

## FACT SHEET

### **‘NEW NABERS RULES TO RECOGNISE COGENERATION AND TRIGENERATION SYSTEMS’ v.2.0 (2 SEPTEMBER 2013)**

*NABERS has released its Interim Methodology for recognising the greenhouse emissions from on-site co/trigeneration systems and allocating them to the electricity and thermal energy used within a building. This methodology will have an impact on NABERS Energy ratings for buildings with onsite co/trigeneration systems. An accredited protocol for allocating greenhouse emissions from off-site co/trigeneration systems is under development by an industry-led working group, and is expected to be released before November 2014. This protocol will have an impact on the NABERS Energy rating with GreenPower because low emissions co/trigeneration electricity purchased over the grid will be recognised in the rating in a similar way to GreenPower.*

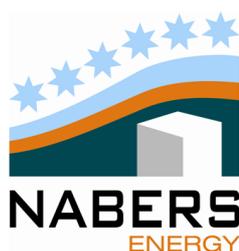
#### **NABERS Energy and NABERS Energy with GreenPower**

NABERS Energy ratings recognise that increasing energy efficiency and decreasing the greenhouse gas intensity of grid electricity are both effective approaches to reducing the overall environmental impact of a building. As investments in energy efficiency have different commercial and environmental consequences to investments in emissions reduction NABERS clearly distinguishes between these two approaches.

NABERS Energy ratings provide rated buildings with two different star rating results: one measures the energy efficiency of a building, and the other measures its greenhouse gas performance by taking into consideration the fuel source of externally supplied grid electricity. Both star ratings’ results are provided when a building undertakes a NABERS Energy rating.

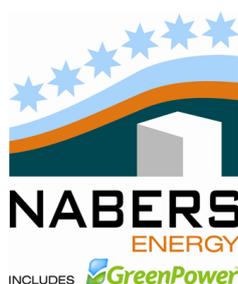
To illustrate the reason for this, consider two identical buildings. The owners of building A invest \$1 million into an air-conditioning upgrade, and the owners of building B invest \$1 million into offsetting their emissions by purchasing accredited GreenPower. Both owners are taking action to reduce their emissions, and should be recognised for their efforts. However building A will also reduce its energy use and ongoing operating costs, which means that the next owner of the building will be assured of using less energy to operate the building. This is not true for building B, which will rely on the next owner’s continuing purchase of GreenPower to maintain its low emissions. This information is critical for those tenants and investors using NABERS Energy ratings to evaluate the operating cost of the building.

## Energy Efficiency



The energy efficiency star rating allows a building to compare how much energy it uses with other buildings. In commercial office buildings, this rating is required by law to be disclosed at the point of sale or lease.

## Greenhouse gas performance



The greenhouse gas performance star rating allows buildings to compare the emissions from their energy use with other buildings.

### ***NABERS Energy and Mandatory Disclosure***

In 2010 the Commonwealth legislated the Building Energy Efficiency Disclosure (BEED) Act 2010, which requires office buildings over 2000m<sup>2</sup> to disclose their energy efficiency at the point of sale or lease through the submission of a Building Energy Efficiency Certificate (BEEC).. The BEEC consists of a NABERS Energy rating and a tenancy lighting assessment and is often referred to simply as “mandatory disclosure”. As the BEED legislation was established with the stated objective of improving the energy efficiency of commercial office buildings, BEECs require the NABERS energy efficiency star rating only and do not consider the NABERS greenhouse gas performance star rating.

### **Co/trigeneration**

Cogeneration plants in commercial buildings produce electricity from gas and use the waste heat to heat the building. Trigeneration plants can use the waste heat to cool the building as well. Co/trigeneration plants can be beneficial for the environment because they use energy more efficiently (both by utilising waste heat and by minimising the transmission losses associated with grid energy), and because they use gas. Gas has lower greenhouse gas emissions than the fuel mixture used by grid electricity (which uses coal, gas and renewables).

Co/trigeneration plants can be installed onsite to directly supply a building and/or adjacent buildings with low emissions electricity and thermal energy, or offsite to supply this energy to the electricity grid and a thermal energy distribution network. As NABERS rates the environmental performance of buildings, the location of a co/trigeneration plant is central to the way the energy from these plants is treated. NABERS Energy rules on co/trigeneration systems (and renewable energy systems) are determined by whether the plant is located onsite and the energy is used directly, or whether it is located offsite and the energy generated is being purchased through the electricity grid.

### **Onsite systems**

Co/trigeneration systems that are located onsite and directly supply the building with electricity and thermal energy reduce that building's use of grid electricity and gas. As this makes a building more energy efficient and reduces its emissions, the installation and efficient use of onsite co/trigeneration systems will improve a building's energy efficiency star rating and its greenhouse gas performance star rating. At the moment, this is calculated according to the Interim Methodology

### **Grid transfers**

The purchase of low emissions electricity from offsite co/trigeneration systems through the grid can help a building to offset its greenhouse gas emissions. But, as is the case with GreenPower, it will have no impact on how much energy a building actually uses. For this reason, the purchase of co/trigeneration electricity through the grid will not impact a building's energy efficiency star rating, but should help to improve its greenhouse gas performance star rating.

### **The Cogeneration Allocation Protocol**

NABERS recognises that using co/trigeneration plants to generate and export low-emissions electricity to the grid is a commendable initiative and a valid way for buildings to offset their greenhouse emissions. However unlike GreenPower, there is currently no accreditation standard for electricity generated by co/trigeneration plants that is sold through the power grid. Without this protocol there is no clear and reliable way to recognise the greenhouse benefits of co/trigeneration electricity sold over the grid.

This is why NABERS is supporting an industry-led working group that has been established to develop a standard accreditation protocol for low emissions electricity from co/trigeneration systems (the Cogeneration Allocation Protocol). If an acceptable standard has been created by 25 October 2014, the NABERS program will use it to recognise the greenhouse benefit of purchased low emission electricity in NABERS Energy with Greenpower ratings. NABERS will also use this standard to allocate emissions to electricity and thermal energy from onsite co/trigeneration systems for NABERS Energy ratings and replace the current *Interim Methodology for the treatment of Cogeneration and Trigeneration Systems*.

This industry-led working group will consider factors such as how to calculate transmission and distribution losses, what is the efficiency of the generation systems, how to allocate emissions to power and thermal output streams, what records are required to be kept, how transfers will be audited and how they will be communicated.

Whilst the standard is being developed, the greenhouse emissions associated with low emissions electricity and thermal energy generated on-site will be continue to be calculated using the *Interim Methodology for the treatment of Cogeneration and Trigeneration Systems*, which was released on 19 June 2013, and is publicly available on the NABERS website.