

SIGNS OF THE TIMES



Christchurch Hospital Hagley, New Zealand's largest and newest hospital, is fitted with more than 900 photoluminescent exit signs from Ecoglo International.

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The newly opened Acute Services Building (Christchurch Hospital Hagley) in Christchurch, New Zealand, features world-class technologies, including super-efficient photoluminescent exit signage that will save the facility more than \$1 million in overall costs over 10 years.

When New Zealand's newest and largest hospital – Christchurch Hospital Hagley – welcomed its first patients in late 2019, the \$483 million facility not only revealed a new level of superior healthcare, it also demonstrated a commitment to highly efficient building operations and management.

A perfect example of the building's cutting-edge fitments is its photoluminescent (PL) 'glow in the dark' emergency exit signage, which was supplied by Australasian specialist PL company Ecoglo International.

PL emergency exit signs glow in complete darkness for hours using energy derived from ambient light (either daylight or artificial light). These new-generation slimline devices are an alternative to traditional exit signs, which typically comprise an electric luminaire and back-up battery in a plastic casing. At present, most traditional illuminated signs are fitted with either Nickel-Cadmium (NiCad) or Lithium-Ion (Li-Ion) batteries: both classes of battery require significant upfront costs, as well as continual monitoring and replacement expenses.

By contrast, PL exit signs contain no batteries, and are now widely regarded as mainstream equipment in commercial, institutional and multi-level residential buildings in Europe and North America, with a rapidly growing popularity in Australasia.

There are more than 900 Ecoglo PL signs positioned strategically throughout Christchurch Hospital Hagley's corridors and rooms.

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There are two main families of PL exit signs used in Christchurch Hospital Hagley. Approximately 300 signs are Ecoglo S20 PL exit signs, which do not require any kind of electrical connection. In the event of a power outage during an emergency, these 'passive' signs can glow in complete darkness for many hours. Most importantly, since they are not dependent on any battery back-up system, S20 PL signs are never susceptible to degraded electronics or battery failure, and are therefore suitable for both standard and 'high risk' building applications.

The second family of PL signs used in the facility is Ecoglo's HYU-model 'hybrid' PL emergency exit signage – approximately 600 of these units have been installed.

Each HYU hybrid sign contains its own dedicated, low-energy LED light source, which charges the PL material to ensure its brightness is well above code requirements for at least 90 minutes following a power failure. Hybrid signs glow in exactly the same way as passive PL signs to deliver reliable and consistent identification of the exits. These signs are ideal for situations where there is poor or no ambient light during normal hospital operations, and are therefore ideal for unlit stairwells, storage areas, or ward areas where lights may be turned off at night.

Christchurch Hospital Hagley is by far the largest physical asset managed by Canterbury District Health Board (CDHB), which employs 10,000 staff in more than 100 separate buildings. With a floor area of 62,000m², Christchurch Hospital Hagley accounts for almost a third of Christchurch Hospital's total floor area, which now covers 182,000m².

Terry Walker, CDHB's Facilities & Engineering Manager, says he decided to specify PL exit signage in the new hospital for several reasons. While the capital costs of a PL sign are similar to those of a conventional illuminated sign, he explains, the main advantages of PL signage lie in the ease and affordability of ongoing maintenance.

"The big thing for us was that PL signage avoids the use of batteries," he says. "We were finding that Ni-Cad batteries [in traditional illuminated exit signs] were offering a two-year lifespan or something similar, so there was an awful lot of expense replacing batteries. Also, PL signs made sense from an environmental viewpoint, and they were made locally in Christchurch and lasted for a long time, so there didn't seem to be a downside, to be honest."

Ongoing emergency exit signage maintenance, which by law requires an inspection to be conducted by an independent qualified person (IQP) at least every six months, can now be undertaken swiftly at the hospital as part of regular fire protection services inspections. Given that PL signs have no batteries, inspections are mostly focused on ensuring that signs have not been covered or obstructed from view.

Terry says PL exit signs are now being installed throughout the entire CDHB network on a staggered basis whenever an illuminated sign fails or becomes obsolete.

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"Traditional exit signs use a lot of power, they have to be checked regularly to make sure the crucial back-up batteries are operational, and the costs of administering, purchasing and replacing fittings are extremely high."

Mark Watson, Ecoglo's Technical Manager, estimates that Christchurch Hospital Hagley will save up to \$1.3 million by using PL exit signs rather than illuminated exit signs, based on full installation, administration and maintenance costs over 10 years.



Ecoglo International's HYU 'hybrid' exit signs are equipped with their own LED light source, which ensures the photoluminescent material in each exit sign is always fully charged even if ambient lighting is poor.



"Power consumption represents only about 5% of the overall running costs of an illuminated sign," Mark says. "A passive PL sign has zero electrical costs, while a hybrid 2.25W PL sign with LED lights might have an annual energy cost of about \$5.50; by contrast, a typical 4.5W illuminated sign can cost more than \$11 to run per annum. However, the really serious cost burdens lie in

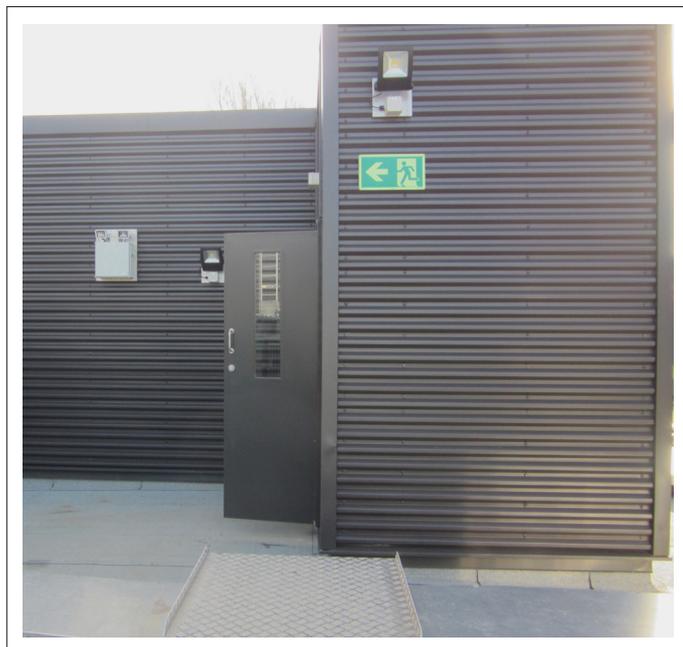
monitoring and replacing lights and batteries – also, don't forget that the mere act of checking battery operation during an inspection actually shortens the battery life."

According to Lester Easton, Ecoglo's Business Development Manager, the administrative costs, in particular, associated with maintaining conventional illuminated exit signage are often underestimated.

"In a large institution like a hospital or university, it can easily cost as much as \$100,000 per year just to process orders for the replacement of illuminated exit signs; and that's not counting the costs of actually buying new signs, lights or batteries!" Lester says. "That's why so many facility managers are looking for more reliable and affordable PL alternatives to the old way of doing things."



'Passive' photoluminescent exit signs such as the S20 model below from Ecoglo International have no electrical connections or batteries, and are charged by exposure to either natural or artificial lighting.



Ecoglo International PL emergency exit signs are available worldwide and meet or exceed all relevant international building and compliance code requirements.

For more information visit <https://ecoglo.com.au> in Australia or <https://ecoglo.co.nz> in New Zealand.

For more information about Ecoglo International's photoluminescent exit signage, or to obtain high-resolution image files of Ecoglo exit signs or Christchurch Hospital Hagley, please contact:

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