REDUCING THE ENERGY CONSUMPTION OF DATA CENTRES

NABERS

The last decade has seen a rise in online connectivity that has revolutionised our business and social lives. Thanks to advances in computing and mobile technology we can now use our smart phones, laptops or tablets to communicate, work, shop, bank or be entertained almost anywhere at any time.

There is no sign of this growth slowing any time soon, in fact it is estimated that due to a combination of new users connecting, users demanding more and higher quality data and an increase in mobile activity, internet traffic in Australia will grow 36% per year. This could mean that in 2016 internet usage will be nearly five times that of 2011.[1]

As the flow of traffic increases, so will our need for data centres in which to store and process data and energy to power them. In 2006-07 alone, Australian data centres (which house IT equipment such as servers) were responsible for 2-3 billion kWh of electricity or 1.5% of Australia's total annual energy consumption.[2]

While reliability and speed of access to data will remain the major concern for those involved with data centres, energy efficiency and ICT sustainability are an increasing priority. In an environment of rising energy prices, the vast majority of organisations are formulating strategies to keep their IT energy costs down and ensure they are behaving in a socially responsible way. Those that don't will face mounting challenges in remaining competitive.

What is NABERS Energy for data centres?

NABERS Energy for data centres is a set of benchmarking tools for measuring the energy efficiency and environmental impact of a data centre. A rating essentially condenses a large amount of information about a data centre's energy efficiency and emissions intensity into an easy to understand star rating from one to six, where one is very poor performance and six is market leading.

A NABERS Energy rating allows you to compare the performance of different data centres in a way which is simple, accurate and fair. It achieves this by customising the benchmark for each data centre to account for the services it provides without penalising the data centre or IT equipment owners for factors outside of their control.

The NABERS Energy for data centres rating tools were developed over a 3 year period involving extensive consultation with Australian data centre operators, managers, IT specialists, energy efficiency consultants and state and federal Government agencies. The NSW Government also worked closely with the USA Environmental Protection Authority and the international Green Grid, a consortium of IT related companies researching performance based metrics for data centres.

[1] Cisco Visual Networking Index (VNI) White Paper - May 30 2012
[2] Johnson, P. & Marker, T. of Pitt and Sherry (2009) *Data Centre Energy Efficiency Product Profile*, prepared for Equipment Energy Efficiency Committee).

Why rate your data centre with NABERS?

For anyone in ICT working with or within an organisation that has a sustainability strategy, achieving and reporting on energy efficiency will be critical for retaining customers and meeting sustainability Key Performance Indicators (KPIs).

NABERS Energy ratings serve as a common language with which to coordinate team efforts, set goals, evaluate performance and market achievements. They are the foundation upon which successful energy efficiency strategies are built.

A NABERS Energy for data centres rating provides a common language for all stakeholders to understand the efficiency of the data centre

Which type of rating do you need?

The NABERS Energy for data centres (IT Equipment) rating is for organisations who own or manage their IT equipment (including servers, storage devices, network equipment), who have no control over the data centre support services such as air conditioning, lighting and security, or only wish to measure their IT equipment. It benchmarks the greenhouse gas emissions associated with the energy consumed by the IT equipment and allows organisations to determine their equipment efficiency by comparing energy consumption with the capacity to compute and store data – the productive output. The less energy consumed for a given level of capacity, the more efficient the data centre and the higher the NABERS star rating awarded.

The NABERS Energy for data centres (Infrastructure) rating is for data centre owners and managers. It allows them to determine their facility's energy efficiency in supplying the infrastructure services to the IT equipment housed in the data centre. This rating is suitable for co-location centres where the operators do not have control of any tenant IT equipment but provide the cooling and power delivery systems. It uses the widely accepted industry Power Usage Effectiveness (PUE) ratio as a basis, which is converted into an emissions based rating.

The NABERS Energy for data centres (Whole facility) rating combines both the IT Equipment and Infrastructure tools and is designed for organisations that both manage and occupy their data centre or where internal metering arrangements do not permit a separate IT Equipment or Infrastructure rating.

Further Information

For more detailed information, please see the Rating your Data Centres Energy Guide on the NABERS website **www.nabers.gov.au**

Or if you have any questions regarding the NABERS Energy for data centres rating tools, you can contact us by:
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