NABERS:
Lessons from 12 years of performance-based ratings in Australia

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Overview

- Performance based ratings
- NABERS history
- NABERS structure
- Market impacts
- Lessons learnt
- Conclusions
Performance based ratings

- Rating schemes are about communication
- Design-based ratings
  - LEED
  - BREEAM
  - Green Star
- Performance-based ratings
  - Energy Star
  - NABERS
FAQ for performance ratings

- Measurement based on actual operational performance
  - Energy bills, hours, location -> rating
- Measure not just design effectiveness but also commissioning, operation/operability, and maintenance/maintainability
- Not directly rating design, just outcomes
- Good design ratings don’t always correlate with good performance ratings – and vice versa
NABERS development history

- 1998 – NSW Government calls for tenders on development of a building rating scheme
- 1999 – Australian Building Greenhouse Rating scheme developed in response
- 2000 – significant modifications made for extension to Victoria, copied back to whole scheme
- 2000-2006 – Further adaptations for Western Australia, Queensland and Northern Territory
NABERS development history

- 2006 – NABERS Water released
- 2008 – NABERS Energy and Water for Hotels Released
- 2009 – NABERS Energy and Water for Shopping Centres released
- 2009 – ABGR becomes NABERS Energy for Offices
- 2010 – NABERS becomes mandatory for sale or lease of offices above 2000m²
- 2011 – NABERS scale extended to 6 stars
  - Needed to cope with leading edge buildings
Common to all NABERS ratings

- Based on operational performance derived from energy or water bills
- Correction made for unavoidable external factors (hours, climate, and sometimes equipment density)
- Scale 1-6 stars with half stars; 1 star poor, 2.5-3 stars average, 5 stars best practice, 6 stars 50% of 5 stars
- Energy ratings calculated using greenhouse weightings on fuels
- Accreditation and quality assurance requirements
NABERS Energy for Offices

- The longest established and most popular rating
- Three rating types
  - **Base building**: HVAC, common area lighting, lifts, car parks
  - **Tenancy**: tenant light and power and supplementary HVAC
  - **Whole building**: base building + tenancy
- Base building rating corrects for climate and hours
- Tenancy rating corrects for hours and equipment density
- Whole building rating corrects for hours, climate and equipment density
NABERS Water for Offices

- Essentially NABERS Energy with water bills
- Only on whole building basis
- Adjustments for climate and hours
- Strong empirical climate correction to median consumption
  - Melbourne – 0.7kl/m²
  - Sydney – 1.1kl/m²
  - Brisbane – 1.56kl/m²
  
  .......due to cooling towers
Market impacts - adoption

- 66% of floor area NABERS Energy rated
- 41% of floor area NABERS Water rated
Voluntary adoption drivers

- Base building/tenant split
  - Rating types enable tenants to rate independent of owners and vice versa
  - Enables base building rating to be a procurement requirement or advertised feature
- Government procurement policy for leases and new buildings
  - Set at 4.5 stars almost uniformly
  - Drives base building efficiency
Voluntary adoption drivers

- Corporate sustainability reporting
  - Drives improvement to attract investors
- Lettability, rental and valuations
  - Linkages to tenant procurement are increasing rentals and lettability for high rated buildings
  - ....which in turn improves valuations
Scale of impacts

- **Investa**
  - Average rating increased from 2.3 to 3.99 from 2003-2011
  - 43% reduction in portfolio emissions

- **Colonial First State**
  - Average rating increased from 2.6 to 4.1 from 2005-2011

- **GPT**
  - Average rating increased from 2.7 to 4.6 from 2006-2011
Scale of impacts (base building)

In 1999 there were:
- Few 4 star buildings
- Essentially no rating above 4.5 stars

In 2012 there were:
- 856 current ratings
- 10% were 5 stars
- 2.5% were 5.5 stars
- Achieving 5 stars with mid-grade refurbishment of existing buildings becoming common
Lessons learnt

- Performance ratings can drive real market change
  - Base building/tenant split important for this
- Savings of >40% regularly achieved in conventional buildings
- 5.5 stars achievable with good but not necessarily bleeding edge technology
- Government is an important stakeholder as a market participant
- Base building ratings much easier to drive than tenancy
- A great deal can be achieved with a voluntary rating
- General fairness is more important than absolute accuracy
Lessons learnt

- Mandatory application is a mixed blessing
  - Rate of adoption – good
  - Politics of scheme management - bad
- No market driver = limited impacts
  - E.g. Tenancy ratings need additional program support
- Temperate climates offer substantial control/tuning opportunities
- Management across multiple jurisdictions can be challenging
Forward actions

- NABERS Energy for Offices needs an update
  - Benchmarks, methodology out of date
- Potential to create a “Multi tool” to rate combined building types as a single entity
- NABERS Data Centres to be released in 2012
- NABERS being adapted for use in New Zealand
Conclusions

- A well targeted, well formulated rating can drive major market change
  - Base building/tenant split particularly helpful
- NABERS Energy for Offices has driven major portfolios to reduce emissions by 40%
- NABERS performance now accepted part of renting and valuation matrix for upper grade tenants and buildings
- Voluntary operation helpful to permit flexibility and adaptation in scheme design
Questions?

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