has been assessed

Table 2.2 – Energy efficiency opportunities identified in the assessment									
Status of opportunities identified to an accuracy of better than or equal to $\pm 30\%$		Total Number of opportunities	Estimated energy savings per annum by payback period (GJ)						Total estimated energy savings per annum (GJ)
			0 – < 2 years		2 – \leq 4 years		> 4 years		
			No of Opps	GJ	No of Opps	GJ	No of Opps	GJ	
Business Response	Implemented	1	1	12,599					12,599
	Implementation Commenced								
	To be Implemented	1	1	7,863					7,863
	Under Investigation	3			2	5,210	1	111	5,320
	Not to be Implemented								
Outcomes of assessment	Total Identified	5	2	20,462	2	5,210	1	111	25,782
Status of opportunities identified to an accuracy of worse than $\pm 30\%$									
Business Response	Implemented								
	Implementation Commenced								
	To be Implemented								
	Under Investigation	1					1	170	170
	Not to be Implemented								
Outcomes of assessment	Total Identified	1					1	170	170

Please note that Corporate Groups **are not required** to report opportunities with a payback greater than 4 years. Reporting this data is voluntary.



Table 2.3 - Details of significant opportunities identified in the assessment

Corporate Groups are required to provide at least 3 examples of significant opportunities for improving the energy efficiency of the group that have been identified in assessments.

Description of Opportunity	Voluntary Information	
Replacement of tunnel driers – In 2010 Kwinana Pigment Plant replaced two natural gas fired 'tunnel driers' with swirl fluidized driers (SFDs), which are significantly more energy efficient. The SFDs have been in sole operation (ie with the tunnel driers not operating) since August 2010. Initial energy use data has indicated a significant reduction in natural gas usage when compared to the old tunnel driers. It is hoped that further optimization and steady state operations will show an even greater energy savings.	Business Response	Implemented
	Energy saved (GJ)	-
	Greenhouse gas abated (CO2-e)	-
	\$s saved	-
	Payback period	2-4

Description of Opportunity	Voluntary Information	
Installation of new efficient preheaters – in 2010 Kwinana Pigment Plant installed a new style of pre-heaters on an expanded part of the plant. The new preheaters are significantly more efficient than the old style preheaters and have resulted in reducing natural gas combustion per tonne of product produced on the new line.	Business Response	Implemented
	Energy saved (GJ)	-
	Greenhouse gas abated (CO2-e)	-
	\$s saved	-
	Payback period	4+

Description of Opportunity	Voluntary Information	
North mine thickener upgrade – Cooljarloo mine is investigating the upgrade of the existing slimes thickener to a Shear Enhanced Thickening (SET) installation consisting of new data management and dewatering technologies. The SET upgrade will result in a re-configuration of the plant and result in significant energy savings due to a reduction in pumping demands.	Business Response	Under investigation
	Energy saved (GJ)	7,863
	Greenhouse gas abated (CO2-e)	1,607
	\$s saved	>\$200,000 p.a.
	Payback period	0-2

Please note that the "Description of the 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.