ULDA Re-imagining Sustainability

May 2012 • Michael Kane, Assistant Director Innovation and Environment
This talk is about……..

- Re-imagining sustainability
  - Land - Lot diversity
  - Energy – Peak energy and rethinking development models and new technologies
  - Water – WSUD and innovation
  - Issues on the horizon
• Sustainability = affordability
Re-imagining sustainability

• Ensuring resource efficiency built into the design upfront:
  – Land
  – Energy, and
  – Water
Innovative small lot dwellings

Soho House

Terrace House

Terrace House (Expandable)

Terrace House (Accessible)

Urban House

Urban House (Nano)
Innovative small lot dwellings
Small lots = affordability

Urban – Two Bedroom

3 PACKAGES ONLY

Urban Lot Two Bedroom

Features included:
- Full turnkey house and land package
- 1 single carport with automatic door
- 1 visitor carpark in driveway
- 2 bedrooms (master with direct access to bathroom)
- Large open plan living, dining & kitchen
- Generous utility court

Anticipated price range $280,000 - $300,000

Floor Area
Internal area: 80.8m²
Carport: 17.0m²
Total area: 97.8m²

*Products shown are indicative only. May not be exact.
Small lots = affordability

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Delivering diversity of lots

Percentage of house and land packages sold by lot size
December Quarter 2011

HillClose median lot size 481m²
Gladstone median lot size 736m³
Modelling indicates A/C and dwelling design are the key to peak
Peak and solar

Source CarbonSignal http://www.hacaustralia.com/carbonsignal/?p=1883
Peak and solar

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Energy efficiency in affordable dwelling design
Zero net energy terraces
Affordable energy efficient house design project

PROPOSED RESIDENCE
Premium Villa 12.5m Front, Townsville
GROUND FLOOR PLAN
Traditional methods of drainage
Affordable WSUD – Fitzgibbon Chase
WSUD landscaping Oonoonba
FiSH – Stormwater management
The FiSH pond under construction
Issues on the horizon
Figure 7 - Assumed non-potable demand by household type (with low external water use)

CSIRO (2012) Rainwater Tank Performance for Affordable Housing: My Place – Urban Homes
Performance based targets, where there is flexibility to achieve a mains water savings through either source substitution with an alternative water source, or demand management (water efficient appliances and fittings, and/or landscape design of private open space with low irrigation requirements), or a combination of both demand and supply side initiatives, are likely to yield the best outcome in reducing mains water use.

CSIRO (2012) Rainwater Tank Performance for Affordable Housing: My Place – Urban Homes
Urban heat island effect

• Problem
  – Urban form, types and arrangements,
  – Materials,
  – Impact on energy and water use

• Solution
  – Pocket parks, minimising dark materials,
  – WSUD and use of water in landscape
  – House design
• Rising household costs
• Development costs increasing with green tape regulation
• Quality of product and expectation from consumers continuing to increase – need to provide Value!
• Some technologies adding to costs ie solar PVs/rainwater tanks (how do we increase their effectiveness)

• Increasingly sustainability needs to reduce both the up front cost and on going living costs