



The Secretary  
Department of Planning and Environment  
23-33 Bridge Street  
SYDNEY NSW 2000

3 February 2015

Attention: Cameron Sargent, Team Leader - Industry, Key Sites and Social Projects

Dear Cameron,

**Re: Westpac Fitout Section 96 Modification, Tenancy NABERS Energy and Agile Working**

The Westpac workplace at Barangaroo South will incorporate many state of the art energy efficiency technologies. These will support Westpac in lowering their operational energy use, including:

- Tenant supplementary chilled water (supplied from the precinct district cooling plant, DCP) which will approximately halve the energy use associated with more conventional supplementary cooling systems.
- Dehumidified supplementary outdoor air that enables small to medium size meeting rooms to be ventilated without the need of packaged units or fan coil units.
- Use of LEDs throughout which improve on the most efficient T5 system practical by 15%+.
- Demand controlled lighting throughout (at least in the open plan areas) so that lighting use will align with tenancy needs and dim when daylight levels permit.
- Selection of low energy computing, audio visual and other office equipment.
- Control strategies designed to ensure that equipment is switched off after hours and when not in use.
- Gas water heating for kitchens and tea points
- Extensive sub-metering systems to enable resource use to be managed in operation
- Education of staff regarding energy efficiency strategies and technology.

Lighting and supplementary cooling are typically 40% of a tenant's energy use in modern workplaces and as a result of using the infrastructure provided appropriately, Westpac should realise a 15-25% energy saving in tenancy energy use compared to other modern buildings. The remaining energy use in a tenancy relates to the technology (server rooms and desktop technology) a tenant requires to support their business and amenities such as kitchen and tea rooms.

While the Westpac workplace will have energy efficiency inherently built into it, these efficiencies are not necessarily recognised within the NABERS Energy rating system for modern workplaces, in particular those that adopt Agile Working practices. Agile Working (also known as Activity Based Working) workplaces have the following characteristics that affect how a workplace is rated under NABERS:

- **Workpoints** - Non-traditional work areas that may be as simple as a group table where people can plug in portable technology (smart phones, tablets, laptops). These are workpoints, but within the current Rules for NABERS these workpoints would not necessarily be counted in the NABERS normalisation thus leading to a poorer rating with all else equal.
- **Workpoint Utilisation** - Agile Working tenancies over allocate staff to workpoints typically at a ratio of 1.2 to 1.25 staff per workpoint. This leads to a higher utilisation of workpoints on average, typically 75-80% average workpoint utilisation in an Agile Working workplace compared to 50-60% in conventional workplaces on which the NABERS benchmarking was based in the late 1990's. The higher utilisation leads to 20-25% more energy use per workpoint as more people are at desks at any point in time. This difference in utilisation is not factored into the NABERS utilisation and thus leads to a poorer rating with all else equal.
- **Rated Hours** – Under the current Rules, NABERS normalises to those hours where at least 20% of occupants are typically in the space. Agile Working offers greater flexibility in working hours but also work location. While home zones exist, occupants at times may be working other parts of the building (a result of Agile Working) thus by current measurement techniques, NABERS likely under estimates Rated Hours for Agile Working workplaces thus leading to a poorer rating with all else equal.
- **Back of House IT** - Separate from Agile Working impacts, NABERS does not necessarily recognise the increase in back of house technology (computer rooms, data centres, servers etc) that has occurred over the past 10-15 years. The NABERS administrators are looking at how data centres are accounted for within tenancies, but the normalisation methodology does not necessarily account for workplaces that have a large portion of these services in the cloud. As a result, Tenancy NABERS Energy alone is not necessarily a definitive benchmark to measure tenant energy efficiency a tenancy with back of house IT in the cloud could rate very highly under NABERS yet be less efficient than a very efficient workplace with more back of house IT services on site.

We have met with the NABERS National Administrators several times in the past two years to discuss the challenges in applying NABERS to an Agile Working workplace. In late 2014, the Administrators appointed an external consultant to study issues relating to Agile Working and advise the Administrators on the impact on their likely impact on a NABERS rating. We have been in discussions with the Administrators on supporting them and their consultant to:

- Identify existing Agile Working workplaces and helping the Administrators make contact with the tenants as Lend Lease has many corporate contacts.
- Brief the external consultant on the observations from measurements and research we have undertaken to better understand how Agile Working workplaces affect tenancy and base building energy use.
- Show the consultant how future workplaces which Lend Lease are designing and constructing are continuing to evolve workplace design practices and how they may impact NABERS ratings.



Until the issues outlined are better understood and potentially accounted for within the NABERS normalisation, it is inappropriate to require the use NABERS to measure the energy efficiency of modern Agile Working workplaces. The inherent infrastructure efficiencies summarised are considered best practice to optimise the future energy performance of the tenancy and contribute towards the substantial ESD targets being pursued at the Barangaroo South precinct.

Yours sincerely

A handwritten signature in black ink, appearing to read "G. Carter".

**Graham Carter**  
**Sustainable Design Manager, Lend Lease Design**

Cc: Clare Hall, Lend Lease