

ELECTRICITY NETWORK TRANSFORMATION ROADMAP

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Value for Energy Customers in Network Transformation

A smart energy transition could save electricity customers hundreds of dollars per year while enabling better services in an explosion of customer-focussed markets, according to new analysis from CSIRO and Energy Networks.

The landmark joint study, the Electricity Network Transformation Roadmap, identifies measures to pay customers with solar and storage for benefits to the grid and save all customers an average of \$414 per year by 2050.

Energy Networks Australia Chief Executive Officer John Bradley said the Roadmap recommends early action to deliver significant bill savings to customers.

“Australian households are world leaders in embracing new energy technologies. The Roadmap forecasts up to 10 million households and small customers will have onsite resources like solar, storage, smart homes and electric vehicles by 2050.

“The Roadmap is a plan to transform the grid into a platform more like the internet, where customers can trade and share energy or receive offers of innovative services, with the confidence of a secure, affordable and low carbon service.”

CSIRO Chief Economist Energy, Paul Graham, said the key savings would be achieved for customers through changes to pricing and incentives offered by electricity networks.

“The Roadmap finds it’ critical to move to fair and efficient demand-based charges before 2021 so unfair cross-subsidies don’t emerge as solar and storage take off.

“These tariff reforms would ensure a medium size family without solar and storage is \$350 per year better off in 2027.

Mr Bradley said the Roadmap would enable a future where networks could offer additional incentives to buy grid support services from customers in locations which need investment.

“Networks could buy grid support from millions of customers with solar, storage, smart homes or in demand response programs, with annual payments worth \$1.1 billion within 10 years.”

“This orchestration of these distributed resources benefits all Australians as up to \$16 billion in network infrastructure investment can be avoided by 2050, with network charges 30 per cent lower than today.

“Customers, not utilities, will make more than \$200 billion of all energy system investment decisions between now and 2050”

CSIRO modelling shows that over 35 per cent of all electricity will be generated and managed by customers by 2050, through rooftop solar and battery storage, which can then be fed back into the grid.

“The full value solar, storage and demand management in Australian homes can be unlocked for customers with smart incentives and fairer prices that benefit all customers,” said Mr Bradley.

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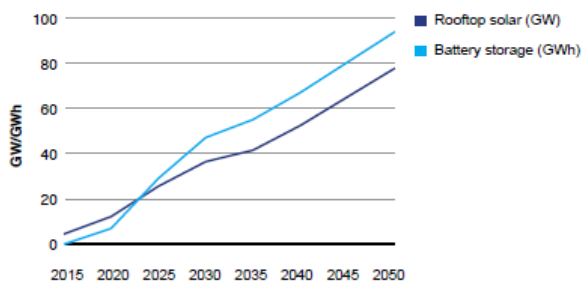
The Roadmap Key Concept Report





The report finds that with a co-ordinated plan in 2050:

- Customers retain security and reliability essential to lifestyle and employment
- Networks pay distributed energy resources customers \$2.5 billion per annum for grid support services by 2050.
- Electricity sector achieves zero net emissions by 2050
- \$16 billion in network infrastructure investment is avoided by management of distributed energy resources like solar and batteries
- Reduction in cumulative total electricity network expenditure of \$101 billion by 2050
- Network charges 30% lower than 2016
- \$414 annual saving in average household electricity bills (compared with roadmap counterfactual, business as usual, pathway)
- A medium family who cannot take up distributed energy resources is over \$600 p.a. better off through removal of cross subsidies.

Rooftop solar and battery storage adoption

Projected uptake of solar PV and battery storage to 2050



	Counterfactual			The Roadmap		
	Active \$	Passive \$	The Gap \$	Active \$	Passive \$	The Gap \$
Working Couple 	\$1,346	\$1,811	\$465	\$1,123	\$1,422	\$299
Medium Family 	\$1,816	\$2,601	\$785	\$1,428	\$1,988	\$560
Large Family 	\$2,794	\$3,950	\$1,156	\$2,346	\$2,734	\$288
Single, Retired 	\$1,058	\$1,730	\$672	\$883	\$1,355	\$472

Residential bill outcomes for selected Australian household types in 2050 under the counterfactual and Roadmap scenarios

About the Electricity Network Transformation Roadmap

Australia's national science agency CSIRO and the peak national body representing gas distribution and electricity transmission and distribution businesses in Australia, Energy Networks Australia have partnered to develop an Electricity Network Transformation Roadmap (the Roadmap). The Roadmap is a two stage process running over approximately two years. For more information go to www.energynetworks.com.au/roadmap