

NABERS RATING LEADS TO FOCUSED EFFORTS AND EXTRAORDINARY RESULTS



CROWNE PLAZA COOGEE

When the owners of the Crowne Plaza Coogee started to look at energy efficiency in 2010, they began by benchmarking their performance with a NABERS Energy rating. On receiving a 0 star result, the team decided to undertake a number of sustainability initiatives to reduce operating costs, increase energy efficiency and improve asset value. As a result, by 2014 the hotel had reduced its energy use by more than 30%, and achieved a 2.5 star rating.



The Challenge

The Crowne Plaza Coogee is a 209-room hotel, owned by Eureka Funds Management (Eureka) and operated by InterContinental Hotels Group (IHG), which manages over 4,700 hotels globally. Crowne Plaza Coogee is located in Sydney's eastern suburbs and has been a local favourite for families, couples, business travellers and group retreats since it opened in 1991.

In 2010, fund management Eureka took the lead in setting NABERS Energy targets for the hotels they owned, and the Crowne Plaza Coogee was surprised to get a NABERS Energy rating of 0 Stars and water rating of 1.5 Stars. These lower than expected results triggered a range of initiatives to improve the hotel's energy and water efficiency.



Building:

Crowne Plaza Coogee

Building Owner:

Eureka Funds Management

Property Manager:

IHG

Rooms:

209

Hotel STAR Rating

4.5 Stars

NABERS Energy Rating:

2.5 Stars

NABERS Water Rating:

3 Stars

Key upgrades:

Building Management System (BMS)

Guest room control systems

LED lighting upgrade

New energy and water

management system

Chiller replacement

Photos courtesy of IHG



The Project

With a clear project plan for improving their NABERS ratings, the Crowne Plaza Coogee secured a Green Building Fund Grant from the Australian Government. With additional funds from Eureka, the hotel then scoped and implemented the following five projects:

- A new building management system (BMS)
- Guest room control systems
- An LED lighting upgrade
- A new energy and water management system
- A chiller replacement

Combined, they significantly reduced the energy consumption used for heating, ventilation & air conditioning (HVAC) and lighting, which together account for 68% of the hotel's total energy use. An external project manager was engaged to ensure the hotel maintained maximum occupancy while the retrofit was underway and reduce disruption to staff and guests.

Building Management System

The Crowne Plaza Coogee installed a new Building Management System (BMS), which features advanced energy management and data reporting functionality that provides insights into the hotel's energy usage. The BMS allowed better control of the energy use in the building which achieved annual energy cost savings of more than \$120,000.

Guest room control system

The hotel installed InnCom - a guest room air conditioning control system that dynamically sets the room to the optimum temperature for both comfort and efficiency. It uses motion sensors and infrared technology to detect when someone is in the room and automatically switches off all air-conditioning, lights and energy when they leave.

This particular control system has also been successfully installed in other IHG properties, including Crowne Plaza Terrigal, Crowne Plaza Melbourne and Holiday Inn Potts Point. Because of this, engineers at the Crowne Plaza Coogee were able to draw from their previous experiences and optimize the commissioning process, resulting in better use of the technology. The project has led to energy cost savings estimated to be over \$70,000 per year.



“Receiving a NABERS rating of 0 Stars was a particularly sobering moment for us and since then we’ve focused on improving the efficiency of our hotel. NABERS has demonstrated that even simple changes to our systems and infrastructure can produce extraordinary results.”

David Bowne, General Manager, Crowne Plaza Coogee

LED lighting upgrade

The Crowne Plaza Coogee upgraded to Phillips LED lighting in guest rooms as well as the front of house and back of house areas of the hotel. The project involved independent lighting designers and engineers to select a trusted brand and ensure the lighting enhanced the hotel's ambience and guest experience. The upgrade has saved an estimated \$26,000 a year in energy costs.

Energy and Water Management System

The hotel installed EP&T's Edge Management System - a dynamic monitoring tool which identifies electricity, gas and water inefficiencies and optimises plant operating strategies that do not require capital expenditure. Energy and water consumption is monitored by a third-party in real-time, and notifications of any required actions are immediately sent to the building management team. Implementation of the Edge Management System is estimated to have saved over \$90,000 in the first 12 months.

Chiller replacement

A key part of achieving the rating was the decision to replace the building's chiller, which was nearing its end of life, with a new, more efficient model. A Powerpax unit was purchased and installed saving approximately 330,000kwh and \$45,000 in energy costs during the first 12 months.

The Results

The various upgrades undertaken at the Crowne Plaza Coogee have significantly reduced the property's greenhouse gas emissions, reduced energy costs by an estimated \$360,000 per year, and improved the NABERS Energy rating by 2.5 stars. By benchmarking with NABERS, the Crowne Plaza was able to access government funds and, by being visibly more sustainable, the hotel is now able to attract like-minded businesses and customers that wish to improve their environmental footprint.

Upgrade	CAPEX \$ (ex. GST)	Savings (\$/yr)	Simple Pay Back (yrs)
InnCom installation	\$227,300	\$74,700	3.0
Building Management System (BMS)	\$371,500	\$125,500	3.0
LED lighting installation	\$166,400	\$26,200	4.4*
EP&T Edge management system	\$433,000	\$91,700	4.7
Chiller replacement	\$349,500	\$45,500	6.8 (inc. maintenance cost savings)

Figure 1 - Pay Back breakdown for key upgrades

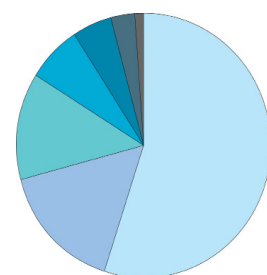
Disclaimer: All figures in the table above were provided by the owner. NABERS does not guarantee their accuracy.



"NABERS is an easy way to benchmark the performance of our hotels and communicate sustainability improvements to owners, staff and guests. We can see tangible results, which helps us determine where to focus our efforts."

Robin Power, Chief Engineer, Eureka Funds Management

Crowne Plaza Coogee total energy end use breakdown



- HVAC 55%
- Domestic hot water 16%
- Lighting 13%
- Pool 7%
- General power & appliances 5%
- Refrigeration 3%
- Vertical transport 1%