

Project outline

With this project we endeavoured to develop an understanding of the infrastructure required for net zero energy real estate developments. We examined key aspects of a master planned community designed for net zero including:

- Energy transitions
- Mobility
- District services (cooling/heating)
- Water and energy.

Energex and Ergon Energy Network will benefit from understanding the electrical infrastructure impacts of a net zero development and be able to explore:

- The potential peak and minimum demand risks (impact on ADMD, risk mitigation options and net benefits to all parties)
- The opportunity for working directly with a developer for controllable loads/generation in greenfield developments
- Risks associated with electrification of mobility.
- The likely size, location and operation of energy storage.

A direct output of the project will be an understanding of the energy density and load profile of various demographic segments and building designs when engaging directly with developers of new estates.

This project was undertaken with the Springfield City Group who worked with Tractebel.

Project outcomes / findings

The final deliverable was the project report outlining master planning opportunities for a net zero development, including no regret options for immediate project implementation.

The final project report provided Energex and Ergon Energy Network with insights into:

- How developers are considering urban environments and the inclusion of sustainability, renewable energy and public places
- Opportunities to work collaboratively with developers for mutually beneficial outcomes in co-ordinated urban and infrastructure design
- Net zero energy and demand density and network requirements
- Urban mobility and potential impacts of electric vehicles
- Energy generation and distribution around a net zero development
- The energy and demand density of net generation building infrastructure
- Opportunities for integrated local energy control solutions
- The project will help inform future research projects that focuses on mutually beneficial outcomes.

A final report detailing all findings can be found here:

www.greaterspringfield.com.au/wp-content/uploads/2020/05/Roadmaps-ENGIE-Tractebel-Report-18052020-Final.pdf

Next steps

The project will be used to inform several aspects of future activities for Ergon Energy Network and Energex, including:

- The development of future projects that provide network benefits which may be delivered in collaboration of greenfield developers
- The integration of outcomes from the report to feed into energy density and demand density for future strategic planning models

- Integrated development planning which includes allowance for electrification of transport
- The future of greenfield development guidelines and how the future of energy integrates into these guidelines
- The report will support future reviews of planning systems and standards such as After Diversity Maximum Demand (ADMD) and the integration requirements for Distributed Energy Resources.

More information

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