

Case Study: Off-Grid Town Huntlee Housing Development

System Stats

Application: Off-Grid Town, Microgrid for 7,500 homes + commercial precinct

Location: Hunter Valley, NSW

Status: In Development

Key Collaborators: LWP, Simons Green, Lume Energy, HETA

Battery Storage: 40MWh

Co-gen: 30MW

Solar PV: 40MW



Project Scope & Objectives

Developed by LWP Property Group, Huntlee will house 20,000 new residents in 7,500 homes to be built over 25yrs. Huntlee is located at the start of the Hunter Expressway, 50 min from Newcastle.

The independent utility grid plan for Huntlee was conceived by Damien Griffith and the Huntlee Energy Technology Alliance (HETA). Off-Grid Energy were selected as the HETA renewable energy and battery storage experts, and were tasked with providing detailed electrical demand modelling and project feasibility study.

HETA Members:

LWP Property Group (Developer), Worley Parsons (Project Manager), Lume Energy (Project Concept & HETA Chair), Off-Grid Energy (Solar PV & Storage), Simons Green Energy (Co-gen & Thermal), Flow Systems (Water), Opticomm (Communications), Jemena (Gas), Frank Klostermann (Waste to Energy).

Project Design

Off-Grid Energy, together with co-gen and thermal network experts Simon's Green Energy found that the levelised cost of energy per lot is substantially lower for the microgrid than if the development were to connect to the national grid.

The initial design found the optimal balance between sufficient baseload power, and maximum renewable content.

Load control at individual premises and demand side management functionality will be included in Huntlee house design. Electric vehicle (EV) charging at the premise has included in the utility design, and the potential for time-of-use EV charging incentives has been identified.

Project Outcome

Construction has already started on the new township, with 4 stages of housing-lot deployment planned until 2045.

\$442,000 in ARENA funding will allow global asset manager, Brookfield Energy, to complete a \$1.1 million dollar further study into regulatory requirements for microgrid implementation in Australia.

"We're excited by the possibility of developing Australia's first town-scale microgrid and all of the advantages that level of innovation would bring to our residents and commercial operators."

Stephen Thompson, LWP

Off-Grid Energy Australia

Off-Grid Energy is a designer and installer of high quality battery storage systems for a range of applications.

We are a national company who pride ourselves on friendly and lasting customer service, sustainable business practices, and cutting edge technology.

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