

CBD First Year of Mandatory Disclosure - Statistical Overview






**1 November 2011
to
1 November 2012**

Introduction:

Commercial Building Disclosure program – “Building a better-informed office market”

Commercial Building Disclosure (CBD) is a national program to improve the energy efficiency of Australia’s largest office buildings and is delivered by the Australian Government. The aim of the CBD program is to:

-  Provide clear and credible energy efficiency information to prospective buyers and lessees of large commercial office space;
-  Encourage building owners/lessors to improve energy efficiency in their office building stock;
-  Promote energy efficiency in commercial buildings.

Obtaining a Building Energy Efficiency Certificate (BEEC) is a key part of disclosure obligations, which in most cases are triggered when building owners and/ or tenants offer office space (over 2000 square metres) for sale, lease or sublease.

A BEEC is comprised of three parts:

- **Part 1** - [National Australian Built Environment Rating System \(NABERS\)](#) Energy for offices rating for the building
- **Part 2** - CBD [Tenancy Lighting Assessment \(TLA\)](#)
- **Part 3** - General energy efficiency guidance.

CBD statistical overview for the first year of full disclosure



This overview presents key indicators collected for the first year following the commencement of full disclosure requirements on 1 November 2011 under the CBD Program.

Further information on the CBD Program can be found at:
www.cbd.gov.au

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Buildings & BEECs

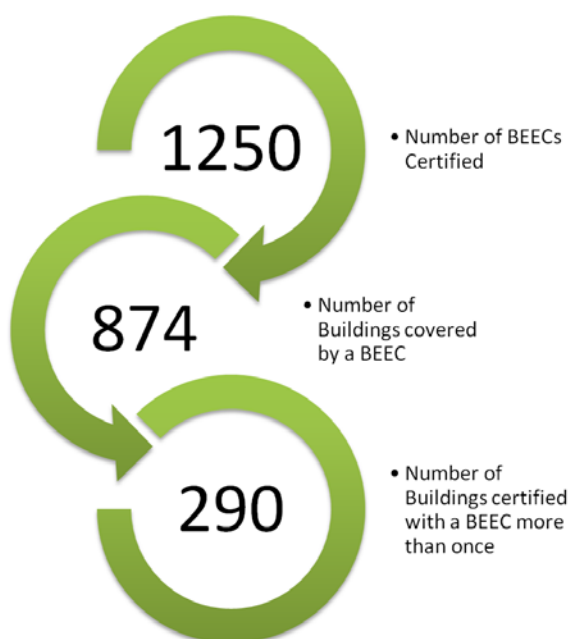
In the first year of full mandatory disclosure from 1 November 2011 to 1 November 2012 the Commercial Building Disclosure (CBD) Program issued 1250 BEECs (Building Energy Efficiency Certificates).

Most building owners and tenants acquire a BEEC for the period of sale, lease and/or sublease negotiations and prefer not to re-new after negotiations have been finalised.

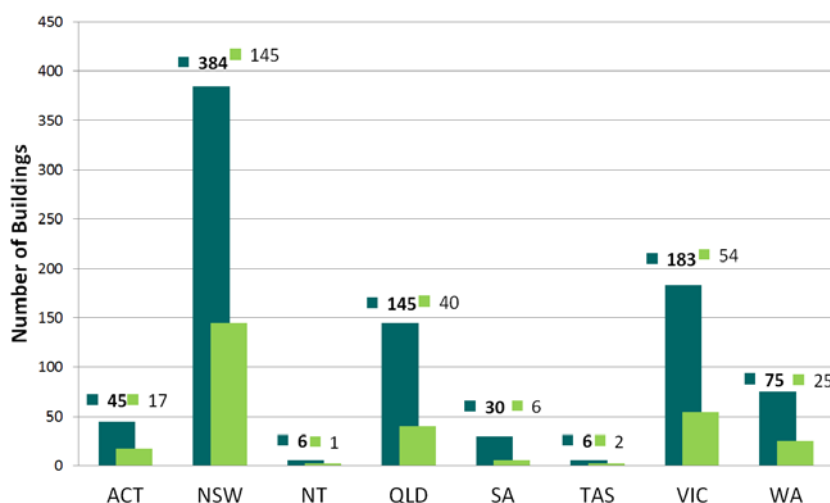
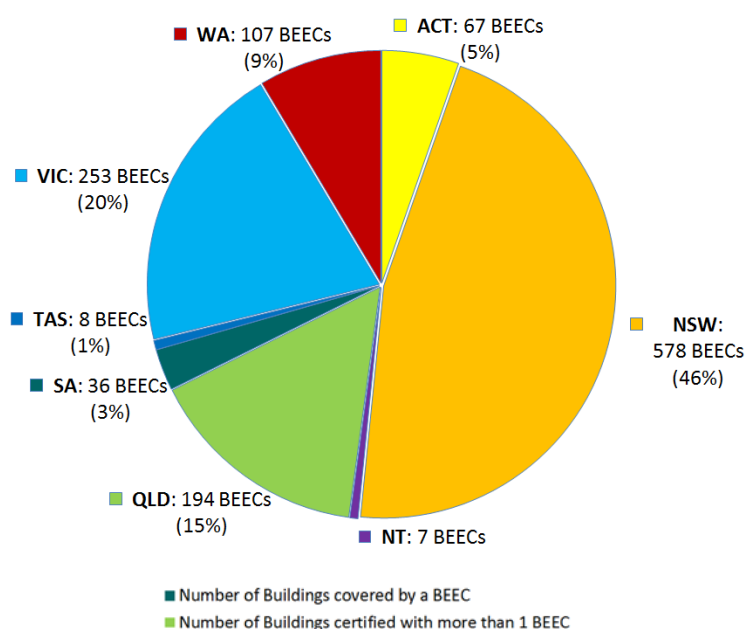
However, there is a growing portion in the market that keep BEECs in place without lapse. This is referred to as a "rolling BEEC". Some owners say that a rolling BEEC provides them with greater flexibility and are choosing to measure the level of sustainability amongst their building portfolios.

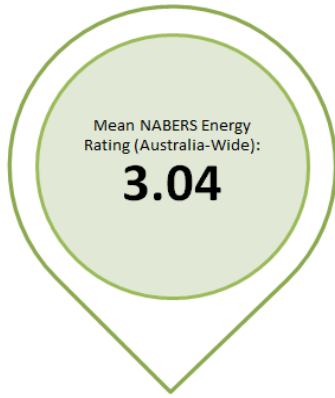
New South Wales (NSW) represented the largest number of BEECs certified at 578 in total, accounting for 46% of all applications. Following is Victoria on 253 and Queensland on 194 BEECs certified.

Of the 874 Buildings covered by BEECs, 290 were certified more than once.



Number of BEECs Certified per State





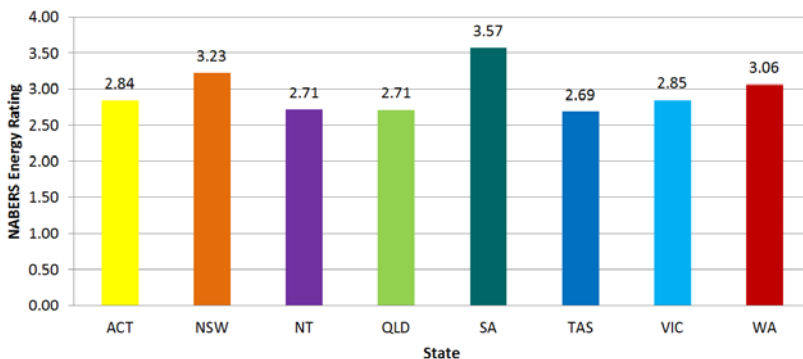
NABERS Energy Ratings & NLA

Across all 1250 BEECs issued under the CBD program in the first year of full disclosure the mean National Australian Built Environment Rating System (NABERS) energy rating was 3.04* stars (3 stars rounded).

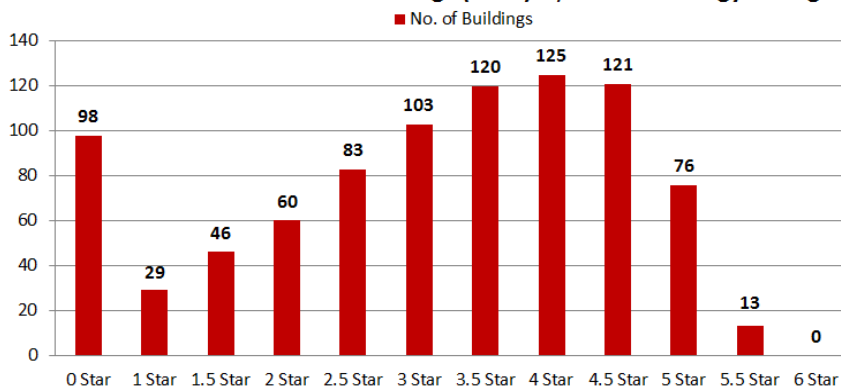
For the 874 buildings issued with BEECs, their NABERS ratings were distributed in a curve with the greatest number at 4 stars, with 98 buildings having a zero star rating.

When the NABERS rating is graphed against Net-Lettable-Area (NLA) of the buildings, the shape of the curve shifts and the largest bar in the graph is now for buildings with 4.5 stars. This is due to larger buildings generally having higher NABERS ratings. The total rated area (NABERS NLA) of the 874 buildings was 11.1 million m².

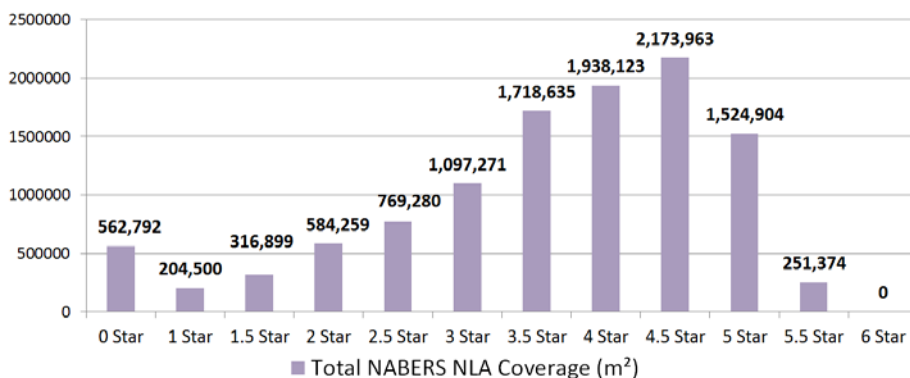
Mean NABERS Energy Rating (per State)



Number of Certified Buildings (BEEC) by NABERS Energy Rating



Total NABERS NLA Coverage (m²) by NABERS Energy Star Rating



*all NABERS ratings recorded under CBD exclude green power



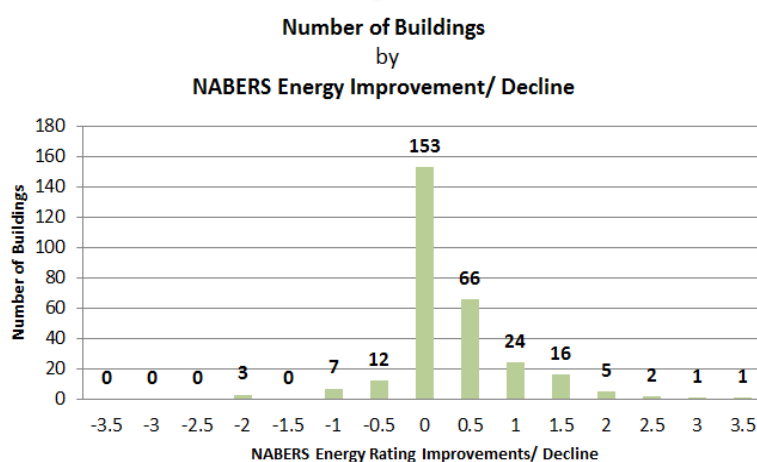
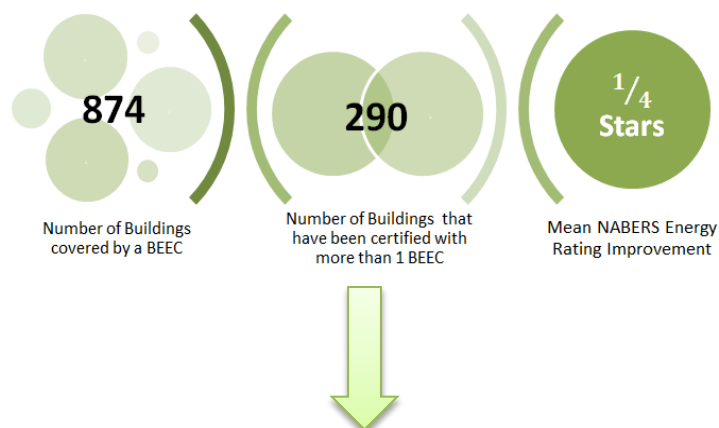
NABERS Energy Rating Improvements under CBD

Improvements in energy efficiency ratings between BEECs

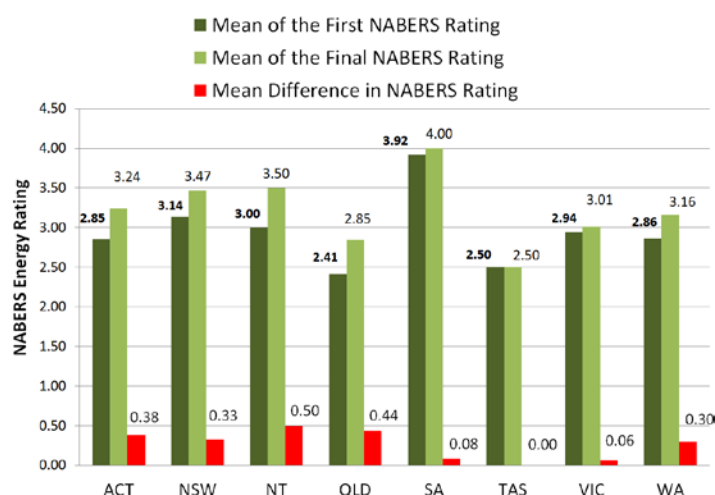
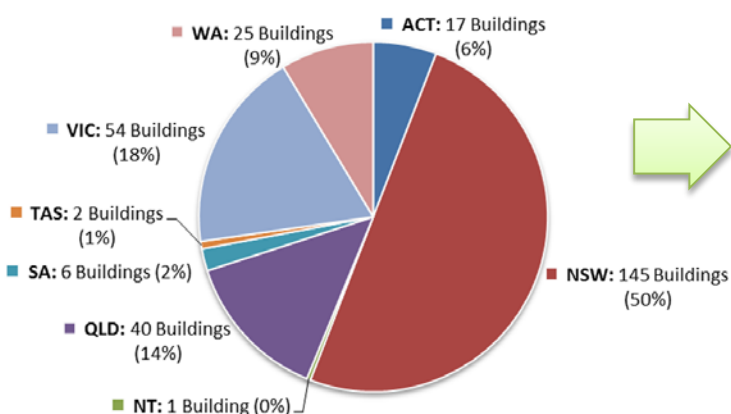
Under the CBD program a number of buildings have been rated more than once and some have recorded an increase in their NABERS rating.

There were 290 buildings issued with more than one BEEC. This accounts for 33% of all buildings recorded under CBD within the first year applying for multiple BEECs.

Across the 290 buildings, all states showed an improvement in their mean NABERS energy rating from their first application to the most recent. The overall mean improvement was $\frac{1}{4}$ of a star (excluding green power) with more buildings seeing an improvement in NABERS rating rather than a decline. Approximately 40% showed improvement in their NABERS rating, 53% recorded no change and 7% reported a decline.



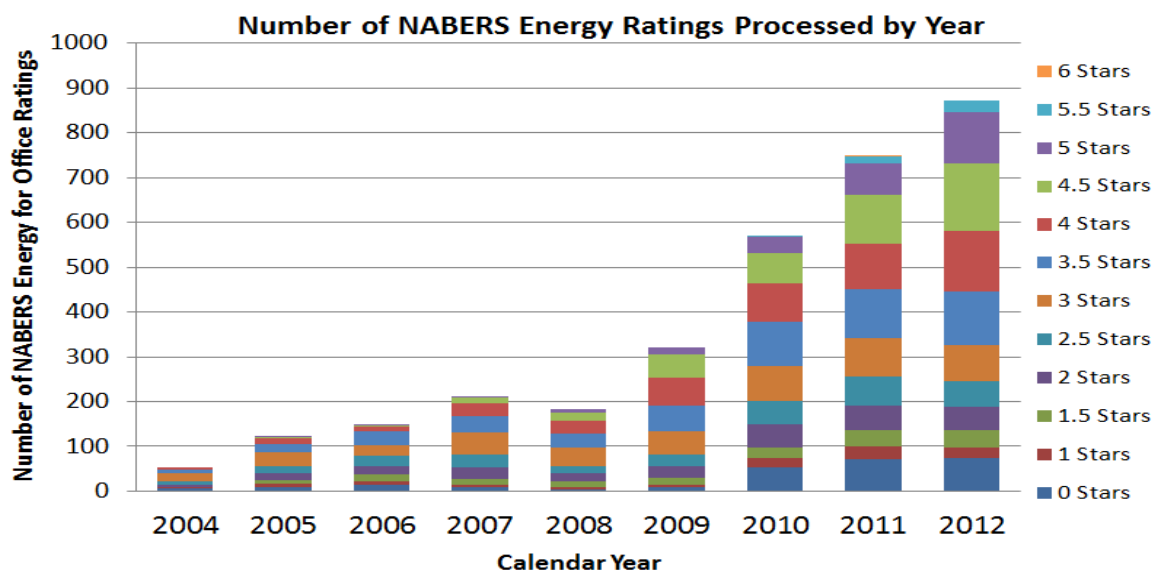
Number of Buildings that have been certified with more than 1 BEEC



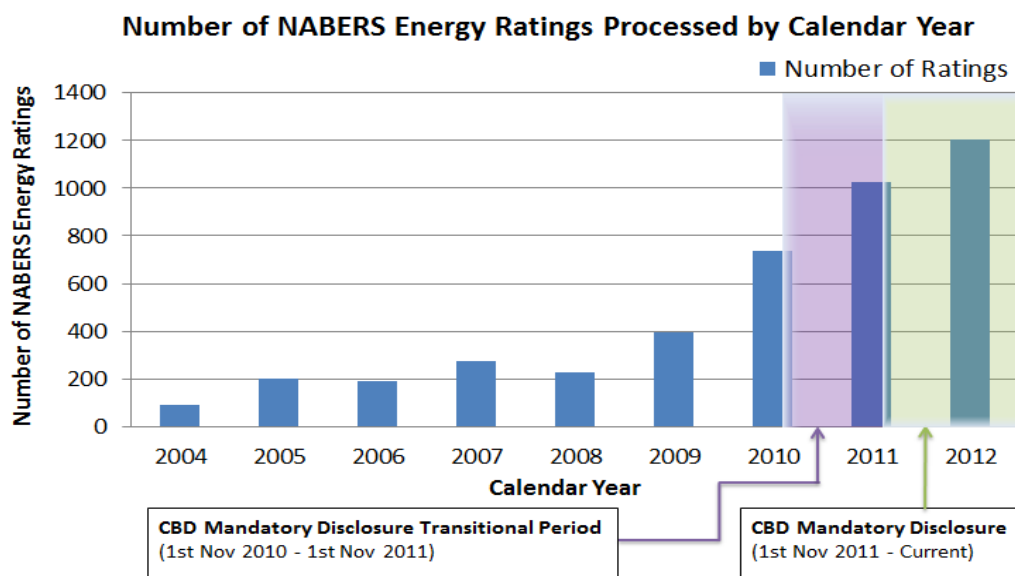
NABERS Energy Rating Improvements prior to CBD

NABERS Energy for Offices rates the energy efficiency of commercial buildings by comparing them against a set of benchmarks developed using actual building performance data.

NABERS rates building performance on a scale of 0 to 6 stars. A 6-star rating is awarded for market leading performance, and represents a 50% reduction in greenhouse gas emissions or water use from a 5-star building. A 0-star building means the building is performing well below the average and has considerable scope for improvement.



The number and proportion of high performing buildings (4 stars and above) continues to grow, representing nearly 50% of ratings in 2012.



The number of NABERS ratings has grown significantly since the BEED Act was introduced in 2010.

CBD acknowledge the NSW Office of Environment & Heritage (NSW OEH) for their contributions and use of NABERS data. NABERS ratings were extended from 5 to 6 stars in August 2011 to represent best practice environmental performance. All graphical interpretations of NABERS data include both 'whole' and 'base' building ratings unless otherwise specified. Should you require further information, please contact NSW OEH <http://www.environment.nsw.gov.au/>.



Net Lettable Area (NLA) and Annual Energy Consumption

How many square metres of assessed office space are there under CBD? – In the first year of full disclosure, 874 buildings were issued with a BEEC. The total rated area (NABERS net-lettable-area) of the 874 buildings was 11.1 million m², while the total assessed area by CBD assessors for tenancy lighting assessments (TLA net-lettable-area) came to 10.5 million m².

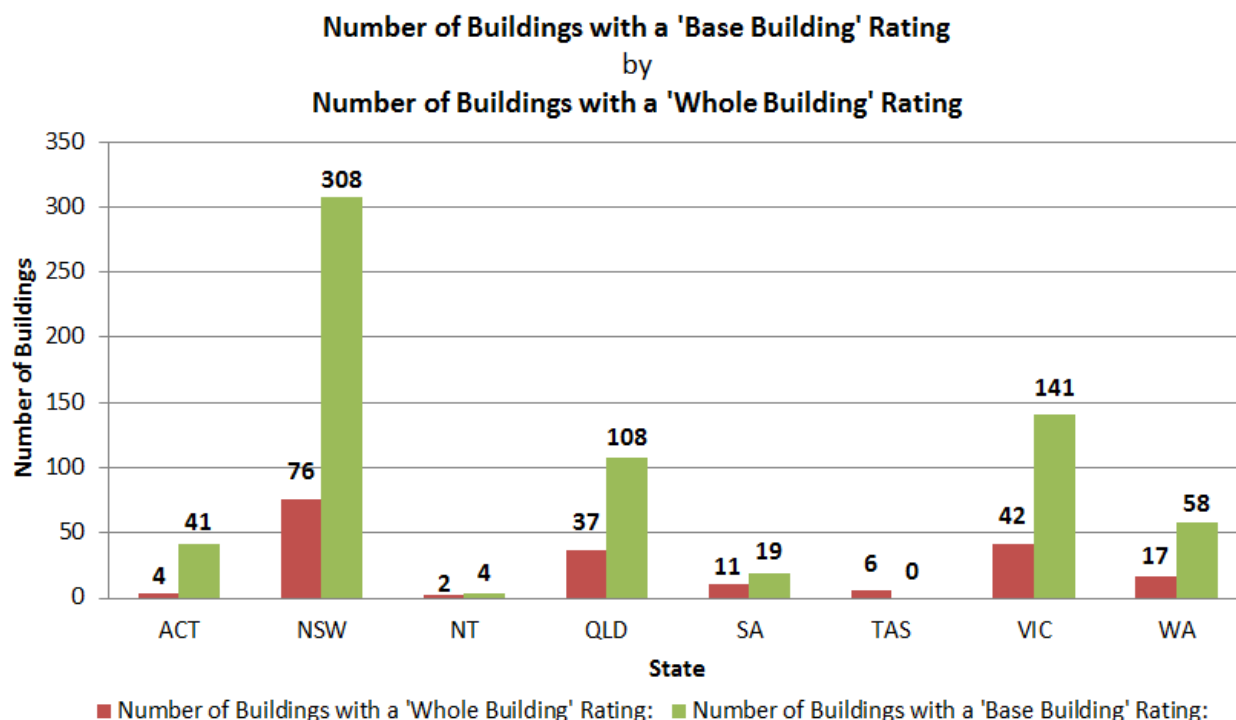
'Base' and 'Whole' Building Rating – The star rating communicated on a BEEC is a NABERS Energy Rating, either a base building rating or a whole building rating:

- A base building rating covers the performance of the building's central services and common areas, which are usually managed by the owner
- A whole building rating also covers the tenanted space. Whole building ratings are only disclosed when there is inadequate metering to obtain a base building rating.



Number of Buildings covered by BEECs:	874	
Rated/ Assessed NLA (net-lettable-area) m ²	Total rated area (NABERS NLA): 11.1 million m²	Total assessed area (TLA NLA): 10.5 million m²
NABERS NLA m ²	'Base Building' NABERS NLA: 9.9 million m²	'Whole Building' NABERS NLA: 1.2 million m²
Annual 'Base' and 'Whole' Buildings Energy Consumption MJ per year	Annual 'Base Building' energy consumption: 5 Billion MJ	Annual 'Whole Building' energy consumption: 1.4 Billion MJ
Annual Energy Intensity (MJ per m ²)	Annual 'Base Building' energy intensity: 593 MJ per m²	Annual 'Whole Building' energy intensity: 1,188 MJ per m²
Annual Emissions (kg CO ₂ -e/Year)	Annual 'Base Building' Emissions: 1.1 Billion kg CO₂-e/Year	Annual 'Whole Building' Emissions: 345 Million kg CO₂-e/Year



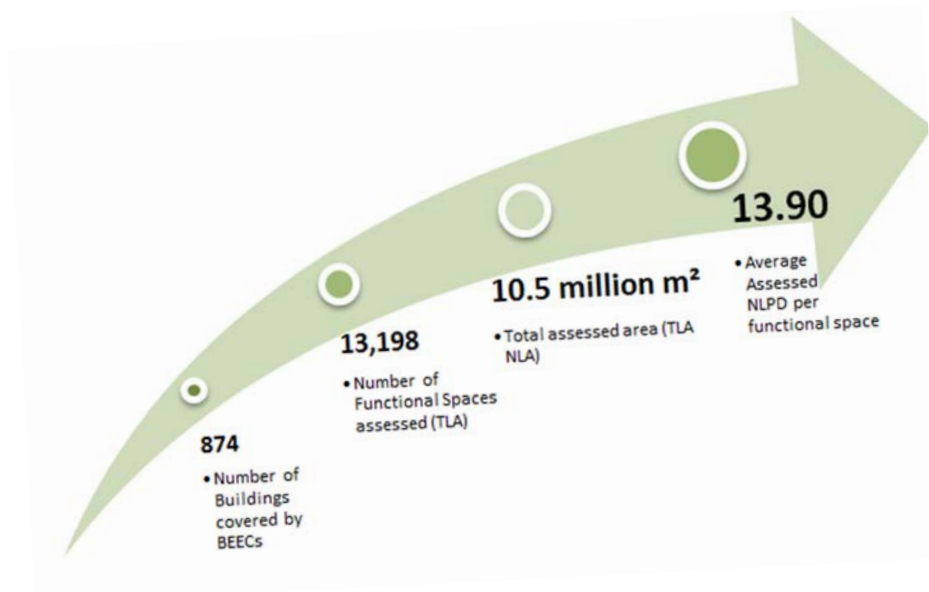


How much energy consumption does this represent? – The total annual energy consumption of these 874 buildings represents 6.4 billion MJ (Mega-Joules).

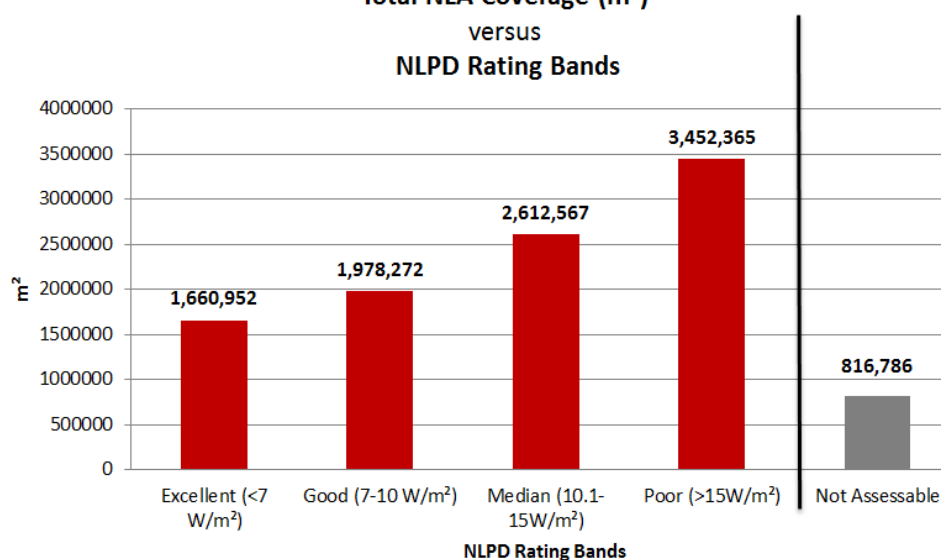
This is made up of 5 billion MJ recorded in 'Base Building' ratings and 1.4 billion MJ from 'Whole Building' ratings.

In the first year of full disclosure 'Base Building' ratings recorded an average annual energy intensity of 593 MJ per m², while 'Whole Building' ratings represented an average annual energy intensity of 1,188 MJ per m².





**Total NLA Coverage (m²)
versus
NLPD Rating Bands**



NLPD (Nominal Lighting Power Density)

The Tenancy Lighting Assessment (TLA) assesses the lighting of a functional space. This efficiency measure is recorded as NLPD. NLPD in itself is a measure of watts per square metre (W/m²) of energy which would be used for full operation of the installed lighting layout.

This is shown as four categories and when plotted against the Net Lettable Area (NLA) the largest category is 'Poor' which has an NLPD greater than 15W/m², representing approximately 30% of assessable lighting areas by TLA NLA. A total of 13,198 functional spaces were assessed for TLA purposes, equating to a total assessed area of 10.5 million m². 15.7 percent of the total TLA NLA had a recorded NLPD of less than 7W/m² thus falling into the 'excellent' category.

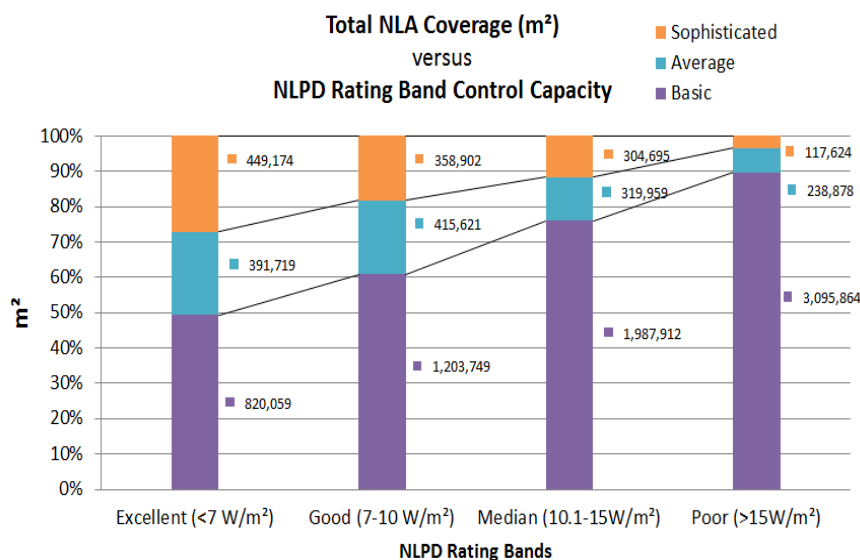
The first year of statistics point to larger functional spaces having a lower NLPD.



Lighting Control System

A Lighting Control System is a system that manages the operating time of a lighting installation in response to external inputs such as light switches, occupancy sensors, time clocks, light sensors etc. Lighting control systems operate to reduce the operating power by switching or dimming the lighting and therefore can have a significant impact on the overall performance of the lighting system. The assessment process is designed to identify and report on the **control capacity** of the lighting control system installed in each functional space.

In the first year of full disclosure, the majority (82%) of functional spaces have been assessed as having a 'basic' control capacity. There also appears to be a correlation between NLPD and control capacity where it was found that functional spaces having a 'Good' or 'Excellent' NLPD were more likely to have 'Average' or 'Sophisticated' control capacities, although over 50% were still 'Basic'.



Tenancy Lighting Control Capacity is reported as one of three categories:

Basic – Most of the lighting within the functional space relies on manual switching to turn lights on and off or where switching zones are very large.

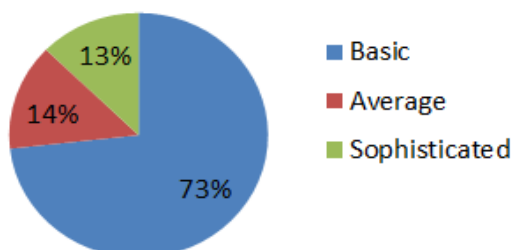
Average – At least 50% by area of the lighting within the functional space is managed by an occupancy based control system that ensures lights are turned off outside of normal working hours, rooms are individually controlled and general switching zones are less than 250m².

Sophisticated – At least 50% by area of the lighting within the functional space is managed by an occupancy based control system that ensures that lights only operate when the space is occupied, rooms are individually controlled and general switching zones are less than 100m².

While most (82%) assessed functional spaces had only basic control systems this proportion was lower when NLA was taken into account. This indicates that larger functional spaces to some extent have better lighting control systems than smaller spaces.

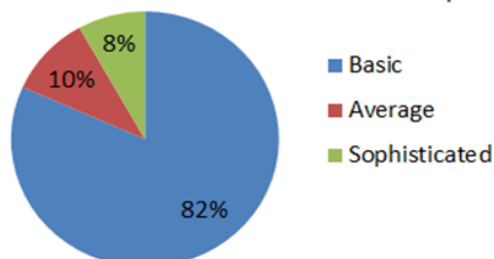
Total Tenancy Lighting Control Capacity Breakdown by NLA (m²)

Total TLA NLA: **10,520,943 m²**



Total Tenancy Lighting Control Capacity Breakdown for the first year of full disclosure

Total Number of Assessed Functional Spaces: **13,198**



CBD Accredited Assessors

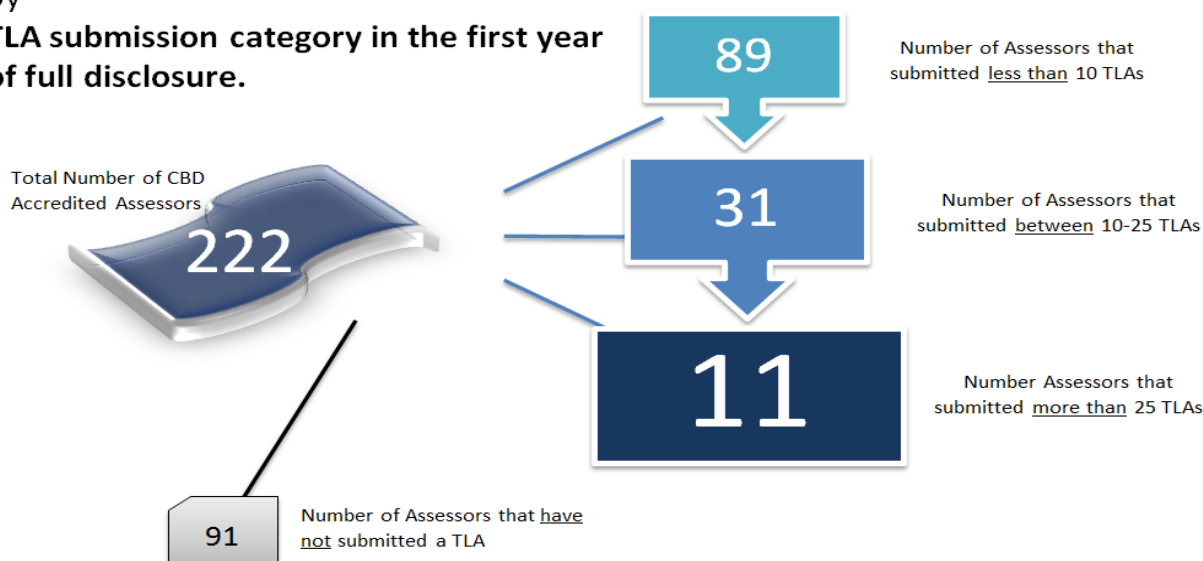
All CBD Accredited Assessors must have undertaken a Tenancy Lighting Assessment course and examination and must also be accredited NABERS Assessors.

In the first year of full disclosure there were 222 CBD Accredited Assessors. 131 (59%) of them were considered 'active', meaning they had submitted a BEEC and/or TLA; while 91 (41%) were inactive. A comparatively small group of 33 (15%) of CBD Accredited Assessors accounted for nearly 80% of submissions for both BEECs and TLAs.

Number of CBD Accredited Assessors

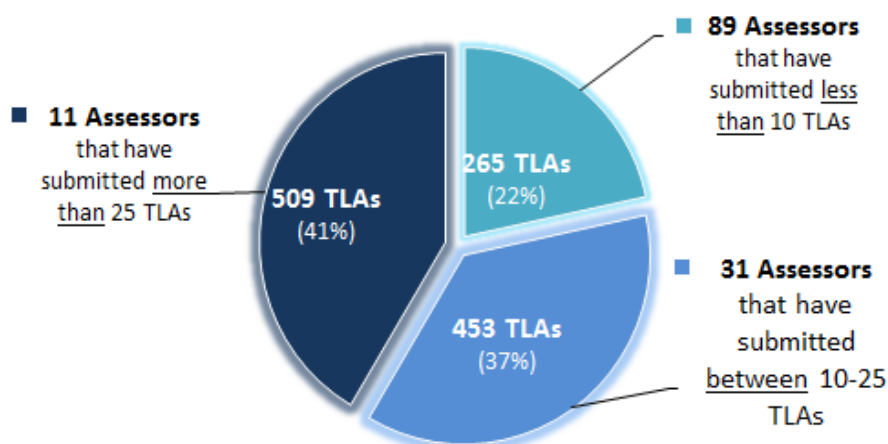
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TLA submission category in the first year of full disclosure.

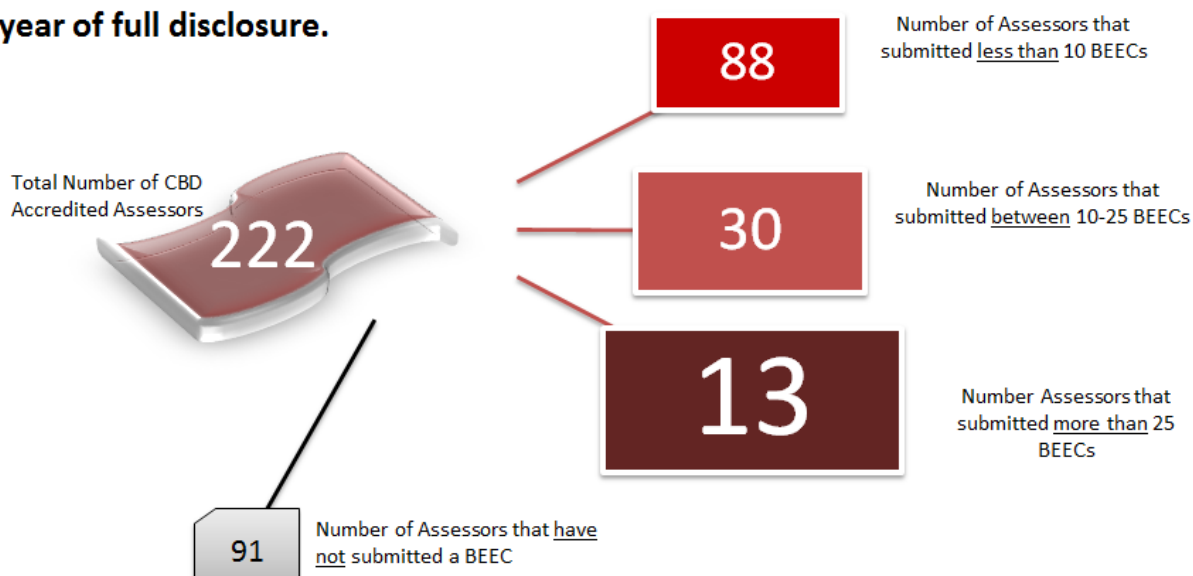


Distribution of TLA Submissions by Assessors in the first year of full disclosure

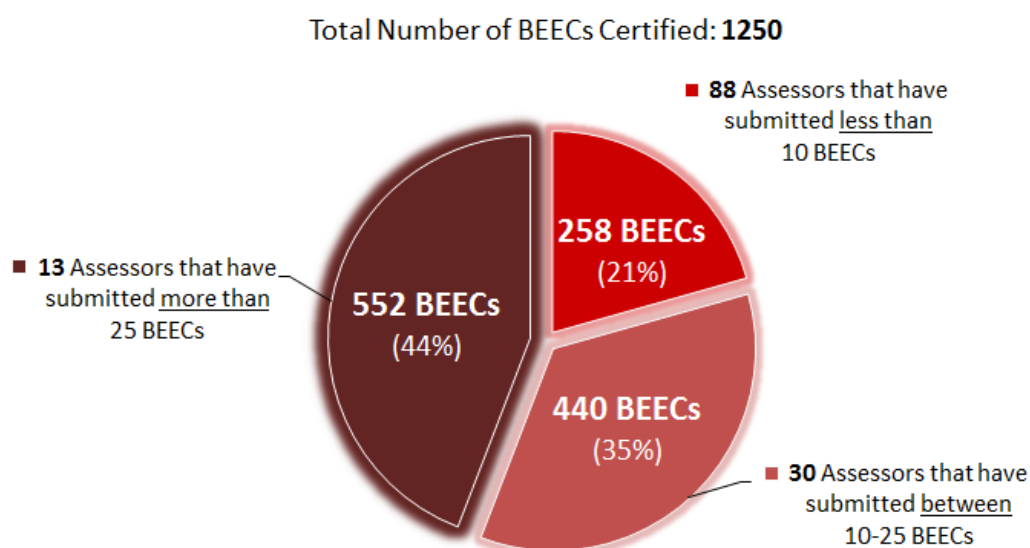
Total Number of TLAs Certified: 1227



Number of CBD Accredited Assessors by BEEC submission category in the first year of full disclosure.



Distribution of BEEC Submissions by Assessors in the first year of full disclosure



Technical Notes

Data Measurement Periods:

Number of BEECs Certified – this number was calculated on data ranging from 17/10/2011 to 1/11/2012, the reason for this was to capture the total number of BEECs that were intended to be valid at the beginning of CBD full disclosure requirements – 1/11/2011.

Number of Buildings Certified – this number was calculated by only counting the unique building entries in the total number of BEECs. This data period was from the 17/10/2011 to 1/11/2012.

Acronyms:

CBD Commercial Building Disclosure

BEEC Building Energy Efficiency Certificate

BEED Act Building Energy Efficiency Disclosure Act

DRET Department of Resources Energy and Tourism

NABERS National Australian Built Environment Rating System

NLPD Nominal Lighting Power Density

TLA Tenancy Lighting Assessment

Measurements:

The units used in this statistical overview are:

- Mega-Joules (MJ)
- Watts per square metre (W/m²)
- Squared metres (m²)

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