

SECOND PUBLIC REPORT

Controlling Corporation

Air Liquide Australia Limited

Period to which this report relates

Start **January 2007**

End **December 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

Altona ASU Plant was assessed in accordance with the requirements and guidelines of the Energy Efficiency Opportunities legislation over the period of February – September 2009. A number of workshops involving production site personnel, LI management and ASU efficiency improvement specialists from Air Liquide Group were conducted to identify areas of possible improvements leading to more efficient use of electric power. As a result, 6 initiatives were identified and recommended for implementation or further investigation.

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 ¹	Energy use per annum in GJ ² in the current reporting year
Air Liquide Australia Limited Botany ASU Plant *	February 2008 – June 2008	250,000-300,000 GJ
Air Liquide Australia Limited Altona ASU Plant	February 2009 – September 2009	300,000-350,000 GJ
Total energy assessed		550,000-600,000 GJ
Total energy use of the group in the current reporting year		800,000-850,000 GJ
Total energy assessed expressed as a percentage of total current energy use		68%

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.

* **Botany ASU assessment was performed in 2008 and reported in our First Public Report**



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 $\pm 5\%$
Air Liquide Australia Limited Botany ASU Plant	$\pm 3\%$	
Air Liquide Australia Limited Altona ASU Plant	$\pm 3\%$	

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: [Air Liquide Australia Limited: Altona ASU Plant](#)

Amount of energy assessed which generated the results below (and is reported in Table 1.2)

300,000-350,000	GJ
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Table 2.1 – Opportunities assessed to an accuracy of ±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	3	2,249		213	2,462
Business Response*	Under Investigation					
	To be Implemented					
	Implementation Commenced	1	677			677
	Implemented	2	1,572		213	1,785
	Not to be Implemented					

Name of Group member or business unit or key activity or site: [Air Liquide Australia Limited: Altona ASU Plant](#)

Amount of energy assessed which generated the results below (and is reported in Table 1.2)

300,000-350,000	GJ
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Table 2.2 - Opportunities assessed to an accuracy of worse than ±30%

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	3	6,307	4,730		11,037
Business Response	Under Investigation	2		4,730		4,730
	To be Implemented					
	Implementation Commenced	1	6,307			6,307
	Implemented					
	Not to be Implemented					

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: [Air Liquide Australia Limited: Botany ASU Plant](#)

Amount of energy assessed which generated the results below (and is reported in Table 1.2)

250,000-300,000	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	8	837	3,638		4,475
Business Response*	Under Investigation					
	To be Implemented	1	495			495
	Implementation Commenced	1		2,700		2,700
	Implemented	3	342	938		1,280
	Not to be Implemented	3			N/A	N/A

Name of Group member or business unit or key activity or site: [Liquide Australia Limited: Botany ASU Plant](#)

Amount of energy assessed which generated the results below (and is reported in Table 1.2)

250,000-300,000	GJ
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Table 2.4 - Opportunities assessed to an accuracy of worse than ±30%						
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	7		1,384		1,384
Business Response*	Under Investigation	3		233		233
	To be Implemented	2		1,151		1,151
	Implementation Commenced					
	Implemented	1			TBA *	TBA *
	Not to be Implemented	1			N/A	N/A

* - To Be Advised

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
<p>Title: Oxygen compressors swap to better match reduced pipeline demand</p> <p>Status: Implemented in 2009</p> <p>Cost of Implementation: \$5,000</p> <p>Energy Expense Annual Savings: \$21,840</p> <p>Greenhouse Emission Reduction: 533 t CO₂-e/year</p>
Opportunity 2
<p>Title: Installation of impellers with lower flow capacity for Nitrogen compressor to better match reduced pipeline demand</p> <p>Status: Under Investigation</p> <p>Cost of Implementation: \$200,000</p> <p>Energy Expense Annual Savings: \$65,700</p> <p>Greenhouse Emission Reduction: 1,603 t CO₂-e/year</p>
Opportunity 3
<p>Title: ASU energy efficiency study and Development of system for on-line energy efficiency analysis for EER (Energy-Efficiency-Ratio) benchmarking, better plant operation and loading</p> <p>Status: Implementation Commenced</p> <p>Cost of Implementation: \$50,000</p> <p>Energy Expense Annual Savings: \$87,600</p> <p>Greenhouse Emission Reduction: 2,137 t CO₂-e/year</p>

Part 3 - Voluntary Contextual Information

Name of Group member or business unit or key activity or site: [Air Liquide Australia Limited: Altona ASU Plant](#)

Table 3.3(a) - Opportunities assessed to an accuracy of $\pm 30\%$ or better (\$ value)						
Status of opportunities identified		Number of opportunities	Estimated energy savings per annum by payback period (\$)			Total estimated energy savings per annum (\$)
			0 – < 2 years	2 – \leq 4 years	> 4 years	
Outcomes of assessment*	Total Identified	3	31,250		2,957	34,207
Business Response*	Under Investigation					
	To be Implemented					
	Implementation Commenced	1	9,410			9,410
	Implemented	2	21,840		2,957	24,797
	Not to be Implemented					

Name of Group member or business unit or key activity or site: [Air Liquide Australia Limited: Altona ASU Plant](#)

Table 3.3(b) - Opportunities assessed to an accuracy of worse than $\pm 30\%$ (\$ value)						
Status of opportunities identified		Number of opportunities	Estimated energy savings per annum by payback period (\$)			Total estimated energy savings per annum (\$)
			0 – < 2 years	2 – \leq 4 years	> 4 years	
Outcomes of assessment*	Total Identified	3	87,600	65,700		153,300
Business Response*	Under Investigation	2		65,700		65,700
	To be Implemented					
	Implementation Commenced	1	87,600			87,600
	Implemented					
	Not to be Implemented					



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*.

Mac Redfern
Managing Director
Air Liquide Australia Group

Insert Title of Signatory here

Date