

RP2006

FREDZED: FREMANTLE REGENERATIVE ECONOMIC DESIGN ZERO EMISSIONS DEVELOPMENT

Problem / The Challenge

The role of modular in low cost and low carbon housing

Houses and apartments are not always designed for the best thermal performance. Apartments also are costly compared against single storey houses because construction costs are so high for building up. Conventional construction for multi storey is lengthy and hugely disruptive to surrounding communities.

This research looks at what role modular construction could play in lowering the cost of apartment construction and delivering better sustainability outcomes?



Hickory Adara Success Perth

The role of niche technologies like batteries in low cost and low carbon housing

Apartments rarely have solar PV options available to residents, although some developers are starting to offer this, but individually wired to each apartment.

Battery storage is coming down in price as production ramps up, and with the already low price of solar PV, battery storage will reach grid parity within the next two years.

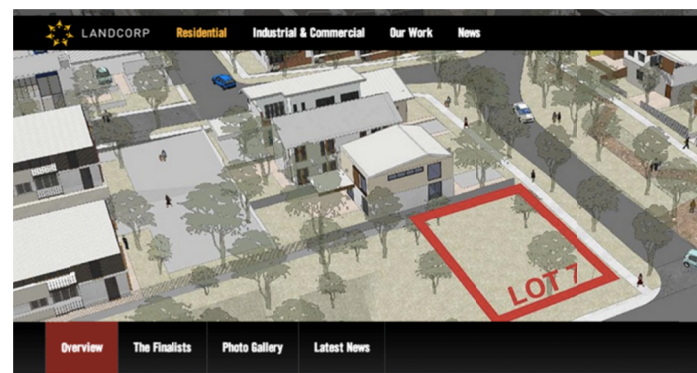
What this means is that households will be able to cost effectively generate renewable energy when the sun is shining and at night.

Given the next phase of growth for Australian cities will be higher density accommodation, solar and battery systems need to be adapted for strata, to incentivise investors installing them in tenanted dwellings. Building design needs to

be optimised for solar generation and solar passive design.



Solar and batteries in apartments can deliver lower cost and lower carbon outcomes.



Gen Y Demonstration House Competition

FredZED Stage 1: Solar and batteries in apartments on the strata.

Modular construction & energy storage will change the face of Australian cities

Benefits

Modular: faster, less disruptive, less cost, lower operational energy, lower carbon.

Batteries with solar: fast approaching grid parity, lower cost and lower carbon.

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