

# Commercial Buildings Team Update

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# What we'll cover

- Commercial Building Disclosure program changes
- Calculating Cool
- National Construction Code Section J 2019 Sneak Peek

# CBD Program Changes

1 July 2017: office buildings and spaces of 1,000 m<sup>2</sup> - 2,000 m<sup>2</sup> became disclosure-affected.

## What do these buildings look like?

Many are “mid-tier” buildings, ie PCA B, C, and D-Grade Buildings

Typically older (original) HVAC plant, simple systems, with limited controls

No dedicated onsite property management

Generally less engaged with energy efficiency than larger Premium or A-Grade buildings

Motivated by the need to minimise vacancy and to comply with government regulations

Source: Energy Efficiency Council building retrofit toolkit



# CBD Program Changes: What does it mean for you?

More NABERS ratings, Tenancy Lighting Assessments and Building Energy Efficiency Certificates

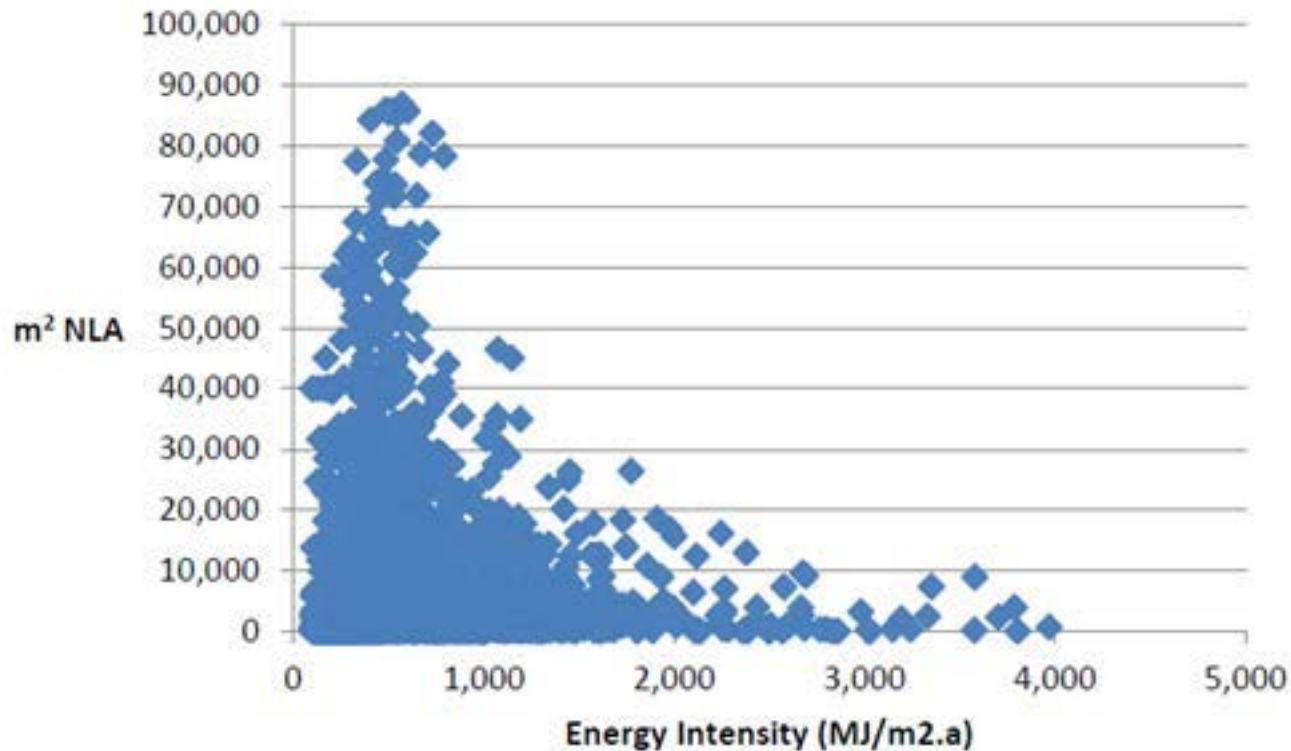
We've contacted owners of approx. 2,800 small buildings to inform them about their CBD obligations (135 in ACT)

Expect up to 400-500 additional BEECs/year.

Some owners, lessors estate agents still don't understand obligations, despite marketing efforts to date

# CBD Program Changes: What does it mean for you?

Energy upgrade projects – small buildings are energy intense:



Estimated savings of  
2,830 TJ and 550 kT  
CO<sub>2</sub>e  
over 5 years  
(1 TJ = 1,000,000 MJ)



# Calculating Cool: What is it?

HVAC system rating tool (not just chillers)

Targets class 5 buildings primarily, could be used for other classes

Qualitative assessment

- Design & commissioning

- Tuning, maintenance

- Documentation

- User satisfaction

Quantitative assessment

- 12 months sub-metered HVAC energy OR base building energy data OR simulation

# Calculating Cool: Outputs

QUANTITATIVE RATING: **BEST PRACTICE**

POOR	AVERAGE	GOOD	BEST PRACTICE	EXCELLENT
			✓	

This HVAC system performance is consistent within the range of performance considered BEST PRACTICE. It uses 24% more energy when compared to the threshold of EXCELLENT performance.

This result is based on HVAC system energy consumption estimated from 12 contiguous months of Base Building energy consumption data. It is recommended that dedicated sub-metering system to cover HVAC system energy consumption be installed to provide better quality data.



# Calculating Cool: Outputs

## ATTRIBUTE RATINGS

ATTRIBUTES	POOR	AVERAGE	GOOD	BEST PRACTICE	EXCELLENT	ATTRIBUTE SCORE
Commissioning		✓				50%
Maintenance		✓				50%
Tuning				✓		86%
Documentation			✓			75%
User Satisfaction	✓					0%
Design			✓			51%



# Calculating Cool: Outputs

OVERALL ATTRIBUTE RATING: **GOOD**

POOR	AVERAGE	GOOD	BEST PRACTICE	EXCELLENT
		✓		

The HVAC system has achieved an attribute score of 51% out of a potential 100%. This performance puts it in the "Good" category.

This performance can be improved by taking steps to score better in the ATTRIBUTE areas that rate in the "average" or "good" categories.



# Calculating Cool: How can you use it?

- As a communications tool with your clients: where are the issues and why do they matter?
- High-level initial assessment of HVAC system before you go onsite.
- To assist with the Energy Management commentary now required for AS3598:2014 (Energy Audits)
- As part of an M&V process to compare practice before and after

# Calculating Cool: Want to know more?

**Free** training sessions (with lunch!) coming up later this year – for yourself or interested clients, such as facilities managers



# National Construction Code Section J 2019: Sneak peek

Major review to simplify and improve Section J (energy efficiency)

Technical work by Energy Action underway since late 2016

Proposed stringencies set based on benefit-cost analysis

Consultation with industry bodies has already started

Formal consultation by Australian Building Codes Board in early 2018

# What changes are being considered? (Note: Still at draft stage!)

- 1. Facades: Walls and windows assessed holistically**  
U-value and Solar Heat Gain Coefficient criteria  
Expect more shading, higher quality glazing (or lower WWRs)
- 2. Fans and pumps: use component efficiency benchmarks**  
Can trade off individual component efficiencies  
No more free kicks based on system type/configuration/scale



# What changes are being considered?

## 3. **New performance pathways**

NABERS and Green Star proposed to be recognised as verification methods

JV3 revised to require higher quality inputs and processes

Comfort is now considered

## 4. **Lighting:** Tighter power density targets based on LED technology

## 5. **Water heaters (Boilers):** New targets based on condensing boilers

# What changes are being considered?

- 4. Chillers and package units:** More stringent targets reflecting technical advances—up to 35% better than current levels.
- 5. Lifts:** Now have energy efficiency requirements based on use. Also moving walkways, escalators to slow when not in use.
- 6. Thermal bridging:** Formalise the existing requirement to address bridging when assessing roofs, facades and floors