

FIRST PUBLIC REPORT TEMPLATE

Controlling Corporation

Stockland Corporation Limited

Period to which this report relates

Start 1 July 2006

End 30 June 2008

Part 1 - Summary of assessments conducted thus far

Table 1.1 - Description of the way in which the corporation has carried out its assessments and over what period was each assessment taken. A statement saying that the intent and key requirements of the Energy Efficiency Opportunities legislation have been met must be made.

During the period of 2007-2008, Stockland conducted a number of site assessments across its two business operations comprising the Commercial & Office division and the Retail division. Specifically, comprehensive site assessments were conducted across six (6) properties which account for 12% of Stockland's total energy use. These properties along with their assessment periods are outlined below.

Assessment period: January 2007 – June 2008

Three (3) retail centres were comprehensively assessed including Stockland Bay Village, Stockland Wetherill Park and Stockland Baulkham Hills, all located in NSW. Several opportunities identified were found to meet the company's financial criteria. These opportunities were subsequently approved for implementation, with budgets and resources allocated. Additional opportunities were identified at a further 15 retail sites based on an initial high level assessment, and many of these were also approved for implementation. A total of 109 opportunities are currently under implementation across 18 sites with some projects already completed and others to be completed by the end of 2008. The combined energy savings will be in the order of 17,300 GJ (4,800 MWh) p.a.

Assessment period: January 2008 – June 2008

Three (3) commercial office buildings were assessed in this period, comprising 52 Martin Place, 135 King Street and 7 Macquarie Place, all located in Sydney, NSW. The assessments have identified significant opportunities to improve energy efficiency at each site. A total of 24 opportunities with a combined savings of at least 3,790 GJ (or 1,050 MWh) p.a. were identified and these are currently being evaluated.

Assessments undertaken to date have been thorough and comprehensive and to the best of our knowledge, have complied with the intent and key requirements of the Energy Efficiency Opportunities legislation. The assessment process at each site has involved multi-disciplinary teams which included people from both Stockland corporate and site management, external energy consultants and contractors. Detailed analysis of energy usage was carried out for each site to inform the opportunities raising process, with opportunities identified and evaluated to an appropriate level to enable a business response. Outcomes of the assessments have been communicated to relevant staff for further action.

Table 1.2 - Group member/business unit/key activity/site that have been assessed	Energy use per annum in the year the assessment is completed *	Energy data accuracy (if not within $\pm 5\%$) **	Reasons for not achieving data accuracy to within $\pm 5\%$ **
Office & Industrial (3 sites)	49,699 GJ	$\pm 5\%$	
Retail (3 sites)	27,850 GJ	$\pm 5\%$	
Total	77,549 GJ		
Total as a percentage of total energy use of the group covered by this report	12%		

Part 2 - Outcomes of and business response to opportunities that have been identified and evaluated for each group member, business unit, key activity or site assessed

(See paragraphs 3-6 of Schedule 4 and Schedule 6 of the Regulations)

Group member/business unit/key activity/site >0.5 PJ name: **Office & Industrial and Retail**

Table 1.3 Status of Opportunities		Number of Opportunities	Estimated energy savings per annum by payback period (GJ)			Total estimated energy savings per annum (GJ)	*Accuracy range (%)
			0 – < 2 years	2 – ≤4 years	> 4 years		
Outcomes of assessment	Identified (accuracy ≤±30%)	133	2,890	906	17,384	21,180	±30%
	Identified (accuracy > ±30%)						
	**Total Identified	133	2,890	906	17,384	21,180	±30%
***Business Response	Under Investigation	24	2,890	906		3,796	±30%
	To be Implemented						
	Implementation Commenced	95			16,322	16,322	±20%
	Implemented	14			1,062	1,062	±20%
	Not to be Implemented						

*The accuracy range for projected or actual costs, benefits and energy savings.

**You must ensure that this row is the sum of the two rows above it.

*** The data contained in each row of the business response area must total to the data contained in the 'Total Identified' row.

Note: An opportunity is any potential change to a system, activity or piece of equipment that:

- is identified during an EEO assessment;
- is consistent with legal requirements such as OHS, and
- may result in energy savings projects with payback periods of 4 years or less.

Details of at least three significant opportunities found through EEO assessments

(See paragraph 7 of Schedule 4 of the Regulations)

Details must include a brief description of the opportunity and may optionally include details of the costs of implementation, energy/dollar savings and any other benefits (such as greenhouse reductions).

Table 1.4	
Opportunity 1	
Site assessed:	Stockland Bay Village Shopping Centre
Opportunities identified:	<ul style="list-style-type: none"> - Energy efficient lighting fixtures, - Fixed ranged dimmers for fluorescent lighting in mall and carpark areas, - Daylight linking control for lighting in mall areas, - Rectification of non-operation mechanical systems to provide economy cycle for airconditioning, - Energy saving controllers to optimize operation of airconditioning compressors, - Rectification of carpark mechanical ventilation system, and - Water conservation measures such as flow controls for cisterns, taps and shower heads.
Status of opportunities:	Under implementation. To complete by end of 2008.
Project implementation cost:	\$372,000
Energy/cost savings:	<ul style="list-style-type: none"> - Energy reduction of 843,000 kWh p.a. - Prevent CO₂ greenhouse gas emissions by 894 tonnes p.a., - Water consumption reduction by 4,300 kL p.a., and - Total energy and water cost savings to be at least \$98,300.
Opportunity 2	
Site assessed:	Stockland Baulkham Hills Shopping Centre
Opportunities identified:	<ul style="list-style-type: none"> - Refurbishment of light fittings to energy efficient types, - Fixed ranged dimmers for fluorescent lighting, - Installation of lighting controls including occupancy sensors and time scheduling of pelmet lighting in mall areas, & - Water conservation measures such as flow controls for cisterns, taps and shower heads.
Status of opportunities:	Implementation complete
Project implementation cost:	\$59,300
Energy/cost savings:	<ul style="list-style-type: none"> - Energy reduction of 58,000 kWh p.a. - Prevent CO₂ greenhouse gas emissions by 61 tonnes p.a., - Water consumption reduction by 5,084 kL p.a., and - Total energy and water cost savings of \$25,115.

Opportunity 3

Site assessed: **Stockland Wetherill Park Shopping Centre**
Opportunities identified: Replace light fittings to energy efficient types in mall areas.
Status of opportunities: Implementation complete
Project implementation cost: \$14,500
Energy/cost savings:

- Energy reduction of 35,000 kWh p.a.,
- CO₂ greenhouse gas emissions reduction by 37 tonnes p.a., and
- Energy cost savings of \$3,756

Opportunity 4

Site assessed: **Office Building, 52 Martin Place, Sydney**
Opportunities identified:

- Replace light fittings to energy efficient types,
- Lighting controls including occupancy sensors and time scheduling for carpark, amenities areas and external lighting,
- Optimise building management system control strategies,
- Efficient use of airconditioning chillers by staging based on cooling load requirements,
- Improve chillers operation including chilled water temperature reset control, electronic expansion valves and staging of chillers to match cooling requirement.
- Chillers replacement in future,
- Cogeneration, and
- Submetering system to track building's energy and water consumption.

Status of opportunities: Under investigation
Project implementation cost: \$62,000 *
Energy/cost savings:

- Energy reduction of 600,200 kWh p.a. *,
- CO₂ greenhouse gas emissions reduction by 636 tonnes p.a. *, and
- Energy cost savings of \$49,600 *

** Cost and savings figures indicated are for opportunities with less than 4 years payback.*

Opportunity 5**Site assessed:****Office Building, 135 King Street, Sydney****Opportunities identified:**

- Optimise airconditioning systems by reviewing temperature setpoints, time schedules and control strategies,
- Lighting controls including occupancy sensors, photoelectric cells and time scheduling for carpark, amenities areas and external lighting,
- Efficient use of airconditioning chillers by staging based on cooling load requirements,
- Turn off retail levels lighting and airconditioning after trading hours,
- Provide control retail neon lights,
- Replace light fittings to energy efficient types such as using T5 fluorescent lamps,
- Chiller efficiency improvement - lower cooling tower temperature,
- Shutoff condenser water valves for tenants airconditioning systems,
- Replace cooling tower for the main airconditioning plant,
- High efficiency chillers for the main airconditioning plant,
- Variable speed drives on chiller cooling towers and condenser water pumps,
- Carbon monoxide sensor control of carpark ventilation system,
- Timeclock control on retail airconditioning systems,
- Develop greenlease clauses for tenant fit-out guide,
- Carry out base load investigation, and
- Electrical sub-metering for energy monitoring.

Status of opportunities:

Under investigation

Project implementation cost:

\$44,000*

Energy/cost savings:

- Energy reduction of 322,000 kWh p.a.*,
- CO₂ greenhouse gas emissions reduction of 342 tonnes p.a.*, and
- Energy cost savings of \$27,000*

** Cost and savings figures indicated are for opportunities with less than 4 years payback.*

Opportunity 6**Site assessed:****Office Building, 7 Macquarie Place, Sydney****Opportunities identified:**

- Optimise temperature setpoints, time schedules and control strategies for airconditioning systems,
- Lighting controls including occupancy sensors, photoelectric cells and time scheduling for carpark, amenities areas and external lighting,
- Revise lift operating hours,
- Variable speed drives on condenser water pumps,
- Carbon monoxide sensor control of carpark ventilation system,
- Replace light fittings to energy efficient types such as using T5 fluorescent lamps and compact fluorescent lamps in tenancy and base building areas,
- Replace HVAC systems with efficient types (long term capital expenditure item),
- Recalibrate existing variable speed drives on mechanical equipment for efficient operation,
- Decommission escalator (exterior) which is rarely in use,
- Conduct a tenant power usage audit,
- Provide control on heated tower rail,
- Conduct base load investigation, and
- Electrical sub-metering for energy monitoring.

Status of opportunities:

Under investigation

Project implementation cost:

\$26,000*

Energy/cost savings:

- Energy reduction of 132,000 kWh p.a.*,
- CO₂ greenhouse gas emissions reduction by 140 tonnes p.a.*, and
- Energy cost savings of \$11,500*

** Cost and savings figures indicated are for opportunities with less than 4 years payback.*

Part 4 - Declaration

(See paragraph 8 of Schedule 4 of the Regulations and paragraph 22(4)(c) of the Act)

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*.



Chair of the Board of Directors/CEO/Managing
Director/equivalent officer (state position)