



SILK LOGISTICS GROUP

Energy Efficiency Opportunities Report

Silk Logistics Group

35 Fulton Drive, Deeimut VIC 3030

Telephone: (03) 9281 6800



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.

Silk Logistics Group Holdings Pty Limited From 1 July 2010 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

No significant changes to the Group structure or operations took place in the period 01/07/10-30/06/11.

Table 1.2 – Aggregate energy assessed covered in this report

Total energy use covered by all assessments in this report	568,647	GJ
Total energy assessed as percentage of total energy use of the corporate group ^{*#}	52	%

* 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 <i>Energy Efficiency Opportunities Act 2006</i> and <i>Energy Efficiency Opportunities Regulations 2006</i> .	
	Insert Name and Title of Signatory here (Chair of the Board, CEO, or Managing Director)
	Date

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

Bunker Freight Lines Operations

Total energy use in the last financial year

762,172 GJ

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

61.9 %

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

43.4 %

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

25 %

Period over which assessment was undertaken

01/07/2010

30/06/2011

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

A number of opportunities for energy (and resource) efficiency were considered. This followed a series of presentations/workshops involving top management and management of each of the operational units. Many opportunities were common to all of Silk Group's operations and included:

1. Tyre pressure (monitoring and adjustment)
2. Workshop consumables efficiency (life cycle)
3. LNG Vehicle feasibility
4. Improved fuel data gathering and recording
5. Warehouse energy efficiency (lighting, controls)
6. Yard security lighting (timer)
7. Office energy efficiency (lighting, controls)
8. Workshop energy efficiency (lighting, controls)
9. Improved truck and trailer aerodynamics
10. Improved transport routing efficiency
11. Improved truck fuel efficiency (replacements with Euro 5)
12. Improved communications system
13. New depot design features

* 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 ±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	5	0	0	0	0	5	10,990	10,990
	Implementation Commenced	3	0	0	0	0	3	10,370	10,370
	To be Implemented	0	0	0	0	0	0	0	0
	Under Investigation	4	0	0	0	0	4	?	?
	Not to be Implemented	1	0	0	0	0	1	?	?
Outcomes of assessment	Total Identified	13	0	0	0	0	13	21,360	21,360
Status of opportunities identified to an accuracy of worse than ±30%									
Business Response	Implemented	-	-	-	-	-	-	-	-
	Implementation Commenced	-	-	-	-	-	-	-	-
	To be Implemented	-	-	-	-	-	-	-	-
	Under Investigation	-	-	-	-	-	-	-	-
	Not to be Implemented	-	-	-	-	-	-	-	-
Outcomes of assessment	Total Identified	-	-	-	-	-	-	-	-

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	
The largest consumption of energy (and GHG emissions) from the various operations of the Silk Group is the use of diesel in the large fleet of trucks. The management has explored means of improving the energy (fuel) efficiency of the trucks and one opportunity identified was the improving the aerodynamics of the trucks and trailers.	Business Response	Installation of aerofoils
	Energy saved (GJ)	1,221
	Greenhouse gas abated (CO ₂ -e)	85 t CO ₂ -e
	\$s saved	47,575
	Payback period	>4 years

Description of Opportunity	Voluntary Information	
Another identified opportunity for truck fuel efficiency is regular tyre pressure monitoring and adjustment.	Business Response	Procedure for regular tyre pressure monitoring and adjustment.
	Energy saved (GJ)	608
	Greenhouse gas abated (CO ₂ -e)	42 t CO ₂ -e
	\$s saved	23,693
	Payback period	>4 years

Description of Opportunity	Voluntary Information	
A major identified opportunity for transport (operations) efficiency is the maximisation of load and delivery through the optimisation of loads and customers for each distance travelled (routing efficiency).	Business Response	Routing optimisation
	Energy saved (GJ)	9,769
	Greenhouse gas abated (CO ₂ -e)	683 t CO ₂ -e
	\$s saved	380,602
	Payback period	4 years

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.



Name of group member or business unit or key activity

Doolan Operations

Total energy use in the last financial year

35,975 GJ

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

9.9 %

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

0.2 %

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

25 %

Period over which assessment was undertaken

01/07/2010

30/06/2011

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

A number of opportunities for energy (and resource) efficiency were considered. This followed a series of presentations/workshops involving top management and management of each of the operational units. Many opportunities were common to all of Silk Group's operations and included:

1. Tyre pressure (monitoring and adjustment)
2. Workshop consumables efficiency (life cycle)
3. LNG Vehicle feasibility
4. Improved fuel data gathering and recording
5. Warehouse energy efficiency (lighting, controls)
6. Yard security lighting (timer)
7. Office energy efficiency (lighting, controls)
8. Workshop energy efficiency (lighting, controls)
9. Improved truck and trailer aerodynamics
10. Improved transport routing efficiency
11. Improved truck fuel efficiency (replacements with Euro 5)
12. Improved communications system
13. New depot design features

* 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 2.3 - 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	
Aerodynamics (9): The largest consumption of energy (and GHG emissions) from the various operations of the Silk Group is the use of diesel in the large fleet of trucks. The management has explored means of improving the energy (fuel) efficiency of the trucks and one opportunity identified was the improving the aerodynamics of the trucks and trailers.	Business Response	Installation of aerofoils (not implemented)
	Energy saved (GJ)	0
	Greenhouse gas abated (CO ₂ -e)	0 t CO ₂ -e
	\$s saved	0
	Payback period	>4 years

Description of Opportunity	Voluntary Information	
Tyre pressures (1): Another identified opportunity for truck fuel efficiency is regular tyre pressure monitoring and adjustment.	Business Response	Procedure for regular tyre pressure monitoring and adjustment.
	Energy saved (GJ)	69
	Greenhouse gas abated (CO ₂ -e)	5 t CO ₂ -e
	\$s saved	2,689
	Payback period	>4 years

Description of Opportunity	Voluntary Information	
Fuel data gathering and monitoring (4): An identified opportunity for transport (operations) efficiency is the comprehensive gathering and analysis of fuel usage data including travelled distances for each operation. Then target KPIs can be established and performance initiatives implemented.	Business Response	Recording and analysis of data
	Energy saved (GJ)	37
	Greenhouse gas abated (CO ₂ -e)	3 t CO ₂ -e
	\$s saved	1,442
	Payback period	4 years

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.

Name of group member or business unit or key activity

Kagan Operations

Total energy use in the last financial year

10,146 GJ

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

9.9 %

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

0.1 %

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

25 %

Period over which assessment was undertaken

01/07/2010

30/06/2011

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

A number of opportunities for energy (and resource) efficiency were considered. This followed a series of presentations/workshops involving top management and management of each of the operational units. Many opportunities were common to all of Silk Group's operations and included:

1. Tyre pressure (monitoring and adjustment)
2. Workshop consumables efficiency (life cycle)
3. LNG Vehicle feasibility
4. Improved fuel data gathering and recording
5. Warehouse energy efficiency (lighting, controls)
6. Yard security lighting (timer)
7. Office energy efficiency (lighting, controls)
8. Workshop energy efficiency (lighting, controls)
9. Improved truck and trailer aerodynamics
10. Improved transport routing efficiency
11. Improved truck fuel efficiency (replacements with Euro 5)
12. Improved communications system
13. New depot design features

* 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 2.3 - 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	
Fuel data gathering and monitoring (4): An identified opportunity for transport (operations) efficiency is the comprehensive gathering and analysis of fuel usage data including travelled distances for each operation. Then target KPIs can be established and performance initiatives implemented.	Business Response	Recording and analysis of data
	Energy saved (GJ)	0
	Greenhouse gas abated (CO ₂ -e)	0 t CO ₂ -e
	\$s saved	0
	Payback period	>4 years

Description of Opportunity	Voluntary Information	
Warehouse energy efficiency (5): An identified opportunity for energy efficiency (electricity usage) has involved the improvement of electricity usage through improved lighting in the warehouse.	Business Response	Improved lighting efficiency of warehouse
	Energy saved (GJ)	488
	Greenhouse gas abated (CO ₂ -e)	34 t CO ₂ -e
	\$s saved	19,030
	Payback period	>4 years

Description of Opportunity	Voluntary Information	
Office energy efficiency (7): An identified opportunity for energy efficiency (electricity usage) has involved the improvement of electricity usage through improved lighting in the offices.	Business Response	Improved office lighting (not commenced)
	Energy saved (GJ)	0
	Greenhouse gas abated (CO ₂ -e)	0
	\$s saved	0
	Payback period	>4 years

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.



Name of group member or business unit or key activity

Hoffmann Operations

Total energy use in the last financial year

44,555	GJ
10.3	%
0.4	%
25	%

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

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

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

Period over which assessment was undertaken

	01/07/2010		30/06/2011
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Description of the way in which the entity carried out its assessment

A number of opportunities for energy (and resource) efficiency were considered. This followed a series of presentations/workshops involving top management and management of each of the operational units. Many opportunities were common to all of Silk Group's operations and included:

1. Tyre pressure (monitoring and adjustment)
2. Workshop consumables efficiency (life cycle)
3. LNG Vehicle feasibility
4. Improved fuel data gathering and recording
5. Warehouse energy efficiency (lighting, controls)
6. Yard security lighting (timer)
7. Office energy efficiency (lighting, controls)
8. Workshop energy efficiency (lighting, controls)
9. Improved truck and trailer aerodynamics
10. Improved transport routing efficiency
11. Improved truck fuel efficiency (replacements with Euro 5)
12. Improved communications system
13. New depot design features

* 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 2.3 - 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	
Tyre pressures (1): Another identified opportunity for truck fuel efficiency is regular tyre pressure monitoring and adjustment.	Business Response	Procedure for regular tyre pressure monitoring and adjustment.
	Energy saved (GJ)	136
	Greenhouse gas abated (CO ₂ -e)	10 t CO ₂ -e
	\$s saved	5,293
	Payback period	>4 years

Description of Opportunity	Voluntary Information	
Fuel data gathering and monitoring (4): An identified opportunity for transport (operations) efficiency is the comprehensive gathering and analysis of fuel usage data including travelled distances for each operation. Then target KPIs can be established and performance initiatives implemented.	Business Response	Recording and analysis of data
	Energy saved (GJ)	78
	Greenhouse gas abated (CO ₂ -e)	5 t CO ₂ -e
	\$s saved	3,028
	Payback period	>4 years

Description of Opportunity	Voluntary Information	
Office energy efficiency (7): An identified opportunity for energy efficiency (electricity usage) has involved the improvement of electricity usage through improved lighting in the offices.	Business Response	Improved office lighting (not commenced)
	Energy saved (GJ)	0
	Greenhouse gas abated (CO ₂ -e)	0
	\$s saved	0
	Payback period	>4 years

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.



Name of group member or business unit or key activity

WA Freightlines Operations

Total energy use in the last financial year

233,421 GJ

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

38.1 %

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

8.2 %

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

25 %

Period over which assessment was undertaken

01/07/2010

30/06/2011

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

A number of opportunities for energy (and resource) efficiency were considered. This followed a series of presentations/workshops involving top management and management of each of the operational units. Many opportunities were common to all of Silk Group's operations and included:

1. Tyre pressure (monitoring and adjustment)
2. Workshop consumables efficiency (life cycle)
3. LNG Vehicle feasibility
4. Improved fuel data gathering and recording
5. Warehouse energy efficiency (lighting, controls)
6. Yard security lighting (timer)
7. Office energy efficiency (lighting, controls)
8. Workshop energy efficiency (lighting, controls)
9. Improved truck and trailer aerodynamics
10. Improved transport routing efficiency
11. Improved truck fuel efficiency (replacements with Euro 5)
12. Improved communications system
13. New depot design features

* 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 2.3 - 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	
Tyre pressures (1): Another identified opportunity for truck fuel efficiency is regular tyre pressure monitoring and adjustment.	Business Response	Procedure for regular tyre pressure monitoring and adjustment.
	Energy saved (GJ)	164
	Greenhouse gas abated (CO ₂ -e)	11 t CO ₂ -e
	\$s saved	6,385
	Payback period	>4 years

Description of Opportunity	Voluntary Information	
Fuel data gathering and monitoring (4): An identified opportunity for transport (operations) efficiency is the comprehensive gathering and analysis of fuel usage data including travelled distances for each operation. Then target KPIs can be established and performance initiatives implemented.	Business Response	Recording and analysis of data
	Energy saved (GJ)	59
	Greenhouse gas abated (CO ₂ -e)	4 t CO ₂ -e
	\$s saved	2,307
	Payback period	>4 years

Description of Opportunity	Voluntary Information	
Office energy efficiency (7): An identified opportunity for energy efficiency (electricity usage) has involved the improvement of electricity usage through improved lighting in the offices.	Business Response	Improved office lighting (not commenced)
	Energy saved (GJ)	0
	Greenhouse gas abated (CO ₂ -e)	0
	\$s saved	0
	Payback period	>4 years

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.

PUBLIC REPORT TEMPLATE 2011

EXPLANATORY DOCUMENT & WORKED EXAMPLES

Introduction

This document explains how to complete the Energy Efficiency Opportunities (EEO) Public Report Template, a report on the outcomes and business response of your energy efficiency opportunities assessments. We have provided examples to illustrate what mandatory information is required, and how we would prefer you to report voluntary information. If you are still unsure, please refer to your Client Liaison Officer for assistance.

Please note, that it is not compulsory for you to use the Public Report template. As long as Corporate Groups report all the information required by the [Energy Efficiency Opportunities Act 2006](#) (the Act) and [Energy Efficiency Opportunities Regulations 2006](#) (the Regulations), you can report in whatever format you choose. The Department encourages you to use this template to assist in drafting the report and obtaining feedback from the Department, and then integrating the contents with your annual, sustainability or other suitable report.

HOW TO COMPLETE THE PUBLIC REPORT TEMPLATE

Part 1 – Corporation Details

Controlling Corporation

Insert the name of the Controlling Corporation exactly as it is registered with the EEO Program.

Alternatively, enter the name of the part of the Corporate Group authorised to report separately from the Controlling Corporation. The Controlling Corporation was required to seek approval to do this at the time of submitting its Assessment and Reporting Schedule.

Reference: Sections 22A and 22B of the Energy Efficiency Opportunities Act 2006 (the Act)

Period to which the report relates

The Public Report is a cumulative report that builds on data provided in previous years. As such, the period to which the report relates is, in effect, the total period of participation up to 30 June prior to when the report is due.

eg. the 2011 Public Report for a Corporate Group with the trigger-year 2005-06 will cover the period 1.7.2006-30.6.2011 and be due no later than 31 December 2011. This gives Corporate Groups six months to

- finalise data,
- draft the Public Report;
- obtain feedback from the Department of Resources, Energy and Tourism; and
- have the Board sign off the report prior to its publication.

Table 1.1 - Major changes to corporate group structure or operations

Paragraph 10 of Schedule 4 of the EEO Regulations requires Corporate Groups to mention changes to the Group during the last 12 months caused by an event, for example;

- the sale or acquisition of entities effecting the assessments proposed to be undertaking; and/or
- significant changes in production levels; and/or
- significant changes to energy prices (leading to a review of opportunities previously evaluated); and/or
- significant changes in energy use.

Example 1 – What changes have occurred in the Corporate Group

Table 1.1 – Major Changes to Corporate Group Structure or Operations

During the last 12 months, Example *Corporate Group* ceased production at *Entity C* in March 2010 and sold the site. This sale was foreshadowed in the Assessment & Reporting Schedule and no assessment was undertaken.

The world economic downturn has led to reduced demand and a 10% reduction in production levels across the Corporate Group as a result. A reassessment of the energy use and opportunities identified for *Entity D* led resulted in a reduction in energy use and energy savings for that entity.

Conversely, the increased price of electricity and natural gas in the last 12 months has resulted in the review of two opportunities formerly assessed as not to be implemented. One now has budget allocation for further investigation.

Table 1.2 – Aggregate energy assessed covered in this report

Table 1.2 is used for reporting the quantity of energy assessed for the entire corporate group or for that part of the group which is covered by this report.

Total energy use covered by all assessments in this report

This data item is used to give context to the results for energy efficiency opportunities. This is the aggregate quantity of energy assessed within the corporate group, or within that part of the corporate group that is covered by this report and is computed as the sum of the energy assessed quantities reported in Table 2.1 for each of the individual entities.

Reference: [Paragraph 2 of Schedule 4 to the Regulations](#)

Total energy assessed as percentage of total energy use of the corporate group

This data item provides contextual information but also relates to legislative requirements: all corporations must assess at least 80% of their energy use in the first five-year cycle and 90% of their energy use in the second five-year cycle.

It is computed as the total energy assessed (previous data item) divided by total energy used by the corporate group (or that part of the corporate group included in this report) multiplied by 100.

Reference: [Paragraph 1\(b\) of Schedule 4 to the Regulations](#)

Example 2 – What has been the total energy used that was assessed for the corporate group as a whole

Table 1.2 – Aggregate energy assessed covered in this report

Total energy use covered by all assessments in this report	740,000	GJ
Total energy assessed as percentage of total energy use of the corporate group*#	83	%

* 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

The declaration is a **compulsory** part of the Public Report. The name and actual title/position of the signatory must be stated in the declaration on the Report. The declaration must be signed by the Chair of the Board of Directors or the Chief Executive Officer or the Managing Director or an equivalent position.

What constitutes an equivalent position?

- where a corporate group has a Chair of the Board, CEO, or Managing Director, one of these people **must** make the declaration;
- where a corporate group does not have any of these three positions, there is no set list of positions that would meet the description of "equivalent officer", as this may differ for each corporation;
- an equivalent officer would need to be:
 - a senior person in the organisation, such that their role could be considered equivalent to that of the chair of the board, CEO, or managing director;
 - the position of the signatory should demonstrate corporate engagement at the highest level and someone able to declare that the Board of Directors has reviewed and noted the report;
 - this may include, for example, a Vice-Chancellor of a university, or a Company Secretary within a corporation who has authority to sign off on documents on behalf of the Head of the Corporation.

Reference: [Paragraph 8 of Schedule 4 of the Regulations](#) and [paragraph 22\(4\)\(c\) of the Act](#)

Example 3 – Person making the declaration

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 <i>Energy Efficiency Opportunities Act 2006</i> and <i>Energy Efficiency Opportunities Regulations 2006</i> .	Signed
	Don Smith Chief Executive Officer
	20 December 2010

Part 2 – Assessment Outcomes

Introduction

Part 2 of the Public Report is used to describe the way in which the Corporate Group has carried out its assessment of a particular entity, provide data on all energy efficiency opportunities that have been identified and evaluated as part of the assessment process, and the Corporate Group's business responses to those opportunities.

What is an energy efficiency opportunity?

An energy efficiency opportunity, or opportunity, means a potential change to a system, process, activity, technology or piece of equipment that may result in improvements in energy performance with a payback period of 4 years or less.

Note: Energy efficiency opportunities are not intended to include potential changes that would be in breach of relevant legal obligations that relate to the system, process, activity, technology or piece of equipment, including (but not limited to) building regulations and occupational health and safety requirements.

An opportunity does not include those identified under pre-existing energy efficiency projects, or energy savings which result from 'business as usual' production efficiencies and other processes.

All opportunities identified must be reported even if they are not implemented under the program.

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 of key activity or site

Enter the name of the group member, business unit, key activity or site for which the assessment was conducted.

References: [Paragraph 1\(a\) of Schedule 4 of the EEO Regulations.](#)

Total energy use in the last financial year

Corporations should report the energy use of the assessed entity in the last financial year. If previous approval has been given at the time of approving the Assessment plan, energy bandwidth may be reported.

References: [Paragraph 2 of Schedule 4 of the EEO Regulations.](#)

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

This information gives the public an idea of the extent of assessments undertaken by the corporate group to date, expressed against current energy use. It also puts the savings identified in Table 2.2 into perspective against current energy use/energy assessed.

References: [Paragraph 1\(b\) of Schedule 4 of the EEO Regulations](#).

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

The energy assessed should be expressed also as a percentage of the Corporation's total energy use in the in the period 1.7.2010 to 30.6.2011. This is calculated as follows:

- total energy use in the period 1.7.2010 to 30.6.2011 of the assessed entity (or parts thereof), divided by the total energy use of the corporate group for the same period, multiplied by 100.

Accuracy of above estimates related to energy use assessed

This information is **only required if the accuracy is not $\pm 5\%$ or better**. If the energy use data provided in Table 2.1 is not within the accuracy range $\pm 5\%$, the Corporation is to use this table to indicate the level of accuracy achieved and the reasons why $\pm 5\%$ cannot be met.

Note: Energy use data reported with an accuracy outside $\pm 5\%$ requires approval from the Department. Please contact your Client Liaison Officer to discuss if prior approval was not sought or given as part of the Corporate Group's approved ARS.

Reference: [Paragraph 5\(a\) & \(b\) of Schedule 4 of the EEO Regulations](#)

Period over which assessment was undertaken

Corporate Groups are to report the period over which the assessment was undertaken.

Description of the way in which Corporate Group has carried out its assessments

[Sub-section 22\(3\)\(a\) of the Act](#) requires Corporate Groups to provide a description of how you have carried out the proposal in your approved Assessment and Reporting Schedule (ARS) for assessing opportunities to improve the energy efficiency of the group. This would typically include:

- a summary of the new assessments completed during the reporting period;
- how the evaluation of assessments from the previous reporting period have been progressed; and
- what actions have been taken to fulfil the Key Elements of the Assessment Framework as detailed in Schedule 7 of the Regulations.

Some Corporate Groups have also used this table to provide details of how the assessment framework and reporting requirements of the Program have integrated with the existing governance arrangements for the Group.

Table 2.2 - Energy efficiency opportunities identified in the assessment

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. **This includes the reporting of opportunities identified through new assessments completed since your last Public Report and updating the evaluation, business response and value of opportunities identified in assessments completed and reported in previous Public Reports.**

Please note that the previous template contained separate tables for new and updated opportunities, and for those with accuracies better than or equal to $\pm 30\%$ and those worse than $\pm 30\%$. These have been consolidated into the one table in this template based on feedback from Corporations during the recent review of regulations.

Updated data may reflect changes to energy use (effecting estimates of savings) or energy prices, more detailed investigation of opportunities leading to changes to savings, progress in the business responses (eg decisions made to implement opportunities previously under investigation etc) or a decision not to implement.

Corporate Groups provided an assessment and reporting structure in their ARS and, where possible, reporting should be consistent with that structure. Sites over 0.5 PJ must be assessed at some point in the five-year cycle and providing opportunities data separately for sites over 0.5 PJ would be appreciated.

In all tables the sum of the separate business response categories should always equal the total opportunities identified. eg. the number of opportunities under investigation, to be implemented, implementation commenced, implemented or not to be implemented should always total to the overall number of opportunities identified.

The same applies for the estimated energy savings when broken down by individual payback periods. Estimated savings across business responses should match the total estimated savings for each payback period.

The total estimated savings across payback periods for a business response should also match the total estimated energy savings for that business response.

Reference: paragraphs 3-6 and 10 of Schedule 4, and Schedule 6, of the EEO Regulations.

Example for 4 – How have we implemented our approved Assessment & Reporting Schedule and report on opportunities identified

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

Manufacturing Business Unit

Total energy use in the last financial year

250,000

GJ

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

92

%

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

41

%

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

10

%

The primary energy used in the production process at this entity is steam. Currently there is no technology available to measure energy use at the required accuracy level for this production process. The site engineer is working with the manufacturer to develop a more accurate metering system

Period over which assessment was undertaken

1/10/2009

30/6/2011

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 key processes identified additional opportunities to save energy. The resulting energy savings are reported in Table 2.2 of this report.

In addition, the progressing of this project has resulted in energy efficiency considerations being better integrated with the range of existing business improvement and approval processes.

The Manufacturing business unit also progressed the evaluation of opportunities identified in the assessment of ancillary energy use and the outcomes are updated and incorporated in Table 2.2 below.

* 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

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	2	2	15,000	nil	nil	nil	nil	15,000
	Implementation Commenced	2	2	8,500	nil	nil	nil	nil	8,500
	To be Implemented	nil	nil	nil	nil	nil	nil	nil	Nil
	Under Investigation	5	nil	nil	5	40,000	nil	nil	40,000
	Not to be Implemented	1	1	1,500	nil	nil	nil	nil	1,500
Outcomes of assessment	Total Identified	10	5	25,000	5	40,000	nil	nil	65,000
Status of opportunities identified to an accuracy of worse than $\pm 30\%$									
Business Response	Implemented								
	Implementation Commenced								
	To be Implemented								
	Under Investigation								
	Not to be Implemented								
Outcomes of assessment	Total Identified								

Please note that Corporate Groups **are not required** to report opportunities with a payback greater than 4 years. Reporting this data is voluntary and is included at the request of a number of Corporate Groups.

Corporate Groups are required to evaluate all identified opportunities to an accuracy of better than or equal to $\pm 30\%$. Under these circumstances, the EEO Program expects that over time Corporate Groups will transfer opportunities with an accuracy worse than $\pm 30\%$ into the better than or equal to $\pm 30\%$ category as they continue to evaluate and implement opportunities. These changes should then be reflected in subsequent Public Reports.

For advice and guidance on the accuracy measurement of cogeneration and/or small opportunities that are implemented without first assessing to an accuracy of better than or equal to $\pm 30\%$, please consult the Energy Savings Measurement Guide (version 2) and/or Frequently Asked Questions (Reporting).

Table 2.3 - Three significant opportunities

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.

Corporate Groups may wish to give one example for each entity assessed;

- this detail provides the Public with a good insight into the way in which the Corporate Group is approaching energy efficiency and deciding its business response to opportunities identified;
- in the past, a number of Corporate Groups have reported more than three significant opportunities, and a number of the better reports have contained a significant level of detail such as providing three opportunities for each site assessed.

If there are less than three significant opportunities, details must be provided of those identified.

If no significant opportunities have been identified in the assessment(s), **a statement to that effect must be made.**

Reference: Paragraph 7 of Schedule 4 of the EEO Regulations

Example 5 – Three significant opportunities

Table 2.3 – Description of 3 significant opportunities

Opportunity 1

The Example plant accepts production from gas and oil fields through approximately 5,600 kilometres of pipelines and flow lines. The facility also incorporates underground storage for processed sales gas and ethane. Natural gas liquids are recovered via a refrigeration process and sent through a pipeline network to sales points.

Example plant was designed for one export compressor to service each of the two liquids recovery plant (LRP) trains. Assessment of the plant identified that compression could be met within the capacity of a single residue compressor.

Before this project began, each compressor was required to run at a minimum flow constraint, effectively doubling the throughput of the compressors by recycling gas through the units.

The project, costing about \$2 million to implement, enables sales gas from both LRP trains to be compressed in a single residue compressor, saving about 1,000,000 GJ of gas per year.

Since the implementation of the project on 21 October 2008, a noticeable improvement to the fuel gas consumption has been realised, with daily average fuel consumption reduced by about 4,000 GJ. These initial savings will be further increased by the replacement of anti-surge recycle valves, scheduled to occur late in 2008.

Additional benefits include significant maintenance savings and allowing for the mothballing of a third backup compressor.

Example 5 – Three significant opportunities (continued)

Table 2.5 – Description of 3 significant opportunities

Opportunity 2

This example plant produces prefabricated metal brackets and other products.

Soot blowers are efficient in removing fouling that can build up in a furnace on a daily basis. Currently the soot blowers on one of Example’s main furnaces require frequent maintenance. These reliability issues allow fouling to build up in the furnace tubes reducing furnace energy efficiency.

To increase the soot blower’s availability for operation, new soot blowers have been designed, and are currently being installed. Regular removal of tube fouling will reduce external fouling building up on the tubes, resulting in increased heat recovery, reduced fuel gas consumption in the furnace, reduced CO₂ emissions and increased process throughput. The annual benefits from this project are estimated at 4,450 tonnes of reduced CO₂ emissions, 79,366 GJ and \$776,000 of energy savings with a payback 1.96 years.

Opportunity 3

Replace primary membrane based on performance monitoring

This opportunity is identified at the Example gas processing site. Raw gas from the gas well contains a mixture of CO₂ and methane. The gas processing plant uses fabric membranes to strip away the CO₂ whilst leaving the methane, which is the primary constituent of natural gas.

The efficiency of the membranes degrades over time, progressively allowing more methane to escape with the separated CO₂. This results in reduced productivity of the plant as the “escaped” methane is flared, rather than made available for sale. Improved membrane performance allows a greater percentage of the methane to be retained for sale, improving the overall efficiency of the process.

The schedule of replacing the primary membranes has historically been planned on a periodical basis rather than a performance basis. It is estimated that using a performance based replacement approach will reduce energy consumption by 18 TJ per year, increase plant output by approximately 400 TJ and result in savings of approximately 20,000 tonnes of CO₂-e per year with a project payback estimated at 1.2 years.

Please note that the above examples are based on real examples reported by Program participants. Changes may have been made.