



Manaaki Whenua
Landcare Research

Landcare Research's new facilities at the University of Auckland's Tamaki Campus.

Environmental rating

Current score = 60%.

It becomes progressively difficult to achieve a high environmental rating — scores of 35% can be achieved by normal sound architectural design. Scores of 50% require serious consideration of environmental factors, and scores of 60% or more require a concerted holistic approach to all sustainability criteria.

This building has been assessed using the National Australian Buildings Environmental Rating System (NABERS). It is the most up-to-date, comprehensive rating system available — covering land, materials, energy, water, interior, resources, transport and waste.

The NABERS commercial rating system was originally devised to rate the sustainability of office buildings (the most common type of commercial building). Specialist science buildings that include expensive laboratory and extensive archival (the Collections) spaces are effectively penalized under the system because more space and resources are needed per person than for a conventional office building.

The assessment and the assessors

Full assessments were carried out in the design stages by a team of assessors: Robert Vale (University of Auckland), Peter Diprose (Diprose architects), Stuart Mackie (Chow:Hill architects), David Fulbrook and Neil Purdie (Connell Mott MacDonald). This was reassessed informally by Robert Vale just prior to occupation. A formal assessment will be undertaken to gauge the sustainability of the building according to its actual performance.

NABERS criteria

Land: this deals with issues relating to land use and biodiversity. It assesses the nature of the site (e.g., urban infill, green development, etc), site area per m² of total floor area, site area per person, gardens (planted in local natives, exotics etc), and impermeable paved areas.

Materials: criteria assessed here include the cost of building per m², and the types of materials used.



Energy: this category covers energy efficiency, greenhouse gas emissions, renewable energy use, and surplus energy generation.

Water: high quality water is an increasingly scarce resource and provision of water supplies has major impacts on the environment. Hence this category assesses criteria relating to water consumption per person, and the source of water (e.g. rainwater or municipal supply).

Interior: this category covers issues that affect the quality of indoor air, and indoor air quality is directly related to the kinds of materials and systems used in the building. There is no simple way to measure this so the criteria in this category are largely prescriptive — they include flooring, finishes, fit-out, ventilation, no-smoking, and cleaning systems.

Resources: efficient use of resources has a lower environmental impact. Criteria in this category assess total building area per occupant, no hours building used per day, no weeks used per year.

How we could improve

The assessment team recommended that the score could be improved by

- removing all car parks except for visitors and providing bicycle parks for all staff (this would have some unacceptably high social costs for us at present)
- providing a shop / dairy nearby (however a shop has recently opened on the University campus)
- and increasing power generation on-site (this is a desirable but constrained at present by initial cost especially in relation to effectiveness of photo-voltaic arrays).

On-going research

The environmental sustainability and performance of this building will be subject to on-going research by us and university colleagues and post-graduate students.

For more information, contact

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