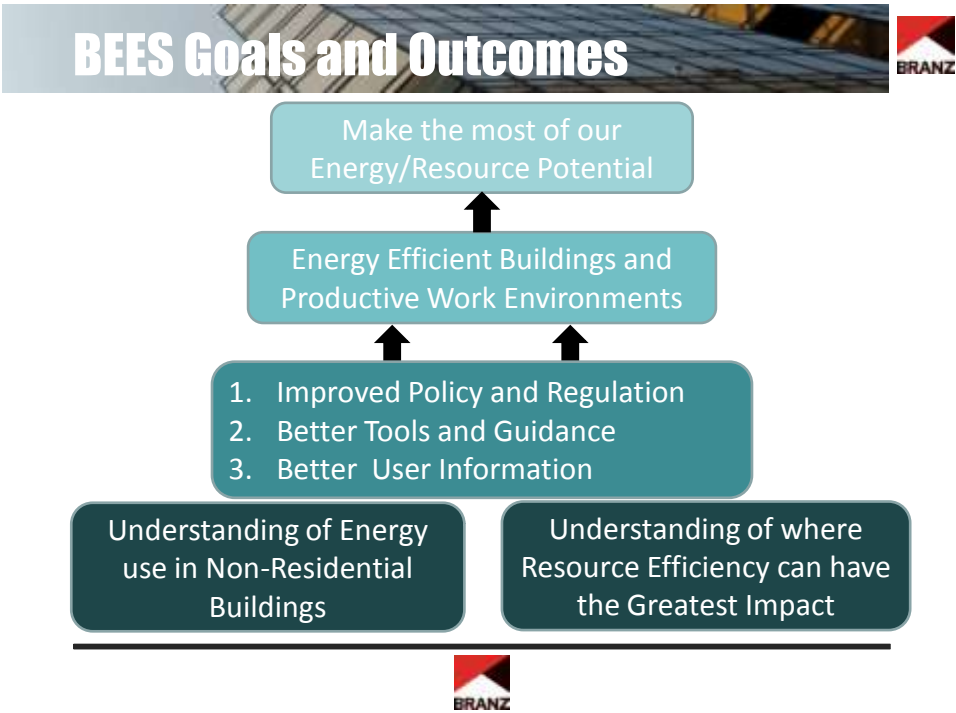
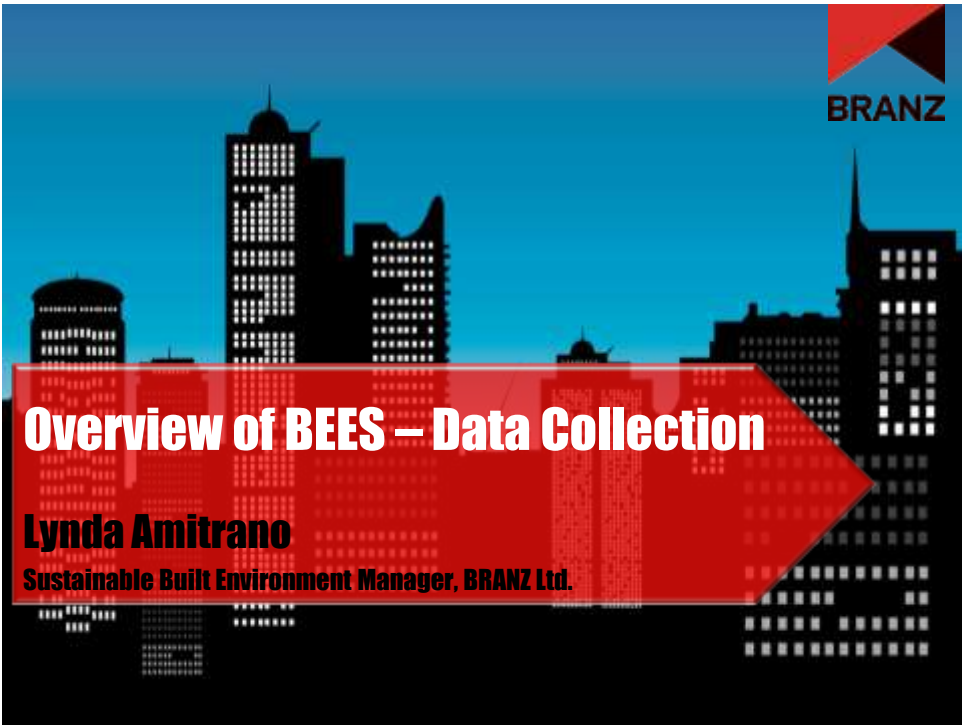



Today's Presentations



- ▶ Lynda Amitrano (Overview of BEES – Data Collection)
 - ▶ Kay Saville-Smith (CRESA – Resource Efficiency Insights)
 - ▶ Nigel Isaacs (BRANZ – Offices)
 - ▶ Rob Bishop (Energy Solutions – Energy Use Indices)
 - ▶ Lisa Burrough (BRANZ – Post Occupancy Evaluations)
 - ▶ Afternoon tea!
 - ▶ Hans Roberti (BRANZ – Water Use in Auckland)
 - ▶ Mike Donn (CBPR & VUW – Energy Modelling)
 - ▶ Summary
-



BEES Key Research Questions



1. What is NZ’s aggregate Energy and Water Use?

2. Baselines - average kWh/m²/year?

3. Identify Largest Use Categories.


4. Average kWh/m²/year by End-Use Category?

5. Understanding Energy & Water Patterns.


6. Determinants of Use Patterns, e.g. Building Structure and Form; Function; Other Attributes; etc.

7. Critical Intervention Points to improve Resource Use Efficiency?

8. Likely future changes as Stock Type and Distribution changes?



NZ Non-Residential Building Stock




| Floor Area Strata | 1 | 2 | 3 | 4 | 5 | Total |
|--|------------------|--------------------|----------------------|----------------------|----------------------|--------|
| Minimum Floor Area | 5 m ² | 650 m ² | 1,500 m ² | 3,500 m ² | 9,000 m ² | |
| Approximate Number of ‘Building Records’ | 23,000 | 6,000 | 2,600 | 1,000 | 400 | 33,000 |
| % of Building Records | 70% | 18% | 8% | 4% | 1% | 100% |
| Total Floor Area (million m ²) | 6,860 | 5,760 | 5,760 | 5,660 | 6,980 | 31,010 |
| % floor | 22% | 19% | 19% | 18% | 22% | 100% |

► About 20% of floor area in very large number of

– Small floor area buildings (~ 23,000 under 650 m²)

► About 20% of floor area in very small number of

– Large floor area buildings (~ 500 over 9,000 m²)



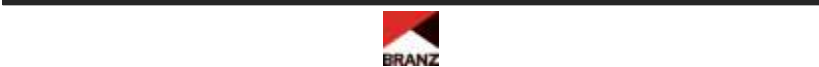
Source: Modified QV analysis.

BEES Data Collection



BEES Sample Frame - 3,000 building records

Sample frame selected from Quotable Value and Auckland City Council building records



BEES Data Collection



BEES Sample Frame - 3,000 building records

