

Case Study

Mason Bros. Building

Building Rating

★★★★★



Transformed through smart and sustainable design, the historic Mason Bros building is a jewel in Precinct Properties' crown

Originally a 1920s warehouse used by the Mason Brothers Engineering Company, the 2016 redevelopment of 139 Pakenham Street has delivered a stunning character building ready for its second lifetime. A three-level workplace over 4700 square metres, the Mason Bros building today is a key part of Auckland's Wynyard Quarter Innovation Precinct, established to foster collaboration, innovation and economic development. And it has the distinction of being the only NABERSNZ 5.5 Star-rated property in Auckland, adding to an enviable 6-Green Star rating. Mason Bros is therefore not only breaking the mould for innovative working spaces, but it is changing the game for sustainability, as New Zealand's first workplace to earn the title of one of the world's greenest buildings.

Key sustainable features of the Mason Bros building include:

- CO² control of outdoor air rates for energy efficiency and indoor air quality control
- Variable speed EC fan coil units with zone and supply air temperature reset
- Level-2 VAV diffusers with integrated temperature sensing and control
- Variable speed fans and pumps
- 100% LED lighting, daylight harvesting and zone-based automatic light switching
- 4-pipe heating and cooling via heat pump (air cooled and reversible for heating and cooling)
- Heat pump domestic hot water
- Embedded radiant heating and cooling in the atrium floor slab
- Extensive metering of energy and water use, enabling optimisation
- Elimination of cooling towers whilst still exceeding operational energy objectives
- Rainwater harvesting into a central 25,000 litre tank
- 'End of trip' facilities including five showers, 38 lockers, 46 secure and 14 visitor bicycle parks
- Re-use of heavy duty building facilities such as fire rated doors and hydrants

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About the Mason Bros. building, 139 Pakenham Street, Auckland

With the redevelopment of the Mason Bros building, which had in more recent times housed manufacturing business Southern Spars, long-term owner Precinct Properties aspired to a high-quality development that supported Wynyard Quarter's Sustainability Standards. It also sought and has achieved a building which provides long term operational efficiency, durability, flexibility and enhanced amenity for tenants which include consultancy and design practice Warren and Mahoney and engineering consultancy firm Mott MacDonald (both of which played key roles in its development), and innovation accelerator GridAKL. The building is valued at over \$42-million and the renovation was completed in 2016.

Paul Singleton, Precinct Properties National Operations Manager, says the developer invests in green buildings for multiple reasons.

“ It starts with environmental, social and governance responsibilities, our own sustainability goals and also demand for these types of developments. ”

Paul Singleton, Precinct Properties Auckland Operations Manager

By engaging with our engineers, Mott MacDonald, early in the process we were able to undertake advanced energy and daylight analysis to achieve an optimal energy efficient design. He explains that everything in the building was purposely designed to minimise environmental impact and ultimately to create a better working environment for the tenants. The design specification called for a NABERSNZ 4.5-star rating, with an energy use of not more than 80 kW/h per metre squared. After a year of operation, Mason Bros. was assessed as a 5-star building; further attention has subsequently led to a revision to its current 5.5-star rating, using just 48kW/h per metre squared.

While this confirms environmental credentials, there is a more human measurement of the success of the design: there has been a marked drop in absenteeism and a productivity boost for tenants, confirming that green verified places are not only better for people, but also better for business.

Collectively the building's tenants have reported an average 8.5% increase in personal productivity and, with suitable amenities, tenants Warren and Mahoney and Mott MacDonald say they have recorded a 130% increase in the number of people regularly cycling to work.

Sustainability leader at Warren and Mahoney Fiona Short says the market expects sustainability for 'A' grade commercial spaces.

“A 'green' workplace has health and productivity benefits for our people, and therefore we understand the value of being a tenant in a green building is worth every cent.”

As a global organisation, Mott MacDonald is committed to reducing its carbon emissions per employee by 25% by 2021. Relocation to the new Mason Bros. building is an example of this commitment to sustainability,” notes Warner Brunton, Asia Pacific and Australasia Sustainability Leader.

Building Profile



139 Pakenham Street, Auckland



Owner:
Precinct Properties
Tenants:
Warren and Mahoney, GridAKL and Mott MacDonald



6 Green Star rating
(Achieved 2017)

5.5 NABERSNZ base building rating
(Achieved 2018)



NZIA National Architecture Award – Commercial

NZIA Auckland Architecture Award – Commercial

Property Council New Zealand Awards – Heritage and Adaptive Reuses Property
(Excellence).

Property Council New Zealand Awards – Commercial Office Property
(Merit).

INSIDE World Interiors Awards – Adaptive Reuse
(Shortlisted).

Property Council New Zealand Awards – Green Building Property Award
(Excellence and Best in Category)



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www.nabersnz.govt.nz



Why NABERSNZ?

NABERSNZ creates value for anyone who designs, builds, lets or tenants an office building.

There are three kinds of ratings available within the NABERSNZ program: base building, tenancy and whole building. The base building rating, in which the Mason Bros. Building has achieved 5.5 stars, measures the energy performance of a building's core services – lifts, stairwell lighting, common toilets, air conditioning and ventilation.

The 5.5-star NABERSNZ base building rating achieved by Mason Bros represents a 60% energy reduction compared to standard offices. It is the only one in Auckland and one of only five in the country to hold this rating, putting Mason Bros in an exclusive club. The building also holds a 6-Green Star rating. These impressive achievements have translated into real benefits for occupants.



Just being in this environment and building is a breath of fresh air. It makes coming to work a real pleasure, and it's obvious that our people love it.



– Shaun Barrett, Managing Director, Mott MacDonald

Alain McKinney, senior development manager at Precinct has the hard numbers to back up his colleague's assertion:

“Post-occupancy research in the Mason Bros property has confirmed the advantages, with up to a 25% drop in absenteeism, occupants indicating an increase in their personal productivity of 8.5%, and a massive 130% increase in cycling following the move.”

With buildings being responsible for 20% of New Zealand's climate change emissions, Warren and Mahoney's Fiona Short says everyone has a responsibility to do their part to the best they can. “Green buildings help us lower our emissions and achieve our targets. They also keep our country beautiful by minimising waste to landfill and are cheaper to run because they are more efficient in energy and water use than a building designed to the minimum building code standards. The industry needs to move quickly towards zero carbon, so it's great to have such a successful built example of where we need to go as an industry.”

Singleton says the building was designed with an end goal in mind with ‘very tight modelling of energy consumption’. The design used energy efficient equipment sections, and a controls and analytics package that has allowed close tune, control, and monitoring of internal conditions. “This maximises energy consumption, optimises air quality and achieves ideal client comfort. In fact, the actual results exceeded the initial energy modelling, which is demonstrated by the 5.5-star rating,” he notes.

What is NABERSNZ?

NABERSNZ is a straightforward way to measure the performance of your building, helping you to make your office smarter, healthier and more energy efficient.

Demonstrable value from NABERSNZ

A NABERSNZ rating provides a way for building owners and tenants to engage in discussions on the building's energy usage with independently verified data and benchmarks, notes Precinct's Paul Singleton. "We have attained the 5.5-star rating without compromising comfort. This provides a productive environment to continue engaging with the occupants. It's also solid evidence of our commitment to the development agreement we hold with [Auckland Council's development arm] Panuku, underpinning a major part of the regeneration of the Wynyard Quarter."

The systems in Mason Bros are helpful in:

- Lowering operating cost: Understating opportunities to reduce operating costs by changes to control strategies.
- Better reporting: Providing the ability to report on energy usage and carbon footprint of often required for annual sustainability reports.
- Improving relations with tenants: NABERSNZ highlights buildings which aren't set up in line with user requirements.
- Future planning: The rating can identify poor performing building services that would benefit from future upgrades.

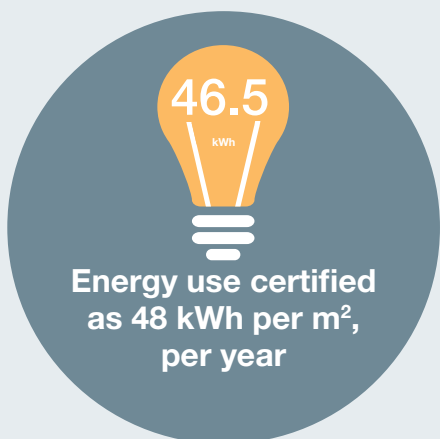
Key Facts



Achieves "Market Leading" energy performance at first NABERSNZ rating



To find out more about getting a NABERSNZ rating, or to use the online self-assessment tool, visit the NABERSNZ website: nabersnz.govt.nz, email: nabersnz@nzgbc.org.nz or phone: (09) 379 3996 (ask for the NABERSNZ team).



Big Numbers

- 2016 – Mason Bros building renovation completed
- 2017 – achieves a 6-star NZGBC rating; achieves 5-star NABERSNZ base building rating
- 2018 – NABERSNZ base building revised to 5.5-star
- Energy use certified as of 48 kWh per m², per year

The Owner

Precinct owns, manages and develops city-centre properties. The 15 properties in the Precinct portfolio are valued at more than \$2-billion. The 100% occupancy by more than 200 clients attests to Precinct's commitment to sustainability principles and the creation of superlative spaces which are attractive for commercial purposes.

The Tenants

Warren and Mahoney, GridAKL, Mott MacDonald.



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