



Sustainability in the ACT

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Agenda

- **DESIGN**
 - National Construction Code – Section J
- **POLICY**
 - ACT towards 100% renewable energy
- **POST-CONSTRUCTION/REFURBISHMENT**
 - Lessons learnt



Section J Revisions

- Prescriptive Code to Performance Code.
- Increased role of NABERS & Green Star.
- Why is this a good thing and what does it mean for buildings in the ACT?
 - In theory, new office buildings in ACT complying with DTS will be at least 5.5 stars base building NABERS Energy
 - Hopefully, greater compliance verification & greater focus on operational aspect.



Section J Revisions

- Mechanical Plant
 - Significant changes to fan systems – Pa/m focus
 - Major changes to pumping systems – Pa/m focus
 - Updates to chiller & boiler minimum efficiencies
- Lighting
 - LED lighting & reduced lighting power densities
- Vertical Transport
 - Minimum energy efficiency requirements and the use of ISO 25745-2



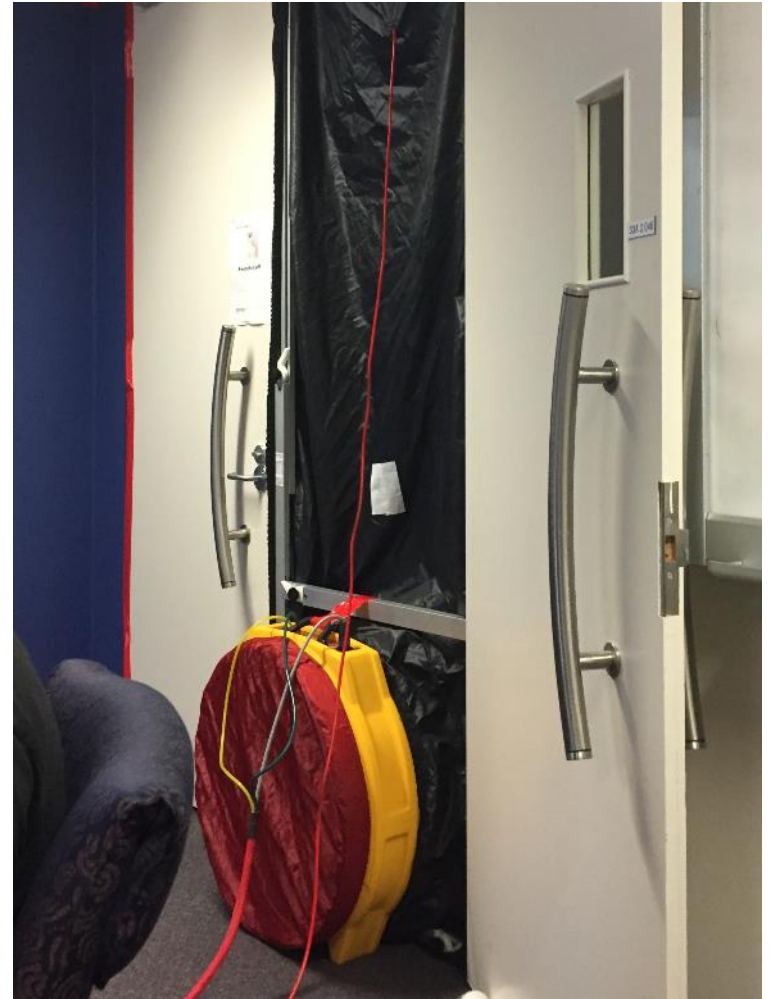
Section J Revisions

- Glazing
 - Simplified Approach: $U\text{-total}$ vs. $SHGC * WWR$
 - Existing ACT building stock mostly single glazed and non-thermally broken aluminium frames.
- Insulation
 - No change to insulation requirements



Section J Revisions

- Building sealing
 - Climate zone that is heating dominated will see benefits
 - Cooling load increased 30%, heating load reduced approx 45% from 0.1 ACH towards 0.5 ACH
 - Buildings with electric reheats will see greater benefits
 - More air leakage testing

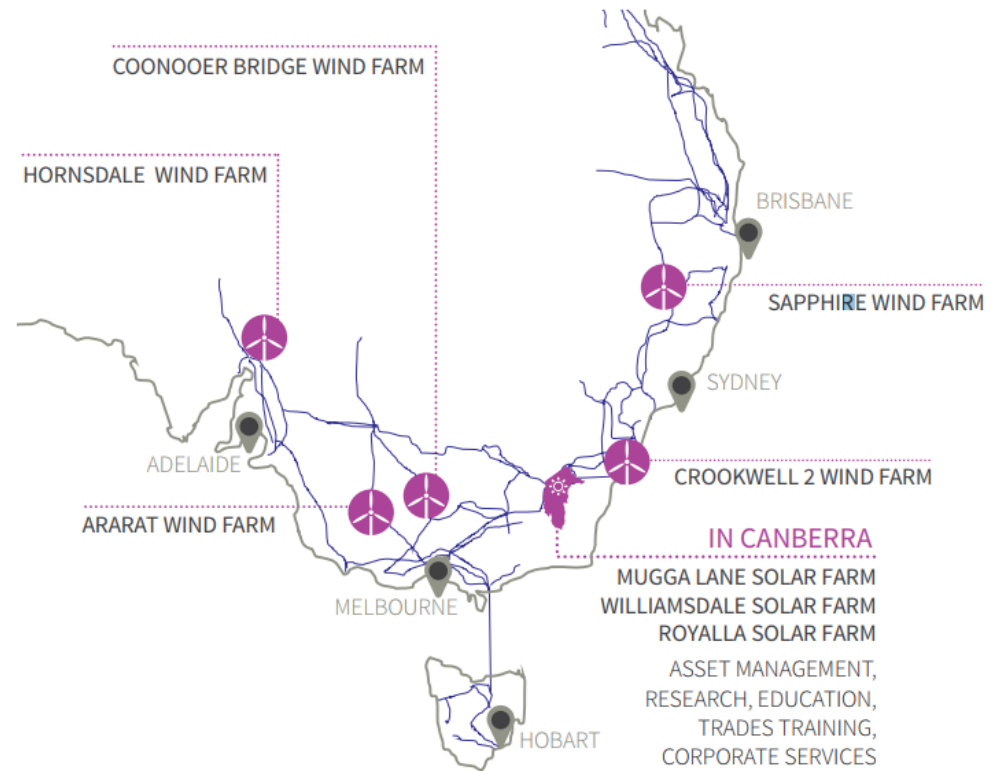




ACT & Renewable Energy

- Carbon abatement through wind & solar
- Impact on Heating Mechanisms and Energy Sources
- NABERS Impact

LOCATION OF CANBERRA'S WIND AND SOLAR FARMS WITHIN THE NATIONAL ELECTRICITY MARKET



Source:

http://www.environment.act.gov.au/data/assets/pdf_file/0007/987991/100-Renewal-Energy-Tri-fold-ACCESS.pdf



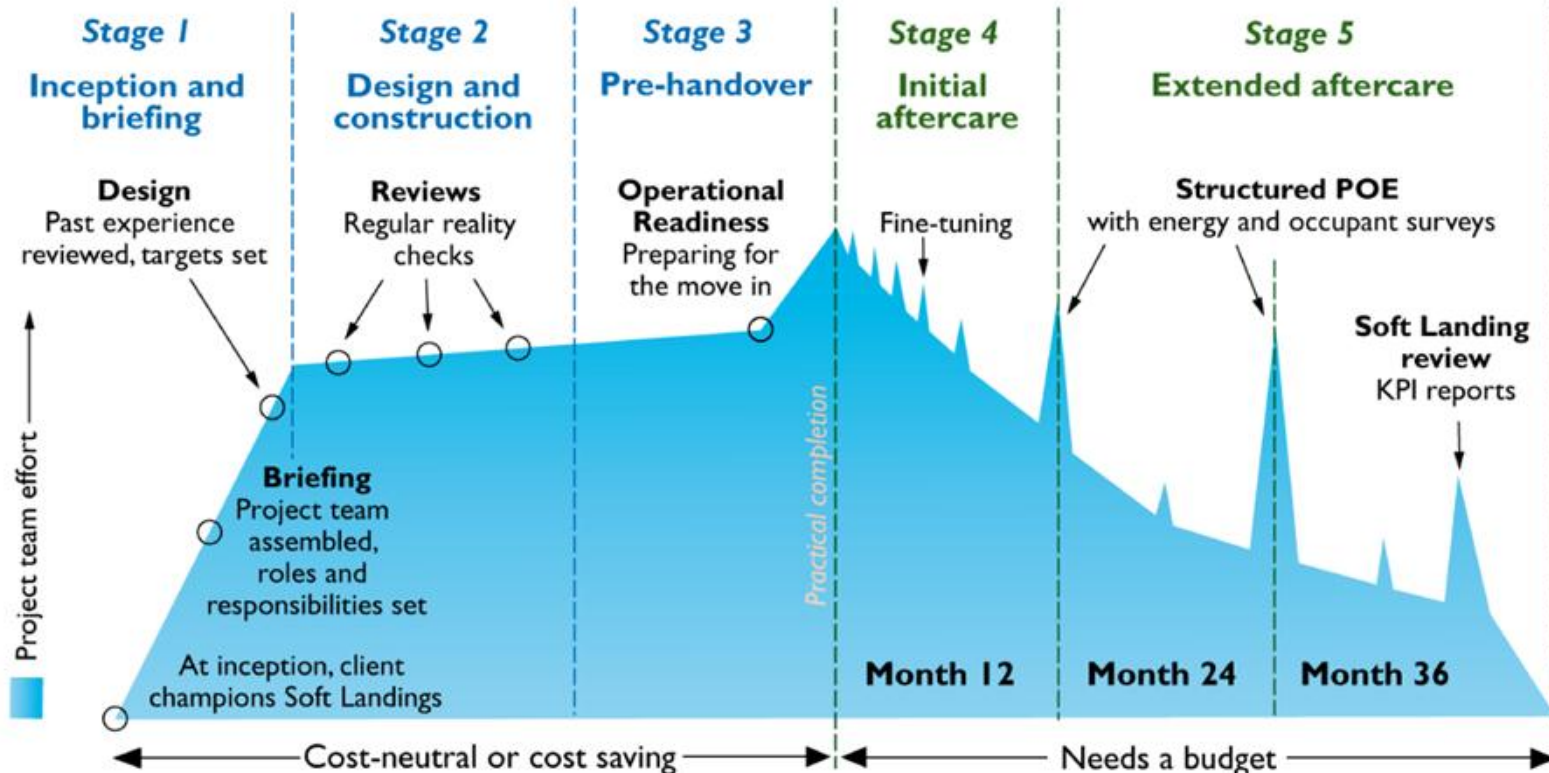
My Lessons Learnt

- Challenges in refurbishing pre-loved buildings
 - Good facade design
 - Good HVAC design
 - Latent Defects
- Importance of Commissioning and Achievement of Design Intent
- Stakeholder Management (PMV & PPD)
- Importance of regular maintenance
- Importance of tuning and local champion

My Lessons Learnt

- Benefits of BSRIA Soft Landings framework

Diagrammatic representation of Soft Landings activities



Source:

<https://instituteofsustainability.wordpress.com/2013/06/11/soft-landings/>



THE END

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<http://energyaction.com.au/>