



Building energy research at BRANZ

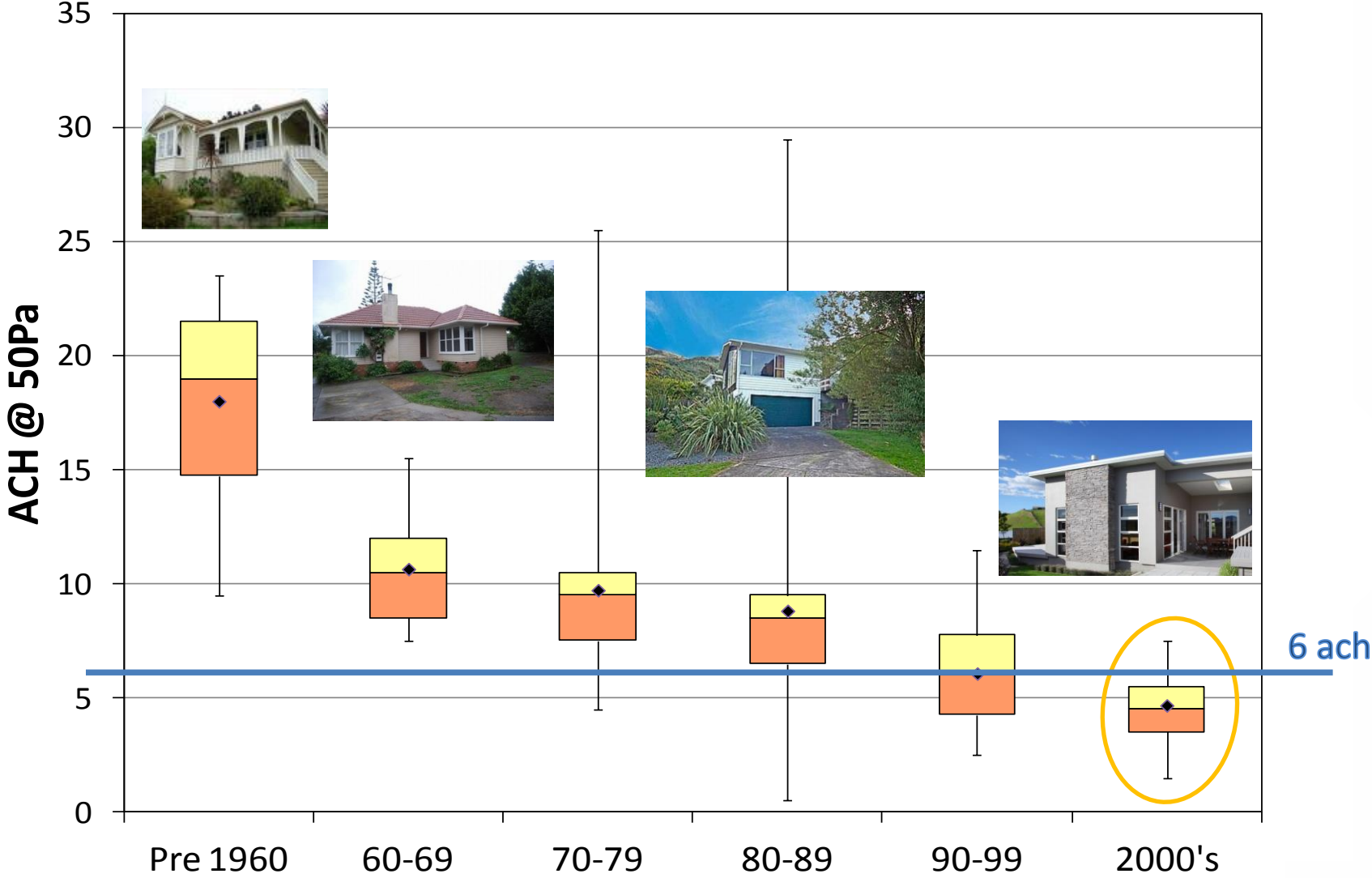
Peter D. McDowall

Who is BRANZ?



- BRANZ is an independent and impartial research, testing, consulting and information company providing resources for the building industry
- Formed in 1969 and is owned and governed by the New Zealand Building Industry.
- 0.1% of the value of each construction project is payable to Building Research.
- Levy funding is earmarked for work of benefit to the construction industry.

New houses continue to be more airtight



Heat pumps in New Zealand

Lisa Burrough, Kay Saville-Smith (CRESA) and Andrew Pollard

- Sampled 160 NZ homes with heat pumps
- Years data of heat pump energy use and indoor temperature/humidity conditions
- Consumer reliance on Coefficient of Performance is unreliable
- Expectation that heatpump would heat entire house – only 20% had heat pump heating just one room
- Heated room on average 2.2C lower than set point – need insulation
- Large scale up take could place greater demands on electrical supply network

Sustainability of NZ new-build (stand-alone) housing stock

Roman Jaques

- Develop set of indicators quantifying the sustainability housing stock
- 14 indicators over 8 domains:
 - Energy/CO₂
 - Water
 - Indoor environment
 - Functional resilience
 - Affordability
 - Consumer demand
 - Industry capacity
 - Policy/regulation
- Data mining existing information resources, to establish a 'Year Zero' baseline

Household Energy End-use Project (HEEP)

N. P. Isaacs, M. Camilleri, L. Burrough, A. Pollard, K. Saville-Smith, R. Fraser, P. Rossouw, and J. Jowett

- Understanding household energy consumption patterns
- Can breakdown energy use into
 - Household type e.g. income, ethnicity, education etc.
 - Property type
 - Region
 - Seasonal
 - Time of day
 - Appliance brands/types
 - Household applications e.g. water, space heating etc.
 - Type of fuels used