



AMALGAMATED HOLDINGS
LIMITED ("AHL")

EEO UPDATE

DECEMBER 2013

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Section 1.0 Executive Summary

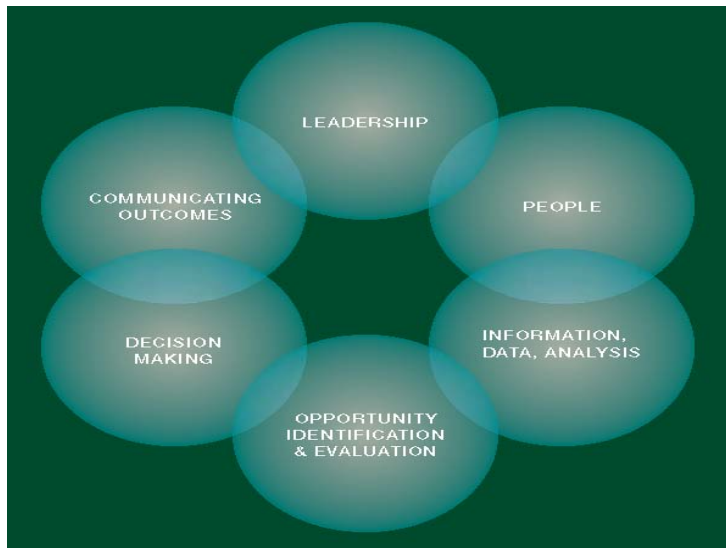
Status of assessments

During the 2013 year six site assessments (Level 3 energy audits) were completed for the AHL Group as part of the Representative Assessment program. The results of the assessments have been detailed within this Executive Summary and further detailed analysis has been provided in sections 3 and 4 of this EEO Update. The six completed assessments include three assessments which were commenced in 2012 (refer to section 1.4).

AHL Board reporting

The AHL Company Secretary reports to the AHL Board on the total energy use and energy costs relative to variable operating cost and profit as well as other contextual information. The AHL Company Secretary also reports back to each site, and relevant management, on the outcome of each assessment, and provides benchmarks against other similar sites.

The general process adopted at AHL supports the EEO framework and has followed the six key elements of the assessment framework.



Section 1.1 Energy use of the AHL Group

Name of Business Unit	Energy use per annum (GJ)				
	1 July 2012 to 30 June 2013	1 July 2011 to 30 June 2012	1 July 2010 to 30 June 2011	1 July 2009 to 30 June 2010	1 July 2008 to 30 June 2009
Cinema Exhibition Domestic	262,578	259,684	269,079	265,037	255,706
Entertainment Technology	1,049	1,630	2,149	1,400	1,532
Hotels	416,708	403,605	423,906	418,261	389,308
Leisure and Attractions	1,751	1,828	2,440	2,017	1,837
Thredbo Alpine Resort	59,946	55,921	67,983	59,657	61,625
Corporate and other investments	3,309	4,461	9,319	11,602	12,233
Total energy use	745,341	727,129	774,876	757,974	722,241

The above table includes all Australian-based sites that are considered to be under the control of the AHL Group. The number and size of sites can vary each year and are dependent upon certain operational and strategic actions.

Section 1.2 Changes to the AHL Corporate Group structure

During the year, the Group disposed of its interest in the Featherdale Wildlife Park. There have been no other significant or material changes to the AHL Corporate Group structure during the year to 30 June 2013.



Section 1.3 Representative assessments undertaken during the year

	Castle Hill 6	Castle Hill 10	Coffs Harbour	Rydges Cairns	Cairns Cinema Centre	George Street Centre
Total energy use in the last financial year (for the AHL group)	745,341 GJ	745,341 GJ	745,341 GJ	745,341 GJ	745,341 GJ	745,341 GJ
Total energy use in the last financial year (for the site)	5,403 GJ	5,474 GJ	2,535 GJ	7,985 GJ	3,836 GJ	14,163 GJ
Total percentage of energy use assessed when assessments were undertaken	0.7%	0.7%	0.3%	1.1%	0.5%	1.9%

Details regarding the assessments undertaken are provided as follows:

- Section 3.0 Castle Hill 6;
- Section 4.0 Castle Hill 10;
- Section 5.0 Coffs Harbour;
- Section 6.0 Rydges Cairns;
- Section 7.0 Cairns Cinema Centre; and
- Section 8.0 George Street Centre.

Section 1.4 Timeline to 2014

Action required	2011	2012	2013	2014
<p>Initial Planning</p> <p>Representative assessments Cinema Exhibition Domestic and Hotels</p> <p>Other assessments</p> <ul style="list-style-type: none"> Thredbo Alpine Resort <p>No assessment required</p> <ul style="list-style-type: none"> Leisure and Attractions Entertainment Technology Corporate and other investments 	<ul style="list-style-type: none"> Representative Assessment Plan completed 	<p>Completed</p> <ol style="list-style-type: none"> Rydges North Sydney Rydges Cronulla <p>Commenced but not complete</p> <ol style="list-style-type: none"> Castle Hill 6 Castle Hill 10 <p>Not yet commenced</p> <ol style="list-style-type: none"> Coffs Harbour 	<p>Completed</p> <ol style="list-style-type: none"> Castle Hill 6 Castle Hill 10 Coffs Harbour Rydges Cairns Cinema Centre (Cairns) George Street Centre <p>Not yet commenced</p> <ol style="list-style-type: none"> Rydges Townsville Cinema Centre (Townsville) <p>The Thredbo Alpine Resort assessment has been commenced but is not yet complete.</p>	<p>To be undertaken</p> <ol style="list-style-type: none"> Rydges Townsville Cinema Centre (Townsville) Cinema Centre (Brisbane) Strathpine Cinema Centre Rydges Hobart <p>The Thredbo Alpine Resort assessment will be completed in the 2014 year.</p>

Section 1.5 Cost of Compliance

Item	Cost of Compliance		Comments / Explanation
	2013	2012	
	\$	\$	
Registration			
External Consultants	Nil	Nil	
Internal staff time (preparation, responding, making enquiries)	Nil	Nil	
Preparation of ARS and obtaining approval by RET			
External Consultants	Nil	Nil	
Internal staff time (preparation, responding, making enquiries)	Nil	Nil	
Assessments			
Assessments	183,773	98,092	<i>Includes six assessments in 2013 compared with two in 2012</i>
Internal staff time (preparation, responding, making enquiries)	19,665	13,213	<i>Reasonable estimate of internal costs based on estimated time spent on the project</i>
Reporting			
Public Report	9,375	13,333	<i>Estimate of internal costs based on estimated time spent on the project</i>
Government Report	Nil	Nil	<i>All costs are included within the public report above</i>
Verification			
Desktop (consultant, internal staff time)	Nil	Nil	
Full Verification (consultant, internal staff time)	Nil	Nil	
TOTAL	212,813	124,638	

Section 2.0 Representative assessments

During the 2012 reporting period, analysis on sites selected for assessment and timing using the representative assessment approach for the Australian Cinema Exhibition and Rydges Hotels business units of Amalgamated Holdings Limited (AHL) was submitted to the Department of Resources, Energy and Tourism (the "Department").

The Department subsequently agreed that the representative approach was appropriate for the AHL Group and agreed with the site selection. The approach allows AHL to identify opportunities, develop and implement management system changes to meet the EEO legislation. The assessment process covers the following main activities:

1. Energy audits (AS3598 - Level 3 plus, an energy mass balance) are to be undertaken of the agreed sites.
2. As a part of the energy audits, business cases will be developed for the main opportunities.
3. The results of the representative assessment energy audits and business case development, will have a simple template prepared (case example) to allow all other AHL sites (existing and under redevelopment) to consider if the opportunity is applicable to their site. To ensure each cinema and hotel gives consideration to the case examples, a management and technical review process is being developed. This will include a mandatory review and reporting back for each idea / opportunity, and where possible will include calculations developed as a part of the case example.



2.1 Summary of Representative Assessments

Property - Australia	Type	Assessment Type	Assessment Timing	Status
Rydges North Sydney, 54 McLaren Street , North Sydney	Hotel	Level 3 Plus Energy Audit	2012	Completed
Rydges Cronulla, 20-26 The Kingsway, Cronulla	Hotel	Level 3 Plus Energy Audit	2012	Completed
Castle Towers 6, Castle Towers Shopping Centre, 6-14 Castle Street, Castle Hill	Cinema	Level 3 Plus Energy Audit	2013	Completed
Castle Towers 10, Castle Towers Shopping Centre, 6-14 Castle Street, Castle Hill	Cinema	Level 3 Plus Energy Audit	2013	Completed
Cinema Centre Corner Bray Street and Pacific Highway, Coffs Harbour	Cinema	Level 3 Plus Energy Audit	2013	Completed
Rydges Cairns, Corner Spence & Grafton Streets, Cairns	Hotel	Level 3 Plus Energy Audit	2013	Completed
Cinema Centre (Cairns 5), 108 Grafton Street, Cairns	Cinema	Level 3 Plus Energy Audit	2013	Completed
Cinema Centre, George Street, Sydney	Cinema	Level 3 Plus Energy Audit	2013	Completed
Rydges Townsville, 32 Palmer Street, Townsville	Hotel	Level 3 Plus Energy Audit	2013	To be undertaken in 2014
Cinema Centre, Corner Sturt & Blackwood Street, Townsville	Cinema	Level 3 Plus Energy Audit	2013	To be undertaken in 2014
Cinema Centre - Level 3 Myer Centre, Corner Elizabeth & Albert Streets, Brisbane	Cinema	Level 3 Plus Energy Audit	2014	2014
Cinema Centre - Westfield Shopping Town, 285 Gympie Road, Strathpine	Cinema	Level 3 Plus Energy Audit	2014	2014
Rydges Hobart, Corner Argyle and Lewis Streets, Hobart	Hotel	Level 3 Plus Energy Audit	2014	2014

2.2 Update on opportunities identified in 2012

Opportunities identified as a result of the representative assessments conducted in 2012 in respect of Rydges North Sydney and Rydges Cronulla remain subject to evaluation and internal capital management related assessment and, to date, have not been implemented. Further updates will be provided on these opportunities, and on those identified during the 2013 representative assessments and set out below, in future EEO Updates.



Section 3.0 Castle Hill 6

Event Cinemas Castle Hill (Gold Class)
Castle Towers Shopping Centre
Cnr Old Northern Road and Castle Street
Castle Hill NSW 2154
33.730°S, 151.007°E

Total energy use in the last financial year (for the AHL group)	745,341 GJ
Total energy use in the last financial year (for the site)	5,403 GJ
Total percentage of energy use assessed when assessments were undertaken	0.7%

Event Cinemas Castle Towers 6 is a five screen Gold Class cinema complex within Castle Towers, a large regional shopping mall. A traditional style cinema complex (Castle Hill 10 – see **section 4.0**) is located approximately 200 metres from the Gold Class cinemas, however all services are separately metered with no physical interconnection between the sites. The cinema is open 7 days a week, 365 days a year with the exception of Christmas Day.

A Level 3 energy audit was conducted, consistent with the Australian Standard AS 3598.2000.

Opportunities Identified

A total of 7 opportunities were identified during the audit and have been outlined in the table below.

Outcomes

The opportunities are currently subject to evaluation and internal capital management related assessment. The outcomes of the various opportunities are expected to be determined prior to 30 June 2014 and will be reported in future public reports.



3.1 Opportunities identified

Description of Opportunity	Electricity savings MWh p.a.	Energy cost savings \$ p.a.	Other cost savings (e.g. maintenance) \$ p.a.	Value of Energy Saving Certificates Included	Total cost savings \$ p.a.	Capital Cost \$	Payback period (years)	GHG savings tonnes CO ₂ p.a.
Cinema wall lamps - change 70W halogen to 15W Light-emitting diode (LED) dimmable	11.4	\$ 3,300	\$ 1,512	\$ 2,808	\$ 7,620	\$ 8,869	1.2	10.1
Candy Bar - 150W to 24W compact fluoro	4.4	\$ 922	\$ 104	\$ -	\$ 1,026	\$ 860	0.8	3.9
Foyer and toilets - Change all 35W halogen to LED	31.3	\$ 6,598	\$ 700	\$ 6,628	\$ 13,926	\$ 13,780	1.0	27.8
Foyer Area - change 50W halogen (large diameter Halospot) to LED	5.7	\$ 1,209	\$ 105	\$ 882	\$ 2,196	\$ 3,599	1.6	5.1
Change fluorescent luminaires (2x36W lamps) in kitchen and administration office and lunch room to new technology (T8 to T5)	5.9	\$ 1,244	\$ 288	\$ 754	\$ 2,286	\$ 3,149	1.4	5.2
Total Lighting	58.7	\$ 13,273	\$ 2,709	\$ 11,072	\$ 27,054	\$ 30,257	1.1	52.1
Replace chiller air cooling with cooling tower	183.1	\$ 48,915	\$ -	\$ 10,985	\$ 59,900	\$ 168,888	2.8	162.9
Adjust the set point in the projection room to 25C for summer and turn off the heat in winter.	18.7	\$ 4,408	\$ -	\$ -	\$ 4,408	\$ -	Immediate	16.7
Total Heating, Ventilation and Air Conditioning (HVAC)	201.8	\$ 53,323	\$ -	\$ 10,985	\$ 64,308	\$ 168,888	2.6	179.6
Total (All projects)	260.5	\$ 66,596	\$ 2,709	\$ 22,057	\$ 91,362	\$ 199,145	2.2	231.7



Section 4.0 Castle Hill 10

Event Cinemas Castle Hill (Traditional)

Castle Towers Shopping Centre

Cnr Old Northern Road and Castle Street

Castle Hill NSW 2154

33.730°S, 151.007°E

Total energy use in the last financial year (for the AHL group)	745,341 GJ
Total energy use in the last financial year (for the site)	5,474 GJ
Total percentage of energy use assessed when assessments were undertaken	0.7%

Event Cinemas Castle Towers 10 is a ten screen traditional cinema complex within Castle Towers, a large regional shopping mall. A Gold Class cinema complex (Castle Hill 6 – see **section 3.0**) is located approximately 200 metres from the traditional cinemas, however all services are separately metered with no physical interconnection between the sites. The cinema is open 7 days a week, 365 days a year with the exception of Christmas Day.

A Level 3 energy audit was conducted, consistent with the Australian Standard AS 3598.2000.

Opportunities Identified

A total of 7 opportunities were identified during the audit and have been outlined in the table below.

Outcomes

The opportunities are currently subject to evaluation and internal capital management related assessment. The outcomes of the various opportunities are expected to be determined prior to 30 June 2014 and will be reported in future public reports.



4.1 Opportunities Identified

Description of Opportunity	Electricity savings MWh p.a.	Energy cost savings \$ p.a.	Other cost savings (e.g. maintenance) \$ p.a.	Est. Value of Energy Saving Certificates Included \$	Total cost savings \$ p.a.	Capital Cost \$	Payback period (years)	GHG savings tonnes CO ₂ p.a.
Light sensors to control projection room luminaires (savings based on LED lamps)	1.3	\$ 229	\$ 36	\$ -	\$ 265	\$ 578	2.2	1.1
Foyer - Change all 35W halogen to LED	91.8	\$ 19,377	\$ 1,360	\$ 14,058	\$ 34,794	\$ 25,058	0.7	81.7
Candy Bar Area - change 50W halogen (large diameter Halospot) to LED	8.4	\$ 1,763	\$ 125	\$ 1,296	\$ 3,175	\$ 4,846	1.5	7.4
Change fluorescent luminaires in kitchen and administration offices to new technology (T8 to T5)	6.7	\$ 1,411	\$ 369	\$ 1,296	\$ 3,791	\$ 4,234	1.1	6.0
Total Lighting	108.2	\$ 22,780	\$ 1,890	\$ 16,650	\$ 42,025	\$ 34,716	0.8	96
Modify the projection room exhaust fan duct work to use the hot air for heating the building in winter months	-	\$ 1,984	\$ -	\$ -	\$ 1,984	\$ 12,584	6.3	6.8
Adjust the set point in the projection room to 25C for summer	47.2	\$ 11,113	\$ -	\$ -	\$ 11,113	\$ 8,800	0.8	42.0
Replace Trane chiller with a new high efficiency Variable Speed Drive (VSD) chiller. New cooling tower and associated pumps with VSD control	465.8	\$ 107,276	\$ 10,000	\$ 27,946	\$ 145,221	\$ 361,638	2.5	414.5
Total Building Management System (BMS)	513.0	\$ 120,373	\$ 10,000	\$ 27,946	\$ 158,318	\$ 383,022	2.4	463
Total (All projects)	621.2	\$ 143,153	\$ 11,890	\$ 44,596	\$ 200,343	\$ 417,738	2.1	560



Section 5.0 Coffs Harbour

Birch Carroll & Coyle Coffs Harbour
Corner Bray Street and Pacific Highway
Coffs Harbour NSW 2450
30.284°S, 153.127°E

Total energy use in the last financial year (for the AHL group)	745,341 GJ
Total energy use in the last financial year (for the site)	2,535 GJ
Total percentage of energy use assessed when assessments were undertaken	0.3%

Birch Carroll & Coyle Coffs Harbour is a five screen cinema complex on a standalone site. As a standalone facility the cinemas open directly onto the street and therefore do not receive any benefits of opening onto an air-conditioned space, such as an air-conditioned mall. The cinemas are open 7 days a week, 365 days a year with the exception of Christmas Day.

A Level 3 energy audit was conducted, consistent with the Australian Standard AS 3598.2000.

Opportunities Identified

A total of 10 opportunities were identified during the audit and have been outlined in the table below.

Outcomes

The opportunities are currently subject to evaluation and internal capital management related assessment. The outcomes of the various opportunities are expected to be determined prior to 30 June 2014 and will be reported in future public reports.

5.1 Opportunities Identified

Description of Opportunity	Electricity savings MWh p.a.	Energy cost savings \$ p.a.	Other cost savings (e.g. maintenance) \$ p.a.	Est. Value of Energy Saving Certificates Included \$	Total cost savings \$ p.a.	Capital Cost \$	Payback period (years)	GHG savings tonnes CO ₂ p.a.
Change all pelmet fluorescent luminaires (1x36W lamp) to new technology (T8 to T5) or LED	9.0	\$ 1,622	\$ 178	\$ 1,836	\$ 3,636	\$ 3,679	1.0	8.0
Upgrade all car park fluorescent luminaires (1x36W lamp) to new technology (T8 to T5 or LED) and install sensors to car park perimeter lights, install new wire cage over lamp.	27.1	\$ 4,881	\$ 598	\$ 5,778	\$ 11,257	\$ 14,345	1.3	24.2
Change fluorescent luminaires (1x36W lamp) external building to new technology (T8 to T5)	1.8	\$ 330	\$ 184	\$ 450	\$ 964	\$ 1,536	1.6	1.6
Change fluorescent luminaires (2x36W lamps) in GM / Level 1 administration office and lunch room area to new technology (T8 to T5 or LED)	2.0	\$ 366	\$ 213	\$ 448	\$ 1,027	\$ 2,003	2.0	1.8
Change fluorescent luminaires (2x36W lamps) in kitchen and ground floor administration office to new technology (T8 to T5 or LED)	8.6	\$ 1,539	\$ 597	\$ 1,872	\$ 4,008	\$ 3,946	1.0	7.6
Change all 18 W poster lamps and 18W pelmet lamps to low watt LED tube	6.4	\$ 1,148	\$ 272	\$ 3,924	\$ 5,344	\$ 5,973	1.1	5.7
Install lighting control sensors to first floor General Manager's area and ground floor foyer toilets (5 sensors)	2.5	\$ 450	\$ 17	\$ -	\$ 467	\$ 1,386	3.0	2.2
Total Lighting	57.4	\$ 10,336	\$ 2,059	\$ 14,308	\$ 26,703	\$ 32,868	1.2	51.1

5.1 Opportunities Identified (continued)

Description of Opportunity	Electricity savings MWh p.a.	Energy cost savings \$ p.a.	Other cost savings (e.g. maintenance) \$ p.a.	Est. Value of Energy Saving Certificates Included \$	Total cost savings \$ p.a.	Capital Cost \$	Payback period (years)	GHG savings tonnes CO ₂ p.a.
Television displays - replace plasma with high efficiency LED version	1.6	\$ 294	\$ -	\$ -	\$ 294	\$ 1,134	3.9	1.5
Total television display units	1.6	\$ 294	\$ -	\$ -	\$ 294	\$ 1,134	3.9	1.5
Connect the digital projectors to the exhaust system, increase set point to 25C	26.4	\$ 4,744	\$ -	\$ -	\$ 4,744	\$ 330	0.1	23.5
Air-conditioning system upgrade – replace the existing package units with more efficient new technology	91.5	\$ 24,509	\$ 10,000	\$ 28,000	\$ 62,509	\$ 270,446	4.3	81.4
Total HVAC	117.9	\$ 29,253	\$ 10,000	\$ 28,000	\$ 67,253	\$ 270,776	4.0	104.9
Total All Opportunities	176.9	\$ 39,883	\$ 12,059	\$ 42,308	\$ 94,250	\$ 303,644	3.2	157.5



Section 6.0 Rydges Cairns

Rydges Plaza Cairns

Corner Spence & Grafton Streets

Cairns QLD 4870

16.924°S, 145.776°E

Total energy use in the last financial year (for the AHL group) 745,341 GJ

Total energy use in the last financial year (for the site) 7,985 GJ

Total percentage of energy use assessed when assessments were undertaken 1.1%

Rydges Plaza Cairns is a 4 star hotel with significant conference and function rooms and includes restaurants and a bar. The Hotel has a small outdoor swimming pool and sauna. The Hotel is open 7 days a week, 365 days a year with both business and tourism based customers. Constructed in 1985, the hotel has 10 levels and includes 101 hotel rooms across 7 accommodation levels, served by three lifts. The hotel has 55 parking spaces on level 2 of the building. The hotel lobby and management offices are located on Level 1, conference facilities, restaurant, bar, a swimming pool, spa, laundry are located on the third and fourth floor. The roof holds the lift motor room, chiller, pumps, condensers, exhaust fans and gas hot water systems. The hotel does not have a building management system.

A Level 3 energy audit was conducted, consistent with the Australian Standard AS 3598.2000.

Opportunities Identified

A total of 19 opportunities were identified during the audit and have been outlined in the table below.

Outcomes

The opportunities are currently subject to evaluation and internal capital management related assessment. The outcomes of the various opportunities are expected to be determined prior to 30 June 2014 and will be reported in future public reports.

6.1 Opportunities Identified

Description of Opportunity	Electricity savings MWh p.a.	Gas savings GJ p.a.	Energy cost savings \$ p.a.	Other cost savings (e.g. maintenance) \$ p.a.	Total cost savings \$ p.a.	Capital Cost \$	Payback period (years)	GHG savings tonnes CO ₂ p.a.
Upgrade all car park fluorescent luminaires (1x36W lamp) to new technology (T8 to T5 or LED) and install sensors to car park perimeter lights, install new wire cage over lamp	9.3	-	\$ 1,465	\$ 117	\$ 1,582	\$ 3,583	2.3	8.3
Change fluorescent luminaires (1x36W lamp) external building to new technology (T8 to T5)	0.7	-	\$ 87	\$ 61	\$ 148	\$ 281	1.9	0.6
Change fluorescent luminaires (1x36W lamps) in Foyer administration office areas and lift cars to new technology (T8 to T5 or LED)	3.1	-	\$ 402	\$ 149	\$ 551	\$ 919	1.7	2.8
Change fluorescent luminaires (1x36W lamps) in GM and marketing office areas to new technology (T8 to T5 or LED)	0.6	-	\$ 127	\$ 53	\$ 180	\$ 378	2.1	0.5
Change fluorescent luminaires (1x36W lamps) in kitchen, staff lunch room and adjoining corridor to new technology (T8 to T5 or LED) (2 sensors)	3.6	-	\$ 462	\$ 171	\$ 633	\$ 1,727	2.7	3.2
Change 6x twin 36W + 2x single 36W fluoro in the L3 public toilets to new technology (T8 to T5 or LED)	3.7	-	\$ 476	\$ 149	\$ 626	\$ 1,132	1.8	3.3
Change 8x single 18W fluoro in the L1 and L3 public and staff toilets to new technology (T8 to T5 or LED)	1.3	-	\$ 163	\$ 85	\$ 249	\$ 751	3.0	1.1
Change 30W halogen luminaires on the high level street awning to 11W LED	1.2	-	\$ 252	\$ 348	\$ 600	\$ 1,101	1.8	1.0
Change the 18 x 20W halogen to 5W LED in the reception foyer	3.7	-	\$ 482	\$ 70	\$ 552	\$ 1,492	2.7	3.3
Change halogen spot light around pool area to 5W LED	2.0	-	\$ 429	\$ 141	\$ 570	\$ 1,437	2.5	1.8
Walls - Change 42W halogen bayonet lamp to 11W compact fluorescent lamp (CFL) or LED	6.0	-	\$ 778	\$ 136	\$ 914	\$ 541	0.6	5.3
Rooms - Change 42W halogen bayonet lamp to 11W CFL or LED equivalent	11.7	-	\$ 1,518	\$ 916	\$ 2,434	\$ 3,644	1.5	3.1
Install movement sensors staff and L3 public toilets (4)	3.2	-	\$ 415	\$ 29	\$ 444	\$ 1,050	2.4	2.8
Total Lighting	49.8	-	\$ 7,056	\$ 2,427	\$ 9,483	\$18,035	1.9	37.1

6.1 Opportunities Identified (continued)

Description of Opportunity	Electricity savings MWh p.a.	Gas savings GJ p.a.	Energy cost savings \$ p.a.	Other cost savings (e.g. maintenance) \$ p.a.	Total cost savings \$ p.a.	Capital Cost \$	Payback period (years)	GHG savings tonnes CO ₂ p.a.
Install an instantaneous gas hot water unit outside the kitchen, or connect the kitchen hot water to the house supply. Decommission the electric hot water unit	9.1	-	\$ 1,350	\$ -	\$ 1,350	\$ 5,013	3.7	5.9
Reduce the water temperature set point to 68C max	-	176.7	\$ 6,794	\$ -	\$ 6,794	\$ 100	0.01	12.0
Replace the three old gas hot water units with an electric heat pump, maintain the newer gas unit as a booster	-	289.4	\$ 10,855	\$ -	\$ 10,855	\$ 16,616	1.53	19.7
Total Hot Water	9.1	466.2	\$ 18,999	\$ -	\$ 18,999	\$ 21,729	1.1	37.6
Replace chiller with a new high efficiency VSD chiller. Install new cooling tower and associated pumps with VSD control. Install a new chiller control system. Install a VSD on the chilled water pump	668.2	-	\$ 116,731	\$ 10,000	\$ 126,731	\$ 383,800	3.0	594.7
BMS including air-conditioning control, card activated lighting control for each room, reed switches to balcony door, and air-conditioning room control with multiple set-points	292.0	-	\$ 42,098	\$ -	\$ 42,098	\$ 150,000	3.6	259.9
Install VSDs for each bathroom exhaust fan and control from the BMS	9.5	-	\$ 1,598	\$ -	\$ 1,598	\$ 6,004	3.8	8.4
Total HVAC	969.7	-	\$ 160,427	\$ 10,000	\$ 17,0427	\$ 539,803	3.2	863
Total All Opportunities	1028.7	466.2	\$ 186,483	\$ 12,427	\$ 198,910	\$ 579,568	2.9	937.7



Section 7.0 Cairns Cinema Centre

Birch Carroll & Coyle Cairns 5

Cairns Central Shopping Centre

Corner McLeod & Spence Streets

Cairns QLD 4870

16.926°S, 145.774°E

Total energy use in the last financial year (for the AHL group) 745,341 GJ

Total energy use in the last financial year (for the site) 3,836 GJ

Total percentage of energy use assessed when assessments were undertaken 0.5%

Birch Carroll & Coyle Cairns 5 is a 1,166 seat five screen cinema complex. The cinema complex sits on a standalone site opening directly onto the street and therefore does not receive any benefits of opening onto an air-conditioned space, such as an air-conditioned mall. The cinemas are open 7 days a week, 365 days a year with the exception of Christmas Day.

A Level 3 energy audit was conducted, consistent with the Australian Standard AS 3598.2000.

Opportunities Identified

A total of 14 opportunities were identified during the audit and have been outlined in the table below.

Outcomes

The opportunities are currently subject to evaluation and internal capital management related assessment. The outcomes of the various opportunities are expected to be determined prior to 30 June 2014 and will be reported in future public reports.

7.1 Opportunities Identified

Description of Opportunity	Electricity savings MWh p.a.	Energy cost savings \$ p.a.	Other cost savings (e.g. maintenance) \$ p.a.	Total cost savings \$ p.a.	Capital Cost \$	Payback period (years)	GHG savings tonnes CO ₂ p.a.
Install a movement sensor to control all luminaires in the unused corridor area	2.1	\$ 284	\$ 36	\$ 320	\$ 229	0.7	1.9
Install sensors (3) to manager, office assistant manager office and staff room	1.9	\$ 257	\$ 22	\$ 279	\$ 567	2.0	1.7
Install movement sensors to control emergency exit passage way fluorescent luminaires (37x18W lamp). Possible change luminaires to new technology (T8 to T5) or LED	5.4	\$ 916	\$ 126	\$ 1,042	\$ 809	0.8	4.8
Install movement sensor to control all projection room emergency exit stair and passage fluorescent luminaires (12x36W lamp). Possible changes luminaires to new technology (T8 to T5) or LED	2.3	\$ 436	\$ 55	\$ 491	\$ 1,040	2.1	2.0
Upgrade all car park ramp fluorescent luminaires (28x18W lamp) to new technology (T8 to T5 or LED) and install light sensors to entrance luminaires, install new wire cage or protection over lamp	3.9	\$ 549	\$ 538	\$ 1,087	\$ 1,964	1.8	3.5
Cinema ceiling luminaires - replace cinema 32 PAR38 bayonet lamp with 24 LED lamp dimmable (remove the need for the cleaners lamps)	3.9	\$ 2,545	\$ 2,462	\$ 5,007	\$ 11,750	2.3	3.4
Cinema ceiling luminaires - replace 30 cinema 70W halogen with 20 LED dimmable luminaire (remove the need for the cleaners lamps)	1.6	\$ 1,041	\$ 2,347	\$ 3,388	\$ 8,631	2.5	1.4
Cinema wall luminaires - replace cinema 70W halogen bayonet lamp with LED lamp dimmable (3 lamps per luminaire)	1.2	\$ 764	\$ 408	\$ 1,172	\$ 1,716	1.5	1.0
Change fluorescent luminaires (37 x36W lamps) in kitchen and ground floor administration office and lift to new technology (T8 to T5 or LED)	6.7	\$ 453	\$ 666	\$ 1,119	\$ 2,385	2.1	6.0
Change all 18 W poster lamps to low watt LED tube	4.6	\$ 699	\$ 490	\$ 1,189	\$ 3,474	2.9	4.1
Replace 103 x 35W halogen in corridor and cinema foyer area with 7W LED	26.7	\$ 3,950	\$ 549	\$ 4,499	\$ 4,872	1.1	23.8
Replace 6 x 18W TWIN CFL in ground and level one foyer area with LED luminaires	0.4	\$ 56	\$ 1,399	\$ 1,455	\$ 3,384	2.3	0.3
Total Lighting	60.6	\$ 11,950	\$ 9,098	\$ 21,048	\$ 40,821	1.9	53.9



7.1 Opportunities Identified (continued)

Description of Opportunity	Electricity savings MWh p.a.	Energy cost savings \$ p.a.	Other cost savings (e.g. maintenance) \$ p.a.	Total cost savings \$ p.a.	Capital Cost \$	Payback period (years)	GHG savings tonnes CO ₂ p.a.
Increase set point in the projection room from 22C to 25C	19.2	\$ 2,958	\$ -	\$ 2,958	\$ 132	-	17.1
Implement a BMS Control of air-conditioning system, including: - demand management; - removal of waste due to energy used when site not occupied; - lighting and link to TMS; and - Implement CO ₂ monitoring and economy cycle	122.5	\$ 23,244	\$ -	\$ 23,244	\$ 27,665	1.2	97.5
Total HVAC	141.7	\$ 26,202	\$ -	\$ 26,202	\$ 27,797	1.1	114.6
Total All Opportunities	202.3	\$ 38,152	\$ 9,098	\$ 47,250	\$ 68,616	1.5	168.5



Section 8.0 George Street Complex

Event Cinemas George Street

505-525 George Street

Sydney NSW 2000

33.875°S, 151.206°E

Total energy use in the last financial year (for the AHL group) 745,341 GJ

Total energy use in the last financial year (for the site) 14,163 GJ

Total percentage of energy use assessed when assessments were undertaken 1.9%

The report is focused on Event Cinemas George Street, a 16 screen cinema complex situated between George and Kent Streets in the Sydney CBD. The complex opens on to an air-conditioned mall, which opens directly onto the street. Both buildings have no external windows; hence building orientation is not an important factor. The heat load from changes in external weather conditions only impacts the fresh air intake. The complex includes Gold Class, VMax and traditional cinemas. The cinemas are open 7 days a week, 365 days a year with the exception of Christmas Day.

A Level 3 energy audit was conducted, consistent with the Australian Standard AS 3598.2000.

Opportunities Identified

A total of 7 opportunities were identified during the audit and have been outlined in the table below.

Outcomes

The opportunities are currently subject to evaluation and internal capital management related assessment. The outcomes of the various opportunities are expected to be determined prior to 30 June 2014 and will be reported in future public reports.

8.1 Opportunities Identified

Description of Opportunity	Electricity savings MWh p.a.	Energy cost savings \$ p.a.	Other cost savings (e.g. maintenance) \$ p.a.	Est. Value of Energy Saving Certificates Included \$	Total cost savings \$ p.a.	Capital Cost \$	Payback period (years)	GHG savings tonnes CO ₂ p.a.
Street Frontage - Replace lights with efficient technology	36.5	\$ 7,581	\$ 363	\$ 4,176	\$ 12,120	\$ 10,164	0.8	32.5
Install lighting control sensor to GM and admin offices plus toilets	17.1	\$ 3,073	\$ -	\$ 923	\$ 3,996	\$ 2,310	0.6	15.2
Foyer Area / General - change 50W halogen to LED 10W	175.3	\$ 36,984	\$ 3,111	\$ 45,000	\$ 85,095	\$ 59,312	0.7	156.0
Change fluorescent luminaires (1x36W lamp) in kitchen, projection rooms, and administration office to new technology (T8 to T5)	12.9	\$ 2,722	\$ 672	\$ 900	\$ 4,294	\$ 7,136	1.7	11.5
Change fluorescent luminaires (2x36W lamps) in kitchens, projection rooms, and offices and lunch room to new technology (T8 to T5)	52.6	\$ 11,096	\$ 2,283	\$ 5,760	\$ 19,139	\$ 23,261	1.2	46.8
Total Lighting	294.4	\$ 61,456	\$ 6,429	\$ 56,759	\$124,644	\$ 102,183	0.8	262.0
All televisions - replace plasma with high efficiency LED version	90.1	\$ 18,921	\$ -	\$ 4,865	\$ 23,786	\$ 56,700	2.4	80.0
Total television displays	90.1	\$ 18,921	\$ -	\$ 4,865	\$ 23,786	\$ 56,700	2.4	80.0
Adjust the set point in the projection room to 25C for summer and turn off the heat in winter	101.6	\$ 21,142	\$ -	\$ -	\$ 21,142	\$ -	Immediate	90.4
Total HVAC	101.6	\$ 21,142	\$ -	\$ -	\$ 21,142	\$ -	Immediate	90.4
Total	486.1	\$ 101,519	\$ 6,429	\$ 61,624	\$ 169,572	\$ 158,883	0.9	432.4