



Ultra-efficient LED lighting arrives

at Auckland Airport



Client: Auckland International Airport Limited.

EnergyMaster: Wes Nielsen, 0800 Save Energy

Challenge: Lower the energy and maintenance costs and improve the ambience at international check-in, an important customer interface.

Solution: Cost effective, state of the art lighting with intelligent controls.

In brief: A detailed analysis by 0800 Save Energy provided Auckland Airport with a comprehensive upgrade to its international terminal check-in area. The results speak for themselves:

- Savings of \$81,000 (501,000 kilowatt hours) per annum, representing a 69 per cent reduction in operational costs.
- Improved lighting functionality - replacing outdated fittings with the latest technology and controls.
- Recovery of investment in the project within four and half years, with visual enhancement of staff and passenger space.

The project

The project began with a detailed design assessment of the airport's check-in area, identifying every single fitting, modelling their energy use, and checking occupancy levels and flow.

"When we got the figures back, I couldn't believe the huge amount of lighting power usage in that area," said Martin Lynch, Client Advisor, Energy Management for the company.

"We knew immediately that there were enormous opportunities to reduce that amount of usage."

"The terminal is an incredibly important gateway into New Zealand but looked rather gloomy. Lighting has an enormous impact on customer experiences, so a key aspect was around lighting design, making sure it became a more welcoming and well lit area."

"We work on getting those fundamental business needs right before we even start to think about savings. That means meeting all the aesthetic and commercial criteria while delivering the deepest energy savings that we can."

The solution

The overall solution included high quality LED technology. The team also identified that there were times when the check-in area was empty but the lights still burned 24/7, so they installed an intelligent lighting control system that included occupancy sensors.

Now, if there is nobody in the area, lights dim to 10 per cent. Once airline staff enter the check-in counter area, their overhead lights come on to

the level required. As passengers arrive, the lights over the queuing area come on too.

"It has added a very dynamic characteristic to that area," said Martin. "As you look across, you can see which areas are open and which are not. We also did a lot of work to ensure the lighting lit the advertising and branding material appropriately without undue glare."

The feature 'ribbon of light' running along the length of the queuing area was retrofitted with custom-built high-efficiency lighting modules, reducing electricity consumption by 50 per cent.

The team also replaced the 1000 watt uplighters, used to cast light wash onto the ceiling, with 315 watt versions. These achieved an enhanced effect by improving the reflectors used and installing the latest technology metal halide lamps.

A web-based Helvar "uSee" web interface was also installed to enable monitoring of energy use and savings.

0800 Save Energy managed the 4 month upgrade project, carried out while the check-in area was fully operational.

The company

0800 Save Energy retrofits lighting systems in existing commercial, industrial and retail buildings for organisations that want to reduce their electricity costs and carbon footprint. The company was awarded an Excellence in Energy Efficiency design for this lighting upgrade project at the 2012 Illumination Engineering Society of NZ Awards.

"The installation has more than met the brief with a significant improvement in customer, staff and passenger experience. The lighting now plays an important role in the welcoming process, with check-in staff faces and smiles clearly lit. Even when the area is not busy and sensors automatically dim fixtures, the lighting design maintains a welcoming and "open for business" feel."

Simon Robertson, CFO, Auckland International Airport Limited



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