

# Decision

## Demand Management Incentive Scheme (DMIS) payments for 2020–21 and 2021–22

May 2023

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# 1 Summary

Our demand management incentive scheme (DMIS) encourages distribution businesses to find lower cost solutions to investing in network solutions. The incentive scheme achieves this by providing distribution businesses with financial incentives to undertake efficient expenditure on non-network solutions to manage peak electricity demand.

The DMIS applies to distribution business' eligible projects as set out in the AER's distribution determination for each distribution business. To receive an incentive payment, the distribution business must report on their projects to us. The business must provide information on how they are using demand management to deliver value to their consumers. The business must also tell us what demand management projects are underway or have contracts, along with the outcomes of these projects. We use this information to make incentive payments and to understand the key outcomes of our incentive scheme.

Section 2 of this report explains the background of the DMIS including the operation of the scheme, the financial incentives constraints, and our assessment criteria.

Section 3 outlines how distribution businesses are using the DMIS as well as the benefits of the scheme to energy consumers.

Section 4 of this report sets out our decision, under the DMIS, on incentive payments to distribution businesses for eligible demand management projects in 2020–21 and 2021–22.

The details of each demand management project that is eligible for a DMIS incentive payment can be found at Attachment A.

## 1.1 Key outcomes

We have approved DMIS incentive payments for 2020–21 of:

- \$8,500 for Ausgrid
- \$168,947 for United Energy

We have approved DMIS incentive payments for 2021–22 of:

- \$263,683 for AusNet Services
- \$153,460 for United Energy

To date, the scheme has delivered an estimated \$50 million in benefits to consumers (at a cost of \$3.2 million) by encouraging distribution businesses to defer capital expenditure (capex) replacement or augmentation and instead pursue demand management activities.

Demand management activities can be categorised as follows:

- Use of temporary generation during peak demand time
- Direct load control by distribution business
- Customer demand response through incentive payments

To date, the use of temporary fuel generation has delivered most net benefits to the consumers.

## 2 Background

Historically, network businesses have often focused on supply-side solutions to meet the demand on their networks, without always giving due attention to the demand side of the equation. There are several potential reasons for this behaviour, including the possibility that the regulatory system encourages distribution businesses to prefer network capex over non-network options.

Managing demand on electricity networks can increase the reliability of supply and reduce the cost of supplying electricity. Often, electricity consumers are empowered to manage demand via price signals and enabling technology. Price signals or financial incentives can reward consumers for using electricity in a way that allows network businesses to keep their costs down. Enabling technology often complements price signals by empowering consumers use electricity in a way that allows network businesses to keep their costs down.

On 14 December 2017, the AER published its DMIS to encourage distribution businesses to find lower-cost solutions to investing in network expenditure. The DMIS achieves this by providing financial incentives to distribution businesses to undertake efficient expenditure on non-network options, relating to demand management.<sup>1</sup>

### 2.1 Operation of the Scheme

We determine how, if at all, the DMIS will apply to a distributor for a regulatory control period.<sup>2</sup>

If the DMIS is to apply, the distributor must identify eligible projects and must commit to those projects as committed projects.<sup>3</sup> An eligible project is a project that a distributor has identified as being an efficient non-network option<sup>4</sup> (or a credible, preferred option) relating to demand management, but that has not had expenditure committed to it by the distributor before the first application of the DMIS to the distributor in a distribution determination.

The distributor must identify whether a project is an efficient non-network option by either completing the AER's regulatory investment test for distribution (RIT–D)<sup>5</sup> or by using the cost-benefit analysis as prescribed by the minimum project evaluation requirements.<sup>6</sup>

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<sup>1</sup> NER, cl 6.6.3(b).

<sup>2</sup> The AER's framework and approach paper for a distributor will set out whether the AER intends to apply the DMIS to that distributor's forthcoming determination under clause 6.8.1(b)(2)(vi) of the NER. The distributor's regulatory proposal must include a description, including relevant explanatory material, of how it proposes the DMIS should apply for the relevant regulatory control period.

<sup>3</sup> A committed project is one that has had expenditure committed to it by the distributor by means of either a demand management contract or a demand management proposal.

<sup>4</sup> An 'efficient non-network option' is a non-network option that is a credible option to meet an identified need on the distribution network, where that credible option is the preferred option.

<sup>5</sup> Regulatory investment test for distribution under NER cl. 5.17.

<sup>6</sup> As outlined in section 2.2.1 of the DMIS. AER, *Demand Management Incentive Scheme Electricity distribution network service providers*, December 2017.

To be an efficient non-network option (the preferred option), the project must be the credible option that maximises the present value of the net economic benefit to all those who produce and consume electricity (relevantly) in the national electricity market.<sup>7</sup>

The distributor determines the project incentive for committed projects in accordance with section 2.3 of the DMIS then prepares and submits a compliance report in accordance with section 2.4 of the DMIS.

We then determine the total financial incentive available to the distributor under the DMIS for each regulatory year of a regulatory control period in accordance with sections 2.5 and 2.6 of the DMIS.

## 2.2 Financial incentives constraints

The incentive payment under the scheme is provided as a cost uplift for an amount up to 50 per cent of the expected project cost. The incentive is available for efficient demand management projects only and is subject to two further constraints:

- Net benefit constraint – the size of the incentive should not outweigh the value or net benefit the project delivers across the electricity market. To set this constraint, distributors estimate the net benefit of projects under the DMIS. For large projects (with expected capital costs of \$6 million or more), distributors use the regulatory investment test (RIT-D).<sup>8</sup> For small projects (with expected capital costs of less than \$6 million), distributors may use simpler cost–benefit analysis as prescribed by the minimum project evaluation requirements under the scheme
- Overall incentive constraint – The total incentive in any year cannot exceed one per cent of a distributor’s allowed revenue for that year. This limits the impact of the incentive on short-term prices.

## 2.3 Assessment against criteria

Following receipt of the annual compliance reports from distributors, we assess compliance against the scheme and verify incentive payments.

Our assessment framework requires us to assess whether:<sup>9</sup>

- The distributor has identified and justified the need for the DMIS project.
- The distributor has identified and selected the efficient non-network option to manage a network capacity constraint, which could include the use of stand-alone power systems (SAPS).<sup>10</sup>
- The distributor’s cost-benefit analysis of the DMIS project supports the project selection and incentive claim.

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<sup>7</sup> AER, *Demand Management Incentive Scheme Electricity distribution network service providers*, December 2017, cl 2.2(1) and (2).

<sup>8</sup> AER, *Final Regulatory investment test for distribution*, August 2022.

<sup>9</sup> AER, *Demand Management Incentive Scheme Electricity distribution network service providers*, December 2017, cl 2.2.

<sup>10</sup> Rolling out of SAPS not relating to managing an existing network capacity constraint will NOT meet the DMIS approval criteria.

### 3 How distributors use the DMIS

This section outlines our trend analysis on the DMIS incentive payments since the scheme's first application in 2019–20.

The demand management solutions currently applied by Australian distribution businesses can be grouped into three broad categories:

1. *Direct load control by DNSPs.*

This demand management solution involves the electricity distribution businesses monitoring, controlling and shifting load to ensure that it is not overloaded during a peak demand event. For example, Ausgrid installs Demand Response Enabling Devices on participating customers air conditioners. In the event of a peak demand, Ausgrid can remotely activate the power saving modes on the air conditioner units to reduce the demand.<sup>11</sup>

2. *Customer demand response through incentive payment.*

This demand management solution involves the electricity distribution businesses providing their customers with an incentive to reduce energy consumption in peak demand periods. For example, United Energy pays participating customers for reducing demand when they are notified via SMS that a peak demand event is expected to occur.

3. *Use of temporary generation.*

This solution involves electricity distribution businesses using temporary generation in specific areas of their network to reduce overall upstream peak demand. For example, a distributor may contract a battery storage company, or to rent a diesel generator, to supply energy to a particular area during a peak demand period—thereby removing network constraint by reducing overall peak demand.

The benefits of demand management include the following:

- Consumers are compensated for their involvement in customer demand response initiatives while also receiving lower electricity charges on their bills.
- Reduction in peak demand may defer network augmentation/replacement and lead to lower electricity bill charges.
- Increased network reliability. Network assets are less likely to be overloaded as consumers switch off their non-essential load in response to a peak demand network request.

#### 3.1 Consumer benefits

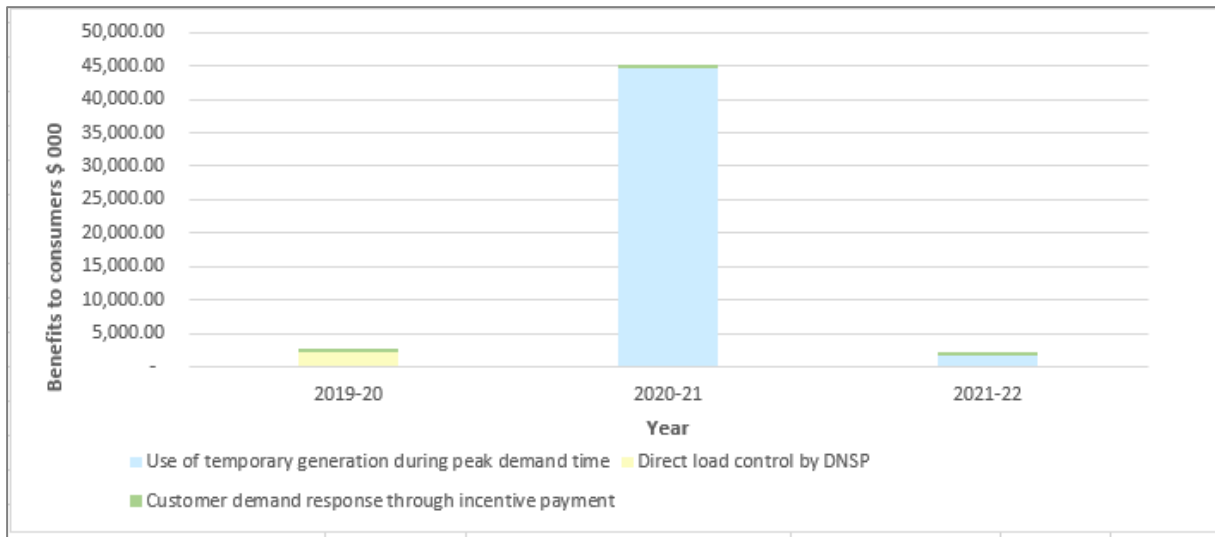
To date, consumers have received around \$50 million in benefits via the DMIS from distributors deferring capex and using non-network solutions to reduce peak demand (see figure 3.1). The use of temporary fuel generation has delivered most net benefits to the consumers. An example of this is AusNet Services' battery program for West Gippsland. The

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<sup>11</sup> Ausgrid, *DMIS Annual Report 2020-21*, September 2021, p. 3.

project’s purpose is to defer the construction of a new 22kv feeder (estimated to cost \$2.5 million) out of the Warragul zone substation (see Attachment A).

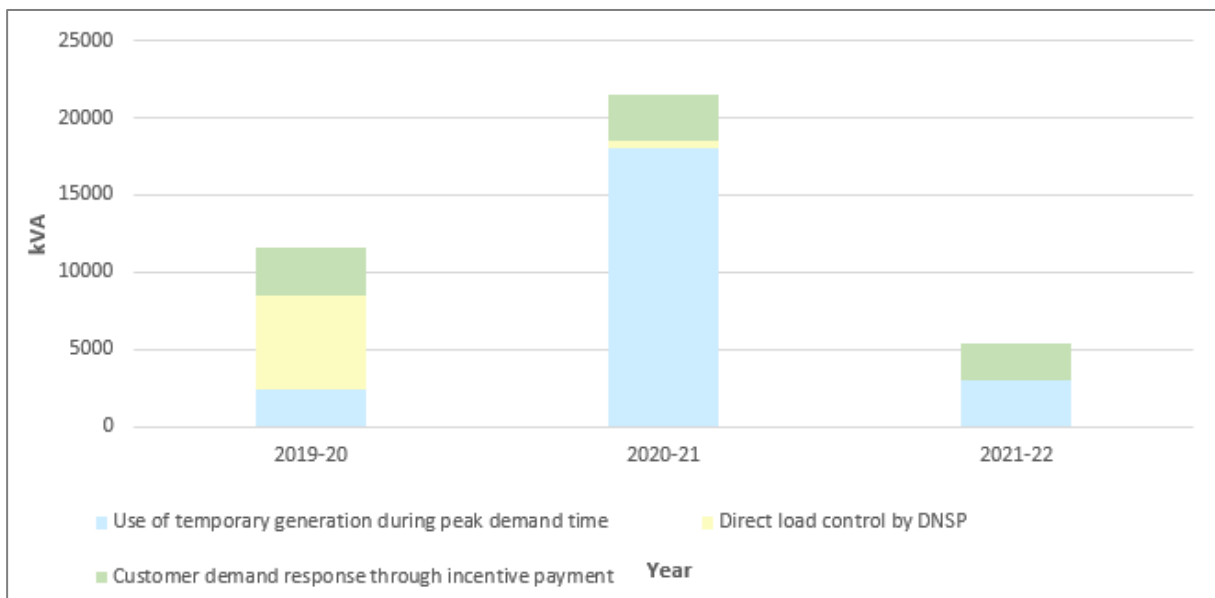
**Figure 3.1 DMIS net benefits to consumers (\$'000 nominal)**



Source: AER analysis.

To date, the use of temporary generation has been the preferred demand management tool used by DNSPs (see Figure 3.2 for the use of DMIS by KVA). As an example, United Energy manages peak demand via its Lower Mornington non network solution by contracting temporary diesel generation.

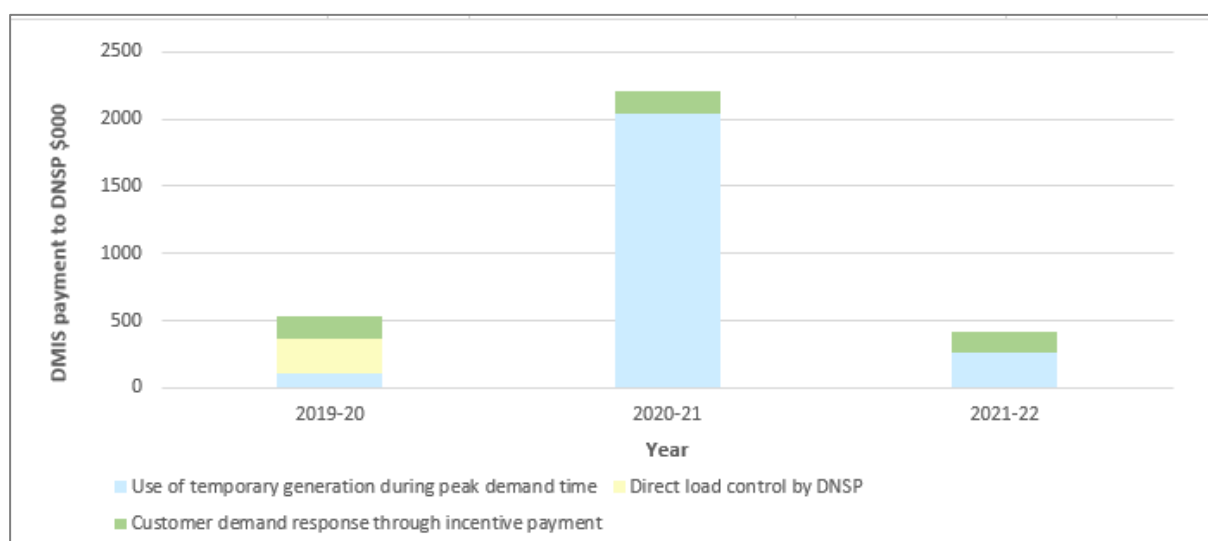
**Figure 3.2 Use of DMIS by kVA**



Source: AER analysis.



**Figure 3.3 DMIS incentive payment to DNSPs**



Source: AER analysis.

Similarly, DNSPs have claimed the most incentive payments via the use of temporary fuel generation (see figure 3.3). Examples projects are the AusNet Services’ battery solution in West Gippsland (\$264k incentive payment) and United Energy’s diesel generation solution in Mornington (\$2 million incentive payment) to reduce peak demand.

Table 3.1 shows the values in the figures above.

**Table 3.1 Demand management incentive payment by method to date**

Demand management method	Year	Volume delivered (kVA)	Project cost (\$'000)	Approved incentive payment (\$'000)	Project net benefit (\$'000)
<b>Use of temporary generation during peak demand time</b>					
	2019–20	2,400	\$224	\$112	\$186
	2020–21	18,000	\$4,086	\$2,038	\$44,511
	2021–22	3000	\$527	\$264	\$1,805
<b>Customer demand response through incentive payment</b>					
	2019–20	3,100	\$333	\$167	\$528
	2020–21	2,971	\$330	\$165	\$503
	2021–22	2,411	\$307	\$153	\$483
<b>Direct load control by DNSPs</b>					
	2019–20	6,130	\$515	\$258	\$2,079
	2020–21	525	\$17	\$9	\$87
	2021–22	0	\$-	\$-	\$-

Source: AER analysis.

## 4 AER assessment for 2020–21 and 2021–22

This section sets out the assessment of the DMIS projects proposed by distributors. Further details of our assessment can be found in Attachment A.

We have assessed the DMIS incentive applications for AusNet Services, United Energy, and Ausgrid. We have approved the incentive payments as outlined in tables 4.1 and 4.2 below.

**Table 4.1 DMIS incentive payments approved by the AER for 2020–21**

	Volume delivered (kVA)	Estimated project cost (present value \$)	Estimated project net benefit (present value \$)	Total incentive claimed for 2020–21 or 2020 (\$)	Total incentive approved (\$)	Incentive payment per kVA delivered (\$/kVA)
Ausgrid	525	17,000	370,000	8,500	8,500	16
United Energy	3,091	337,894	502,643	168,947	168,947	55
<b>In aggregate</b>	<b>3,616</b>	<b>354,894</b>	<b>872,643</b>	<b>177,447</b>	<b>177,447</b>	<b>49</b>

Source: AER analysis and DMIS reports submitted by DNSPs. Numbers may not add up due to rounding.

**Table 4.2 DMIS incentive payments approved by the AER for 2021–22**

	Volume delivered (kVA)	Estimated project cost (present value \$)	Estimated project net benefit (present value \$)	Total incentive claimed for 2021–22 or 2021 (\$)	Total incentive approved (\$)	Incentive payment per kVA delivered (\$/kVA)
AusNet Services	3,000	527,366	1,804,595	263,683	263,683	88
United Energy	2,411	306,921	482,872	153,460	153,460	64
<b>In aggregate</b>	<b>5,411</b>	<b>834,286</b>	<b>2,287,466</b>	<b>417,143</b>	<b>417,143</b>	<b>77</b>

Source: AER analysis and DMIS reports submitted by DNSPs. Numbers may not add up due to rounding.

## Attachment A – DNSP Projects

### Ausgrid 2020–21

#### Gillieston Heights residential air-conditioner demand response

Due to emerging network constraints to three interconnection feeders in Gillieston Heights (NSW), Ausgrid evaluated and chose a demand management option over network augmentation to defer the network expenditure. In the summer of 2020–21, Ausgrid implemented Air Conditioning Load Control (ACLC) combined with retailers' Behavioural Demand Response (BDR) to reduce demand. For the ACLC component, Ausgrid used Demand Response Mode 2 (DRM2), which caps the electrical input load for air-conditioning units to 50%. The estimated target demand reduction in summer 2021–22 is 525 kVA which is identified as an emerging network constraint relating to feeders in the Gillieston Heights (NSW). The expected total project cost is approximately \$17,000.<sup>12</sup>

#### Assessment against DMIS incentive criteria

We approve Ausgrid's DMIS incentive payment claim of \$8,500 for 2020–21 as it meets the DMIS criteria.

	Details
Business name	Ausgrid
Project details	Gillieston Heights residential air-conditioner demand response
Incentive claimed	\$8,500
Project cost	\$16,729
DM Benefit	\$370,000
	Criteria met (Y/N)
Criteria 1 Eligibility	Yes
Criteria 2 A credible option	Yes
Criteria 3 Request for demand management issued	Yes
Criteria 4 The project is committed	Yes
Criteria 5 The project meets the schemes equation	Yes

<sup>12</sup> Ausgrid, *DMIS Annual Report 2020-21*, September 2021.

## United Energy 2020–21

### Summer Saver residential demand response program

The Summer Saver Program (SSP22) is a behavioural demand response program that incentivises customers to reduce their power usage during times of maximum demand. The program targets constrained areas with highly utilised distribution transformers and low-voltage circuits that are at an elevated risk of overload outages during summer to defer network augmentation.

The Summer Saver Program utilises the capabilities of the Advanced Metering Infrastructure to encourage customer participation and engagement whilst lowering implementation costs.

Once registered, participants are requested to voluntarily reduce their power usage during a three-hour event window on a small number of hot weather 'event days' which typically are on weekdays over the summer period.

Customers are notified at least two days in advance of an 'event day' so they could plan how to reduce their energy consumption. Customers who successfully lower their energy consumption below their allocated baseline during the event are rewarded. SSP22 is based on a voluntary usage reduction program utilising high-frequency AMI data.

SSP22 includes the following features:

- Digital customer web and mobile enrolment
- Web and mobile utility customer portals
- Demand response management system
- Electronic Fund Transfer (EFT) after each event
- Pre-event tips and alerts
- Digital email/SMS engagement
- Customer reporting.

**Assessment against DMIS incentive criteria**

We approved United Energy's DMIS incentive payment claim of \$168,947 for 2021–22 because this met the DMIS criteria.

	Details
Business name	United Energy
Project details	Summer Saver Program (SSP22)
Incentive claimed	\$168,947
Project cost	\$337,894
DM Benefit	\$502,643
	Criteria met (Y/N)
Criteria 1 Eligibility	Yes
Criteria 2 A credible option	Yes
Criteria 3 Request for demand management issued	Yes
Criteria 4 The project is committed	Yes
Criteria 5 The project meets the schemes equation	Yes

## United Energy 2021–22

### Summer Saver residential demand response program

The Summer Saver Program (SSP23) is a behavioural demand response program that incentivises customers to reduce their power usage during times of maximum demand. The program targets constrained areas with highly utilised distribution transformers and low-voltage circuits that are at an elevated risk of overload outages during summer to defer network augmentation.

The Summer Saver Program utilises the capabilities of the Advanced Metering Infrastructure to encourage customer participation and engagement whilst lowering implementation costs.

Once registered, participants are requested to voluntarily reduce their power usage during a three-hour event window on a small number of hot weather 'event days' which typically are on weekdays over the summer period.

Customers are notified at least two days in advance of an 'event day' so they could plan how to reduce their energy consumption. Customers who successfully lower their energy consumption below their allocated baseline during the event are rewarded. SSP22 is based on a voluntary usage reduction program utilising high-frequency AMI data.

SSP23 includes the following features:

- Digital customer web and mobile enrolment
- Web and mobile utility customer portals
- Demand response management system
- Electronic Fund Transfer (EFT) after each event
- Pre-event tips and alerts
- Digital email/SMS engagement
- Customer reporting.

### Intelligent Automation's Demand Management Solution

Intelligent Automation offered a non-network Home Energy Management System (HEMS) - an alternative to the Summer Saver Program. Intelligent Automation's proposal offered an end-to-end solution that included event dispatch, the provision of a web portal, marketing, recruitment and rewards incentive payments for customers within the constrained sites.

The proposal included the installation of a switching device called the Gswitch at the customer's premise and integration into the Intelligent Automation Power Platform. According to Intelligent Automation's proposal:

*The Gswitch is installed in line with the customers appliances and acts as a link between the user and their appliances. Software communicates to the user or subscribed remote agents. The software makes smart decisions for the end user on when to run certain appliances, whilst guaranteeing the required runtimes at minimum cost. The smart decisions can be managed by the customer through the easy to use local or remote web portal.*

*The purpose of the Gswitch is to protect the end user against high tariff pricing, and to increase return on investment (ROI) on asset value. This allows the customer to set their comfort levels and giving them control over their power bills.*

**Assessment against DMIS incentive criteria**

We approve United Energy's DMIS incentive payment claim of \$153,460 for 2021–22 because this met the DMIS criteria.

	Details
Business name	United Energy and Intelligent Automation
Project details	Summer Saver Program (SSP23)
Incentive claimed	\$153,460
Project cost	306,921
DM Benefit	\$482,872
	Criteria met (Y/N)
Criteria 1 Eligibility	Yes
Criteria 2 A credible option	Yes
Criteria 3 Request for demand management issued	Yes
Criteria 4 The project is committed	Yes
Criteria 5 The project meets the schemes equation	Yes

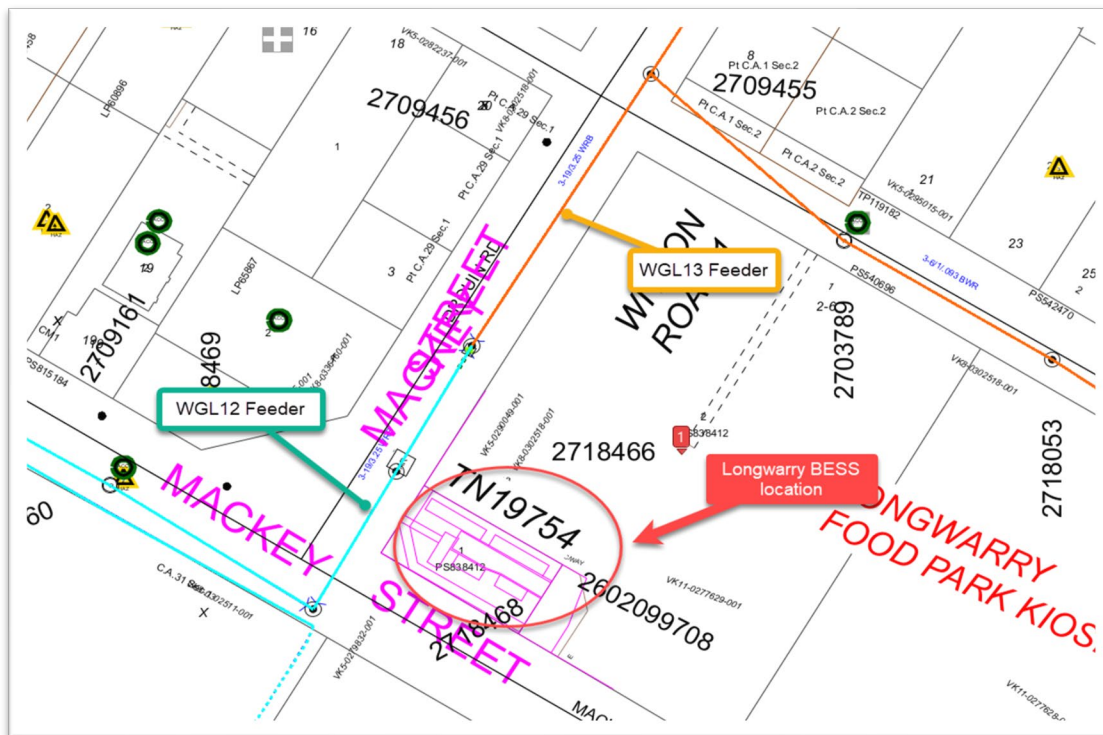
## AusNet Services 2021–22

### West Gippsland Non-Network Solution

The West Gippsland DMIS project was identified as an efficient non network solution by AusNet Services in 2020 as required under the scheme. The project’s purpose is to defer the construction of a new 22kv feeder (estimated to cost \$2.5 million) out of the Warragul zone substation.

The intention of this DMIS project is to connect a battery storage to supply 3 MW of evening peak summer network support to a feeder in the Warragul area. This solution will also involve the load transfer between three feeders (pictured) in the area that would allow for a reduction in peak demand for these feeders until 2029.<sup>13</sup>

To this end, the non-network solution service provider was required to instal a battery energy storage system that would provide the requested 3 MW / 6 MWh (at call) of network support for 8 summer periods.<sup>14</sup>



Source: AusNet Services<sup>15</sup>

<sup>13</sup> AusNet Services, *Email to the AER re: request for further information: West Gippsland Non-Network Solution*, 18 January 2023.

<sup>14</sup> AusNet Services, *Email to the AER re: request for further information: West Gippsland Non-Network Solution*, 25 January 2023.

<sup>15</sup> AusNet Services, *Email to the AER re: request for further information: West Gippsland Non-Network Solution*, 25 January 2022.



**Assessment against DMIS incentive criteria**

We approve AusNet Services' DMIS incentive payment claim of \$263,683 for 2021–22 because this met the DMIS criteria.

	Details
Business name	AusNet Services
Project details	West Gippsland Non-Network Solution
Incentive claimed	\$263,683
Project cost	\$527,366
DM Benefit	\$1,804,595
	Criteria met (Y/N)
Criteria 1 Eligibility	Yes
Criteria 2 A credible option	Yes
Criteria 3 Request for demand management issued	Yes
Criteria 4 The project is committed	Yes
Criteria 5 The project meets the schemes equation	Yes