House Construction Waste Minimisation Project Unitec

- **Estimates range from 8.7m tons to 10.8m and growing 5.5% per year nationwide**
- **Estimated 2.5m tons to land fill**
- **Approximately 2.8 m tons recycled**
- **House holds generate approximately 1 ton per annum**
- **Auckland alone sends 1.7 to 2.4 m tons to land fill**
- **850k to 1m tons construction/demolition**

Project Methodology

- 4 identical re-locatable houses measured in project
- 3 Bed, open plan wooden framed, iron roofed, cedar clad,
- Waste stream separation by activities
  - Sub floor-bearers up-
  - Framing
  - Roofing and soffit
  - Exterior cladding and rap
  - Internal lining and trim
  - Plastics and cardboard
  - Sub trades

    Roofing, electrical plumbing, kitchen/bath fit-out

Weigh Station

- 2 x 120 ltr bins labelled per house
- 3 x 120 ltr recycle bins
- 3 x 120 ltr land fill bins
- Materials sorted by cross section sizes/location and weighed
- Placed into 3 cm bin for recycle-furnace fuel-
- Each house weighed once per week, weather permitting
- Running spread sheet tracks results

Student Participation

- **Student awareness of waste in industry**
- **Initial concept of competition amongst students**
- **Student involvement in project**
- **Benchmarking -virtual or real world-**

Some Further Considerations

- Cross reference collected data to prior Unitec research data
- Estimated $31k cost of waste from new house construction (AUT)
- Industry buy in
  - Cost benefit analysis on quadruple bottom line
  - Economic, Environmental, Social, Intergenerational
- Political intervention/legislation
  - Fine tuning Waste Minimisation Act 2008
  - E.g .responsibility for product “end of use/life”