RP2006

SOLAR STORAGE ENERGY GOVERNANCE PROJECT AT WGV

SOLAR PV & BATTERY STORAGE ON AN EMBEDDED NETWORK

150 RESIDENTS
80 DWELLINGS
3 STRATAS

FACILITATES TRADING OF SURPLUS ENERGY

Research Question

This research seeks to develop scalable community shared energy governance model in an Australian context facilitating shared solar PV, storage and monitoring systems for medium density housing.

The need it fulfils is the unlocking of medium density housing to the benefits of solar PV and storage (up to 5 storeys in height) Australia wide – approx. 25% of our national housing stock.

The work is relevant as it removes a major barrier to behind the meter renewable energy, as there is a widely identified lack of models available within shared ownership (strata) housing scenarios.

The governance model will be fully automated. Energy savings will be made by the occupier, whilst payment for energy flows back to the owner offsetting strata costs and providing a justification for the capital investment.

Figure 1 - WGV Housing Precinct located White Gum Valley Fremantle. Western Australia

Methodology

There are two components to this research project: an extensive literature review and the creation of the energy governance model.

1) The research will utilise a Systematic Literature Review (SLR) methodology
2) A mixed methods approach (combining qualitative and quantitative methods) is being adopted to create the energy governance model

The research process is in early stages (in progress)

Anticipated Results

This research will develop a scalable energy governance model and examine the shared benefits, risks and costs between developers, owners, tenants, strata bodies and utilities.

The model will also include the energy system design, billing, legal addendums for dwelling purchasers and dwelling leases.

The financial aspects of the governance model will be studied, tested and demonstrated across the entire WGV housing precinct in White Gum Valley, Fremantle Western Australia.

Potential for the developed energy governance model will be explored to be adaptable and scalable to suit other medium density strata developments in each state and territory.

…Buy energy for less than the grid price of 30¢/kWh, sell surplus over network for more than 5¢/kWh…

Impacts

The community living under strata arrangements will become prosumers (consumers and producers) of energy, reducing energy cost and generating revenue from energy surplus.

Power Utilities (industry) will avoid:

- network congestion;
- transmission losses
- bolstering of network infrastructure to accommodate for increasing housing density and;
- the energy death spiral scenario.

Government will experience a transition to a cleaner economy through decentralised and decarbonised energy production

…Reduce mains grid energy use by 60%, with some lot types achieving 100% (zero net annual energy)…

Contact

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