

The Winton Shire Council trial aims to test the economic impact of Local Network Charges (LNC) and Local Electricity Trading (LET) on local energy projects, and assess the real-world requirements for these two measures to be applied.

The trial has been undertaken as part of a one-year research project, Facilitating Local Network Charges and Virtual Net Metering, led by the Institute for Sustainable Futures (ISF) and funded by the Australian Renewable Energy Agency (ARENA) and other partners. It is one of five 'virtual trials', in New South Wales, Victoria and Queensland. The trial investigates the potential impact of a local network charge, as well as the effects of netting off energy between the sites.

Local Network Charges

Local network charges are tariffs for electricity generation used within a defined local network area, to recognise that only part of the network is used. These have been applied as a credit to the generator in these trials. In most cases, this would reduce the network portion of the electricity bill.



Local Electricity Trading (LET)

Local electricity trading is an arrangement whereby generation at one site is "netted off" at another site on a time-of-use basis, so that Site 1 can 'sell' or assign generation to nearby Site 2. This would reduce the combined energy and retail portion of electricity bills for local generation.



TRIAL KEY FACTS

Proponent	Winton Shire Council
Network service provider	Ergon Energy
Electricity retailer	Ergon Energy
Generator	310kW new Geothermal planned
Location	New geothermal plant (generation site) and 29 Winton Council sites (netting off sites)
Generation/customer model	Single entity, 1-to-1 transfer between a new generator and 29 Winton Council sites.
Project status at time of trial	Winton Council going out to tender for geothermal plant and private wire, but would prefer to use existing distribution infrastructure if suitable arrangements can be made.

What the trial looked at

The trial compares the business case for the new solar generation in current conditions, and also with and without a LET arrangement and an LNC. We calculated the impact on the proponent, the network business, and the retailer. We looked at:

BAU: business as usual – current electricity and network charges, without any new generation.

Current market: installation of new generation, with the market as it is now.

LNC only: new generation, with payment of a Local Network Credit.

LET only: new generation, with Local Electricity Trading in place for the exported electricity.

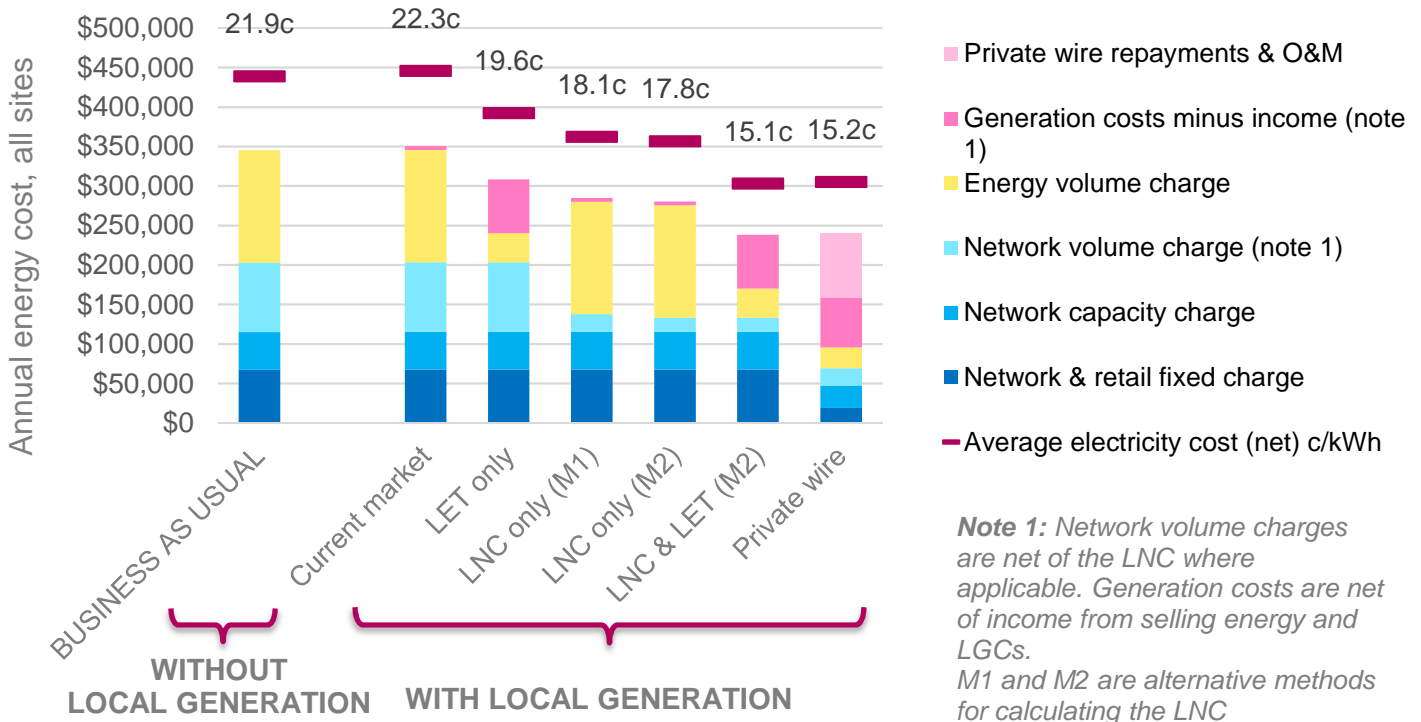
LNC and LET: new generation with both measures in place.

Private wire: new generation, with 28 Winton Council sites connected together with a private wire, to become the same meter point.

Trial results

The total cost shown in the graph is the net energy cost for the 29 Winton Shire Council sites, including the energy and network charges, the capital repayments on any new infrastructure in each scenario (primarily the generator and the private wire), and any income the generator may receive, such as renewable energy credits, the new LNC, or buy back income from electricity which is exported and not used at the netting off sites.

Winton Geothermal Project: Annual Energy Cost by Scenario



Note 1: Network volume charges are net of the LNC where applicable. Generation costs are net of income from selling energy and LGCs. M1 and M2 are alternative methods for calculating the LNC

Winton Shire Council	Current market	LET only	LNC only (M1)	LNC only (M2)	LNC & LET (M2)	Private wire
Annual savings compared to BAU	-\$5,500	\$36,900	\$60,300	\$64,600	\$107,000	\$105,400
Simple payback	12 yrs	10 yrs	9 yrs	9 yrs	7 yrs	9 yrs
Net effect on network charges (2)	\$400	\$400	-\$65,400	-\$69,700	-\$69,700	-\$282,500
Net effect on retailer income	-	-\$15,600	-	-	-\$15,600	-\$19,300
Greenhouse emission reduction (all scenarios with new local generation)						1,768 tons/yr

Note 2: Ergon operates under a revenue cap, so any shortfall will be recouped during the next regulatory period. This calculation does not take account of any NSP savings as a result of the local generation.

Conclusion

All scenarios other than current market conditions result in a saving compared to business as usual, so the project has a cost benefit with the set of assumptions used if either LET or LNC is available, or with a private wire. The scenarios with both new measures, the Local Network Credit and Local Electricity Trading result in the greatest benefit, with estimated annual saving of \$107,000. The next most advantageous scenario is the Private Wire.

Network charges are the most significantly affected in the private wire case, with a loss of \$282,500. This is 4 times the reduction in the best case for Winton Shire Council, where both new measures are in place. The reduced network charges do not result in equivalent savings for Winton Council, as the cost of the private wire absorbs much of these savings.

Note that costs are modelled, and may be different from actual project outcomes.