

What are Network Capability Projects?

The Service Target Performance Incentive Scheme (Scheme) administered by the Australian Energy Regulator (AER) provides incentives to improve the performance of the electricity network, based on availability, reliability and market impact measures.

A Network Capability Incentive was introduced to the Scheme to incentivise transmission businesses to fund low cost works to improve the utilisation of the network and release additional capacity to the benefit of consumers.

ElectraNet has consulted with consumers to develop a Network Capability Incentive Parameter Action Plan (Plan) containing a number of projects to improve network capability.

How were these projects approved?

The Australian Energy Market Operator (AEMO) must independently assess the projects it considers will deliver the most efficient outcomes for consumers. AEMO has endorsed all projects proposed by ElectraNet in its finalised Plan.

The AER has approved the Plan, and is satisfied that the priority projects will improve the capability of the transmission network at times most needed and result in a material benefit to consumers and the market.

The projects contained in ElectraNet's approved Plan are outlined below.

How do Network Capability Projects benefit consumers?

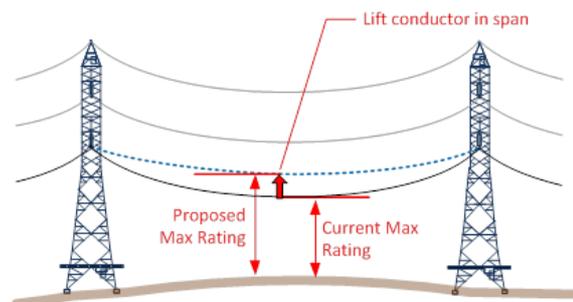
These projects improve network capability by contributing to reduced congestion, more efficient operation of the network and improved market outcomes.

Reduced congestion and improved operation enables lower generation costs, delivering benefits that should ultimately pass to consumers through reduced wholesale electricity costs.

What is involved in these projects?

A typical network capability project involves increasing the clearance height on key transmission lines by addressing low-hanging spans, as illustrated below.

This enables these lines to be uprated at relatively low cost where only a small number of spans currently limit the transfer capacity, allowing greater energy to flow when needed.



Network Capability Incentive Parameter Action Plan (Estimated \$m nominal)

Project	Completion date	Cost (\$m)	Benefits (\$m pa)	Payback period	Rank
Upper South East uprating	2015-16	2.30	> 2.6	< 1 year	1
Riverland uprating	2016-17	4.43	> 2.4	< 2 years	2
Robertstown – Waterloo East uprating	2017-18	1.33	~ 0.3	~ 5 years	3
Load model enhancements	2016-17	0.11	Studies expected to deliver future benefits in network operation and planning.		4
Distributed rooftop solar PV response to frequency disturbances	2015-16	0.06			5
Lower South East uprating	2015-16	1.83	~ 0.32	~ 5.7 years	6

Project outline

Project	Description
Upper South East uprating	The uprating of the Upper South East lines will further increase the capability of the Heywood Interconnector to import power from Victoria into South Australia. This is expected to further increase flows across the Heywood Interconnector of lower priced Victorian generation into South Australia. It will also facilitate increased exports of wind from South Australia.
Riverland uprating	The uprating of the Riverland lines will increase the capability of Murraylink to export power to Victoria under high Riverland demand. The increase in capability will assist in alleviating the constraint managing congestion between Robertstown to the North West Bend.
Robertstown – Waterloo East uprating	The uprating of the Robertstown - Waterloo lines will increase the export of wind generation from South Australia. Wind exports across the Murraylink interconnector from South Australia are at times limited by the Robertstown - Waterloo line. Uprating the line will alleviate the constraint, increasing marginal supply in the market.
Load model enhancements	<p>The project builds on previous ElectraNet studies and seeks to refine further the representation of loads for the power system by assessing the frequency of system loads and maintaining up to date information on the voltage dependence of loads.</p> <p>The outcomes of these studies may allow for further refinements when formulating network limitations. Greater accuracy may allow for improvements in reducing operating margins, improving network limitations and a better understanding of risks under certain operating conditions.</p>
Distributed rooftop solar PV response to frequency disturbances	This project will assess the risk to network security caused by the wide spread and rapid uptake of solar PV systems to the South Australian Network. This will provide for greater insight into the likely operation of PV systems under disturbed conditions, allowing ElectraNet to identify the appropriate timing and design of corrective action to prevent limitations on further installations of PV systems or the unexpected effects of PV systems on the grid (i.e. potential to contribute to cascading network failure).
Lower South East uprating	The uprating of the Lower South East lines will further increase the capability of the Heywood interconnector for importing and exporting power. Similar to the Upper South East Uprating project, this project seeks to alleviate congestion on the Heywood interconnector, which is expected to increase due to the forecast increase in the gas price and an increase in the level of wind generation in South Australia.

Like to know more?

The approved Plan is available on the ElectraNet website electranet.com.au. For further information on ElectraNet's network capability projects, please direct enquiries to:

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