

HARNESSING SMART ENERGY

THE EVOLUTION OF LIGHTING IN HOTEL ROOMS HAS ADVANCED SIGNIFICANTLY IN A SHORT SPACE OF TIME, TO THE PRESENT DAY WHEN ROOMS WILL LIGHT UP ONLY WHEN NEEDED, AS **MATT LENNON** DISCOVERED.

We're all taught from a young age to turn off the lights in a room at home when leaving. Now, apply that lesson to the hotel landscape. On any given night, cast your eye across any city skyline or metropolitan area and observe the kaleidoscope of lights dotting the horizon. Aside from office buildings making their contribution to the night-time landscape, many hotels will opt for a well-lit room for post-sunset arrivals if only from a customer service perspective.

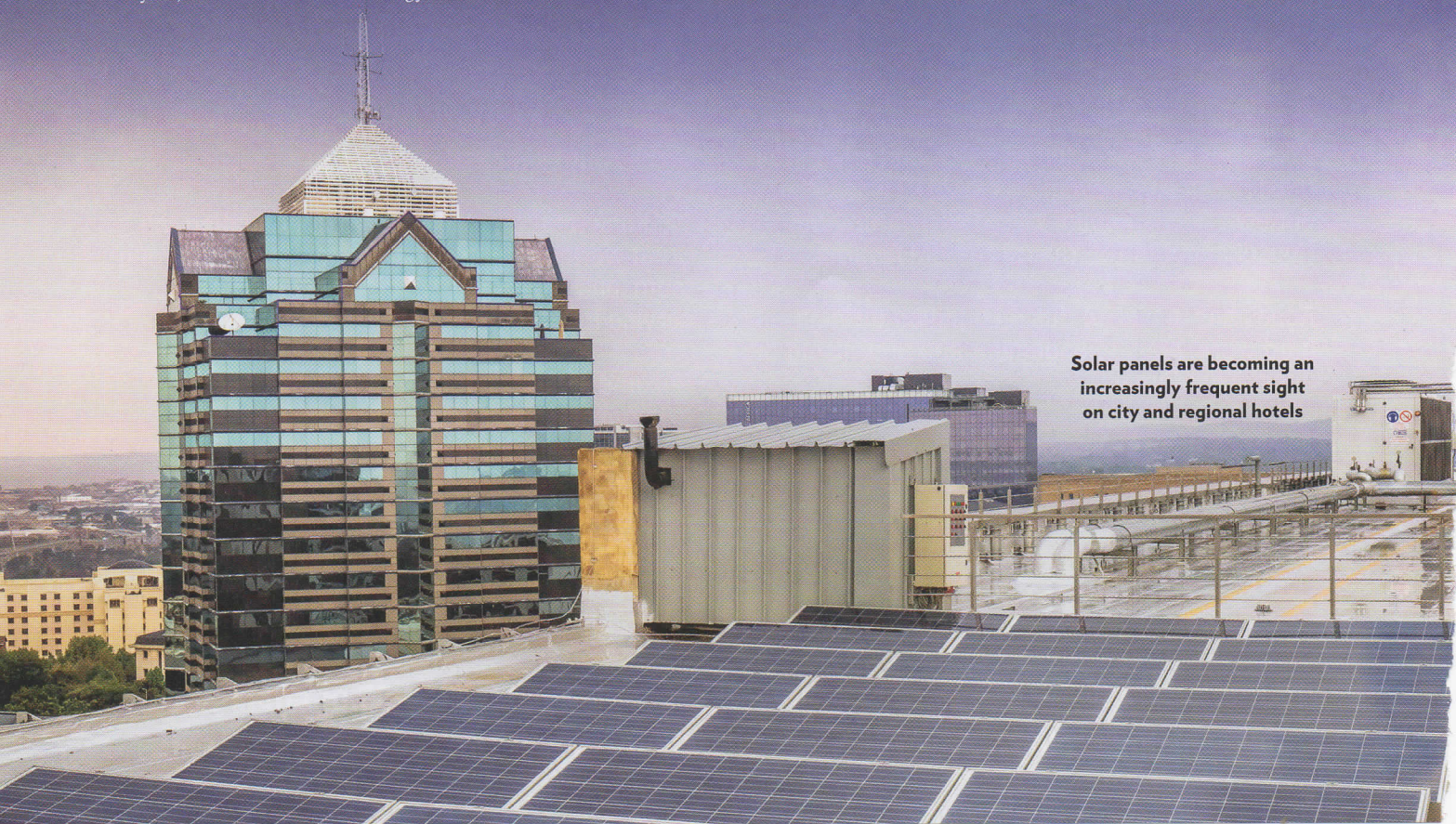
But in many cases, a room's lights may spend the whole evening illuminated, with nobody likely to enter. Over a year, that's a lot of wasted energy.

Savings in lighting and energy are often the first consideration when it comes to taking steps to reduce energy consumption. Over the years, this has been helped by innovations such as LED and low-wattage bulbs and then by requiring room keys to be placed in a slot by the door to activate a room's power supply. In this case, it is often a juggling act for a guest to activate this while trying to get themselves and their luggage fully inside the room. Not the most enjoyable of experiences.

As hotel construction and room design has improved over the years, architects have increasingly sought to draw upon the power of the sun not just to light a room but to power an entire hotel. And as smart lighting has ingratiated itself beyond the prototype stage and into mainstream use, its adoption by the accommodation industry is beginning to take hold as one part of a strategy to reduce power bills and in turn, a hotel's environmental footprint.

One such manufacturer of smart energy systems, Suite Control, was engaged by InterContinental Hotels Group during construction of its luxury resort on Hayman Island. Company Director, George Nikols, said the project encountered a unique problem in that it was impossible to run any additional cabling, requiring the company to opt for a VP wireless system for full automation and control of the resort's lighting, electricity and air-conditioning. Among the items on IHG's wish list was theme-based lighting, which allows a guest to dim the lights to a preferred level and have them come back on at the same level from an off position.

Nikols said feedback in less than a year of the resort's operations has been fantastic, with guests reporting the system as easy to use and always being able to reach the right temperature through a number of additional features connected to the resort's Property Management



Solar panels are becoming an increasingly frequent sight on city and regional hotels



Smart energy systems can activate when a guest enters their room



Dr. Jerry Schwartz with his new solar panel farm, next door to Crowne Plaza Hunter Valley

The system recognises different parameters when a team member key is used to access the room in comparison to a guest.

David Constantine – Hilton WA Cluster General Manager

System (PMS) which has led to a 20% reduction in energy use compared to when the resort was last open under different management prior to Cyclone Debbie.

“We added curtain motors, which communicate wirelessly, so when a guest is away from the room, we turn off all the lights, we set the temperature back to 25 degrees and then we close the curtains. And through some initial testing we found that by closing the curtains, we’re able to eliminate almost 80% of the heat load coming in through the glass.

So the air conditioning system across the whole resort doesn’t work very hard throughout most of the day when the guests are out of their rooms.”

Other highlights of the system, Nikols said, are automatic nightlights triggered from sensors under the bedside table which lead guests to the bathroom once they get out of bed and then back before automatically turning off once sensors can no longer detect feet on the room floor. Systems are also tuned to be able to detect ambient light levels in a room, meaning artificial lights won’t trigger until light levels dim later in the day.

Hilton has gone one step further with the installation of its energy management system, setting daylight harvesting as a brand standard on all newbuild hotels. According to the company’s WA Cluster General Manager, David Constantine, the motion detection system has helped its hotels lower its operating cost per room. Connected to the hotel’s operational systems, it triggers the electricity, lighting and air-conditioning into action once a guest checks in. By the time the guest has reached the room, the temperature has been cooled significantly to present a cool and welcoming environment to the guest.

“The system also recognises different parameters when a Team Member key is used to access the room in comparison to a guest,” Constantine added.

Noted sustainability advocate, Dr Jerry Schwartz, is

constantly investigating ways to lower his energy output and improve his environmental footprint.

Schwartz Family Company Sustainability and Projects Co-ordinator, Paul Briggs, says energy savings can be realised far beyond just lighting, with technology available to improve the effectiveness of solar panels, pumps and cooling towers. In addition to room automation and energy saving technology, solar panels have been installed on many Schwartz properties, with excess power generated going back into the hotel’s main switchboard for use throughout the rest of the property.

“We’ve got a hundred kilowatts on the Mercure Sydney, a hundred kilowatts on Rydges Central, two lots of 100 kilowatts on the Crowne Plaza Hunter Valley,” Briggs said.

“The Cessnock Motel is 28 kilowatts; Leura Golf Club is about 30 kilowatts and the Fairmont Blue Mountains is about a hundred kilowatts as well. We’ve also just finished our five megawatt solar farm, which is next door to Crowne Plaza Hunter Valley.”

Exactly how much money can be saved through automation is an open question and will have a different result for each hotel. A renovation at the 155-room Country Comfort Perth completed last year saw the property install 292 solar panels on the roof, which collectively generate enough power to operate the hotel during daylight hours. Its room automation systems also sense when a guest is in the room and in addition to operating the lights and A/C, supplies power to the room’s electrical sockets, cutting power in the event of a guest leaving a switch activated at the wall. Since completion, the hotel’s estimated power saving of 150Mwh – down 30% on previous levels – has resulted in a saving of AUD\$30,000 each year.

Combined with LED lighting now in place across the property, the aggregate saving has more than outweighed the outlay on installation and delighted its owners. ■