



31 January 2023

# RIN.08: Non-network solutions

## Ausgrid's 2024-29 Regulatory Proposal

Empowering communities for a resilient,  
affordable and net-zero future.



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# 1. Introduction

## 1.1 This document's purpose

This document provides Ausgrid's justification/position on non-network solutions as part of its 2024-29 submission to the AER.

## 1.2 This document in context

The information presented in this document relates to sections 4.4.8 of Ausgrid's Regulatory Information Notice.

### 1.2.1 Related documents

Document	Description	Relevant sections
1. Ausgrid 2022 DTAPR	Ausgrid's Distribution and Transmission Annual Planning Report 2022, description of demand management assessment process	Sections 3.1, 3.2
2. DM assessment of major capex	DM assessment model for major capital projects	"DM assessment" tab
3. DM assessment of HV augex	DM assessment model for 11kV augmentation projects	"DM – summary" tab
4. 2019/20 DMIS annual report	Ausgrid's 2019/20 Demand Management Incentive Scheme annual compliance report	Section 3
5. 2020/21 DMIS annual report	Ausgrid's 2020/21 Demand Management Incentive Scheme annual compliance report	Section 3
6. Mascot Non-network options report, Sept 2019	RIT-D demand management market engagement for the Mascot 11kV switchgear replacement project	All
7. DMIS guidelines (DNSP)	Demand Management Incentive Scheme guideline 2017 <a href="https://www.aer.gov.au/system/files/AER%20-%20Demand%20management%20incentive%20scheme%20-%202014%20December%202017.pdf">https://www.aer.gov.au/system/files/AER%20-%20Demand%20management%20incentive%20scheme%20-%202014%20December%202017.pdf</a>	Section 2.2

## 1.3 Document overview

This document provides detail around Ausgrid's activities towards non-network projects in the current 2019-24 period and forthcoming 2024-29 period.

Section 2 provides details around Ausgrid's non-network solutions:

- Section 2.1 explains how Ausgrid selects efficient non-network options,
- Section 2.2 explains the extent to which non-network alternatives have been considered in the development of forecast capex and forecast opex proposals,
- Section 2.3 describes the non-network projects that Ausgrid as either commenced during the current 2019-24 period or has selected to commence in the forthcoming 2024-29 period and the pertinent details of each, respectively,
- Section 2.4 provides details around details of payments made to embedded generators in reflection of any avoided augmentation in both the current 2019-24 period or forthcoming 2024-29 period.

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# 2. Non-network solutions

## 2.1 Selecting efficient non-network solutions

Ausgrid doesn't have standalone dedicated policies, strategies or procedures documents for selecting efficient non-network solutions. Ausgrid relies on and applies the DMIS guidelines (refer to document 7) when identifying and selecting efficient non-network solutions. Our process firstly considers whether Stand Alone Power Systems (SAPS) can feasibly provide a credible alternative solution. If SAPS are not considered credible, our process for selecting efficient non-network solutions follows the method outlined in the DMIS guidelines section 2.2, namely:

- Identification of an efficient non-network option that is credible in being able to defer, reduce or postpone the preferred network solution is determined using NPV analysis.
- The NPV analysis incorporates all the relevant costs and benefits that accrue to consumers via the distribution network,
- Following both the RIT-D process for all investments and the minimum project evaluation requirements (per the DMIS Guidelines) where Ausgrid considers that non-network solutions may form all or part of a credible option,
- When following the minimum project evaluation requirements pathway, Ausgrid will issue a Request for Proposals seeking demand management proposals from the market.

## 2.2 Extent to which non-network solutions are considered

Ausgrid carried out analysis of non-network solutions potential across 21 major capex projects for its subtransmission network (for 33kV and above) and across each zone substation for the high voltage network (predominantly 11kV) in developing its forecast capex and opex proposals.

### 2.2.1 Major network capital projects

The assessment of non-network potential for major network capex was done on a case-by-case basis. Ausgrid's major network capex needs are predominantly driven by replacement and aged asset needs. While the review identified up to 3 major network capex projects that might be deferrable using demand management, the analysis was of a high-level nature and considerable uncertainty exists around the feasibility of non-network solutions, in particular, whether the required volume of energy reductions could be achieved (refer to document 2). Ausgrid is electing to not put forward these projects as firm non-network projects (and therefore seek a step change opex allowance for demand management) for the forthcoming 2024-29 regulatory period. Instead, Ausgrid will carry out more detailed analysis of non-network solutions feasibility at the time of project development and if it is determined that non-network solutions could likely form part of a credible solution, Ausgrid will follow the process described in 2.1 above to implement a demand management solution.

### 2.2.2 High voltage augmentation projects

The assessment of non-network potential for the high voltage network, predominantly 11kV, was carried out based on a load at risk model and aggregate expenditure evaluated at each zone substation (refer to document 3) to address localized augmentation needs (HV augex). This model is separate to Ausgrid's CER Integration network needs (refer to *Ausgrid's CER Integration Strategy* which relates to network expenditure required to accommodate increasing amounts of CER in the future). Due to the complexity and interconnected nature of Ausgrid's 11kV network, the exact timing, scale and cost of a preferred network solution to address an identified need is unclear until a detailed assessment is carried out by Ausgrid network planners, which is typically undertaken within 1-2 years prior to the constraint. Accordingly, since the assessment of non-network potential for HV augex cannot be carried out on a project-by-project basis, the assessment of non-network potential utilized:

- As assumed uniform timing of HV augex network solutions over the forthcoming 5 years,

- Determining the number of projects according to broad project size classifications (high, medium, low) and broad customer mix classifications (residential, mixed residential & commercial, commercial) per zone substation,
- An NPV cost-benefit assessment tying together the relevant costs and benefits to inform the number of HV augex projects that could be deferred.

The outcome was that up to an estimated \$9m of HV augex could be deferred over the forthcoming 5 years (beyond 2026/27<sup>1</sup>).

## 2.3 Details of individual non-network solutions

This section provides detail around individual non-network projects that commenced during the 2019-24 period and non-network projects that have been selected to commence during, or will continue into, the forthcoming 2024-29 regulatory period.

### 2.3.1 Non-network projects commenced during 2019-24

#### Gillieston Heights air-conditioning load control project

Ausgrid executed a non-network project in the Gillieston Heights area (Maitland LGA) over summer 2019/20 and summer 2020/21 to address a forecast constraint arising from residential customer connections in the area. Following an unsuccessful market engagement in accordance with the minimum project evaluation requirements in section 2 of the DMIS Guidelines, Ausgrid elected to carry out an internally-run demand management project utilizing air-conditioning load control using Demand Response Enabling Devices (DREDs) installed on eligible participating customers' air-conditioning units. On hot summer days, a signal is sent from Ausgrid's Newcastle control room to activate a designated Demand Response Mode to reduce the electrical power input, thereby achieving a demand reduction.

The Gillieston Heights air-conditioning load control project was carried out over 2 summer seasons, 2019/20 and 2020/21. The cost of the program was as follows:

Figure 1 Gillieston Heights project cost

Year	Project cost
2019/20	\$55k
2020/21	\$17k

Further details of the Gillieston Heights air-conditioning load control project can be found in Ausgrid's 2019/20 (refer to document 4) and Ausgrid's 2020/21 (refer to document 5) DMIS Annual Reports.

#### Mascot 11kV switchgear replacement project

Ausgrid commenced a non-network project to address aged asset issues relating to 11kV switchgear at Mascot zone substation situated in the suburb of Mascot, part of the Bayside LGA. The preferred network solution was development of a greenfield new Mascot zone substation on a new site and decommissioning of the existing Mascot zone substation. A Non-Network Options Report was published in September 2019 seeking demand management proposals from the market (refer to document 6).

Ausgrid did not proceed with the non-network project following a revised network solution that was developed at a significantly lower cost following publication of the Non-Network Options Report. With the lower cost network solution, the non-network business case was no longer feasible.

For further details, refer to the Non-Network Options Report.

<sup>1</sup> Ausgrid's HV augex model has a maximum resolution of 5 years.

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### **2.3.2 Non-network projects selected to commence during 2024-29**

As mentioned in Section 2.2.1 above, high-level modelling identified up to 3 major network capital projects that might be deferrable using non-network solutions, however, given the level of uncertainty around feasibility Ausgrid at this early stage is not seeking a formal step change allowance for these projects.

As mentioned in Section 2.2.2 above, it is estimated that up to \$9m in HV augex could be deferred beyond the forthcoming 5 years out to 2026/27. Extrapolating the model out to 2028/29, the volume of HV augex that could be deferrable estimated to be up \$10m.

## **2.4 Payments to embedded generators reflecting avoided costs**

### **2.4.1 EG payments within Ausgrid's distribution network**

Nil.

### **2.4.2 EG payments within relevant transmission network**

Nil.