



Demand Management Outcomes Report 2015-16



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During 2015-16 our demand management program delivered 2.3MVA against a revised target of 2.1MVA and maintained the existing 41MVA under contractual control. The year was one of change which included the release of the Australian Energy Regulator's final determination for the 2015-2020 regulatory control period and the early stages of transitioning demand management to a more holistic program.

A new approach was required to support the changing needs of our customers and their expanding choice of distributed energy resources, such as solar and batteries, as well as electric vehicles. It will focus on energy management and transformation, tariffs and customer choice, network utilisation and traditional peak demand management.

As part of this transition we commenced a range of new initiatives that will enable our future programs to expand and support a holistic demand and energy management strategy. This included the revision of existing programs and network risks and the transition of embedded generation into the demand management program.

These changes will underpin our demand management program's support of a decarbonised, decentralised energy supply system that enables bi-directional energy flows created by the growth in distributed energy resources.

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Document purpose and structure

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This report has been prepared in accordance with Ergon Energy's requirements under the *Electricity Regulation 2006 (Regulation)*. Sections 127(B) and (H) of the Regulation require that Ergon Energy, as a condition of its Distribution Authority, submit to the Director-General of the Department of Energy and Water Supply (DEWS) an annual Demand Management Outcomes Report.

This report compares:

- the proposed projects stated in the approved Demand Management Plan for the previous financial year (being 2015-16),¹ and
- the actual projects carried out in that year.

The expenditure and program activities for the Demand Management Innovation Allowance (DMIA) are reported separately in the DMIA outcomes report.

This report is structured as follows:

Title	Description
Demand management program performance	Provides a summary of key developments in the demand management organisation within Ergon Energy in 2015-16. Also presents the program level outcomes of the DM program.
Network augmentation deferral savings	Summary of the deferred infrastructure costs and associated NPV savings of DM programs.
Demand management activities	A summary of the initiatives forecast to be carried out versus the actual activities carried out in 2015-16.
Demand management program expenditure	Analysis of the expenditure with forecast expenditure as set out in the 2015-16 Demand and Energy Management Plan.
Demand Management Proposed Initiatives	Details the status of key DM projects by describing each project's objectives, aims, outcomes, risks and budgets to date.

¹ As adjusted on 24 December 2016 and approved by DEWS on 5 January 2016.

Summary 2015-16

In 2015-16, our demand management program continued to support the reduction and management of network risks. The program contracted an additional 2.3MVA of demand reductions which consisted of both 1MVA of contractual control and 1.3MVA of demand reduction. This results in a total of 42MVA of demand under contractual control by the end of the financial year.

During the 2015-16 year we commenced a review of our programs to ensure alignment with the changing network risks, holistic program strategy and the 2015-20 regulatory determination. The transition to a holistic program is detailed in our Demand and Energy Management Plan 2016-17.

Key outcomes over the 2015-16 year included the development of a variable pricing methodology to enable the valuation of network risk – enabling a more proactive demand management program. This included the review of existing and forecasted initiatives and the application of the new variable pricing methodology where appropriate.

We developed the strategies to expand our product range to support emerging demand-side technologies, such as, a battery incentive product for our customers and support of price reflective tariffs.

Finally, we continued to support our market partners through the Trade Ally Network with access to information and services and the development of an interactive incentive map enabling easier access for customers to our programs.

SCORECARD

	CURRENT	FORECAST
Demand Under Contractual Control	42MVA	Maintain
Demand Under Controlled Load Tariffs	700MW	Maintain
Demand Growth	1.6%	Steady
Solar Energy Systems – Residential	115,000 systems	Steady Growth
Solar Farms	36 – enquiry stage	Increasing
Energy Storage – Residential	500 systems ~2MW ~4MWh	Increasing
Energy Storage – Commercial	500kWh	Increasing

ABOUT ERGON ENERGY

Ergon Energy supplies electricity to over 740,000 business, residential and commercial customers across a vast operating area of over one million square kilometres – around 97% of the state of Queensland. This service area includes the expanding coastal and rural population centres to remote communities of outback Queensland and the Torres Strait.

Our electricity network consists of approximately 160,000 kilometres of powerlines and one million power poles, along with a range of associated infrastructure such as major substations and power transformers. We also own and operate 33 stand-alone power stations that provide supply to isolated communities across Queensland, which are not connected to the main electricity grid.

Over recent years demand on our network has changed dramatically, due to factors such as economic slowdown, solar energy penetration and the awareness and take up of energy efficiency behaviours and new more energy efficient appliances. Due to the radial nature of our network, however, we still need to respond to pockets of localised growth. We also need to respond to an evolving energy challenge, as discussed in our Demand Management and Energy Plan.



Delivering the strategy

Key strategic achievements that were completed in 2015-16 are listed below.

INFORMING THE MARKET

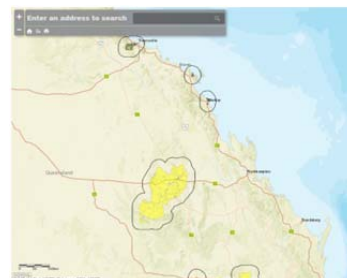


The Network Capacity Incentive Map went live and was renamed to the Network Incentive Map in line with the change to a holistic approach to our demand management program.

www.ergon.com.au/network/manage-your-energy/incentives/search-incentives

As the Ergon Energy network covers a very large geographical area it is important that we work with our customers and partners to offer incentives to encourage participation in our demand reduction or utilisation programs.

The Demand Management Incentive Map enables a visual geographical view of where we have incentives available to our customers and where there is growing network risks which may trigger future incentive programs. It also has a search feature which allows a customer to enter their National Metering Identifier (NMI) and find out if they are eligible for an Ergon Energy incentive.



ENGAGING THE ENERGY SERVICES MARKET



We continued to invest in our free to join partnership program, the Trade Ally Network (TAN), to help customers find a supplier that may be able to assist with receiving an incentive.

www.ergon.com.au/network/manage-your-energy/incentives/our-partnership-program

The TAN registry of local, state-wide and national businesses aims to help customers explore energy efficiency and demand management opportunities, and the associated incentives being offered. The registry is evolving as we roll out new programs in new areas across our network. Third parties who work with us to deliver demand management initiatives to customers, can apply to use the *Ergon Incentives*.



TAN Registry Search: www.ergon.com.au/tansearch

PRODUCT DEVELOPMENT



Our product development work continued with an increased focus on emerging technologies such as energy storage, electric vehicles and connected devices. Key activities in 2015-16 included:

- development of the foundational layers for an energy storage incentive product which is expected to be available in 2016-17
- continued development of electric vehicle strategies to enable and support our customer choice
- modelling and exploration of the requirements and incentives that would enable customer side inverters in solar farms to supply MVAR to support network voltages and power quality.

We are also creating a range of useful information for customers to enable them to make informed choices about new and emerging energy technologies through our 'Smarter Energy' web portal. This includes information on batteries, electric vehicles and off grid solutions.

Helpful Links

Home Energy Tips: www.ergon.com.au/network/manage-your-energy/home-energy-tips

Business Resources: www.ergon.com.au/network/manage-your-energy/business-resources

Agriculture Industry: www.ergon.com.au/network/manage-your-energy/agricultural-industry

Renovating/building: www.ergon.com.au/network/manage-your-energy/home-energy-tips/renovating-and-building

Incentives: www.ergon.com.au/network/manage-your-energy/incentives

Smarter Energy: www.ergon.com.au/network/smarter-energy



Promotional example for PeakSmart air conditioning incentives in constrained areas.

WORKING CLOSELY WITH THE INDUSTRY



We continued our work with standards bodies for the development of standards such as Australian Standard (AS) 4755 and AS4777, with a view to leveraging these standards to make access to our incentives easier for customers.

Our support of industry best practice includes the development of connection standards, encouraging new developments to build in demand management capabilities at the time of design/construction, defining network interaction processes and working with standards bodies to create simple network and appliance interactions, such as PeakSmart (AS4755).

We also continued working with key agricultural industry bodies, individual primary producers and service providers to facilitate and promote the benefits of a transformational change in energy use on farms and related food processing through the Queensland Government funded Energy, Savers Plus Program.

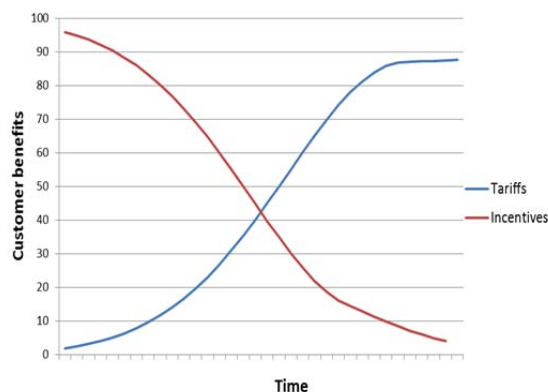
www.qff.org.au/policy-projects/our-projects/energysavers/

NETWORK TARIFF REFORM

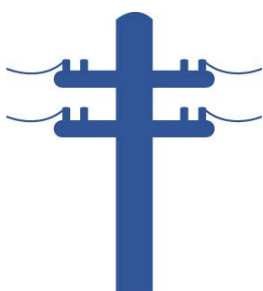


Tariff reform continues to underpin our long term demand management program. In 2015-16, we introduced a range of cost reflective network tariffs, including, for the first time, Seasonal Time-of-Use Demand tariffs. We also commenced trials for the Seasonal Time-of-Use Demand Residential tariff. The outcomes of these trials will provide a foundation for further promotion of cost reflective tariffs in the coming years.

While we will continue traditional demand management activities with the associated incentive payments, we expect to increasingly be able to integrate dynamic prices and cost-reflective tariffs to respond to network risk. In the longer term tariffs will be the primary tool to manage demand and energy.



PRICING NETWORK RISK



Our Optimal Incremental Pricing (OIP) methodology for valuing demand in risk areas of our network was developed and implemented in 2015-16. This new methodology will underpin our capacity demand management program in the coming years and provides a forward looking view as to the risk and value of demand in the network.

The OIP demand methodology has been used as the basis for our OIP program and directly supports our mapping functions, product offers and TAN members by providing the market with a longer term view of opportunities available under our incentive programs.

Our entire capacity demand management program, (new and existing programs), will be transitioned to the new OIP program over the coming year and included on the incentive map. This transition is likely to impact some programs; however, it will enable a more stable view into the overall program for our customers.

Initiatives 2015-16

Our program in 2015-16 continued to maintain the existing demand management contracts, removed demand in network risk areas, developed and implemented new capabilities whilst driving efficiencies through a program of work approach.

Our demand management program expenditure is detailed below and details actual vs forecast expenditure for 2015-16.

Program	Budget 2015-16 (\$'000)	Expenditure 2015-16 (\$'000)
Committed works	5,132	3,683
Contracting demand	1,892	647
Maintenance	3,240	2,825
Embedded generation	-	211
Planned	2,946	1,110
Network constraint and targeted	2,246	1,013
Safety Net	350	-
Broad based	350	97
Program management	475	446
Total	8,553	5,240

During 2015-16 we aligned our program reporting to better reflect the initiative goals against the above reporting categories, this involved changing the reporting categories of three programs:

- ADMD calculator reporting was transferred from committed to capability building.
- Your Power Queensland was transferred from committed to broad based, education and was finalised.
- Demand mapping was transferred from broad based to capability building.

Committed works – Contracting demand

These initiatives are committed and in the market actively contracting demand.

Contracting Demand	Description	Objective	Forecast 2015-16 (\$'000)	Actual 2015-16 (\$'000)	Asset deferral value (\$'000)
Cannonvale	Manage the load growth in the Cannonvale area in order to maintain acceptable network risk.	Reduce peak demand by 350kVA on an annual basis in the Cannonvale area.	445	137	Risk based program ²
Cairns Northern Beaches	The area has greenfield capacity and voltage risks and also has opportunity for embedding generation.	Research the opportunity for embedded generation to manage the ongoing risks in the area.	-	62	83,114
Kingaroy Power Factor	Power factor correction across Kingaroy zone substation to meet requirements.	Complete the power factor deployments and close the project.	19	41	3,426
Empower Mackay	Development of new market and customer engagement channels, incorporating the first iteration of the Network Incentive Map (formerly referred to as the Demand Reduction Incentive Map DRIM)), to reduce peak demand and optimise future network augmentation in the South Mackay area	Maintain the project with reduced demand price and continue to monitor risks in the area.	803	309	36,100
ESC Bohle Industrial Area	Reduce enough peak demand to defer the proposed Mt St John and Bohle Plains Substations by two years.	Continue the program and roll into the new OIP program to expand program offers.	320	98	48,000
ADMD Calculator	Program reporting moved to capability building			-	-
Your Power	Program reporting moved to education reporting in the broad based section below			-	-
Total			1,587	647	170,640

² The Cannonvale program is based on mitigating the greenfield load growth risk in the area, the program will be rolled into the OIP program of works.

Committed works – Maintenance initiatives

These initiatives are supporting existing contracts where there is an on-going network support agreement with a customer or aggregator. These programs manage demand that is contracted for dispatch by our network operations centre for network risk mitigation. Much of this demand is large embedded customer generation and is supporting capacity constraints.

Maintenance	Description	Objective	MVA Managed	Forecast 2015-16 (\$'000)	\$ Actual 2015-16 (\$'000)	Deferral capital value (\$'000)
Mount Peter (Gordonvale)	Contracted demand at the sugar mill in the Mount Peter (Gordonvale) area to support peak demand and load growth in the southern Cairns growth corridor.	Maintain availability	2.47MVA	164	114	19,830
Dingo/ Daringa	Support of voltage constraints on the Dingo network derived from customer contracted embedded generation.	Maintain availability	0.07MVA	30	13	14,000
Mount Isa	Network support for the Mount Isa network derived from customer and network embedded generators.	Maintain availability	1.7MVA	196	213	19,426
Alpha	The Alpha network from Barcaldine has voltage constraints and is supported by an integrated network embedded generator. Generator transferred from market generator to embedded generator due to functionality and costs. Ongoing costs will be reported in Embedded Generation.	Maintain availability	1MVA	400	334	-
Malanda	Customer embedded generator contracted to support the reduction of load in the Malanda area for network contingency requirements.	Maintain availability	1.4MVA	100	74	16,404
Moranbah	Customer embedded generators to support demand reduction from the Moranbah substation.	Maintain availability	10MVA	510	335	29,507
Barcaldine	Network embedded generator enabled to support the Barcaldine area during network outages.	Maintain availability	20MVA	1,840	1,738	174,874 ³
Stanage Bay	Contact network support in Stanage Bay for voltage support in peak season.	Maintain availability	-	-	3	-
Total network support available for risk mitigation			36.6MVA	3,240	2,825	254,230

³ The Barcaldine deferral value is a high level estimate is based on duplication of the sub-transmission to the Barcaldine zone substation. Due to the high estimated cost of the network alternative it has always been the preferred approach to use embedded generation to manage security to the Barcaldine and Central West areas.

Committed works – Embedded generation initiatives

These initiatives are a recent addition to the demand management program and have therefore not had a forecast expenditure in past demand management plans. These initiatives include Ergon Energy owned and operated embedded generation for network risk management purposes.

Embedded Generation	Description	Objective	MVA installed	Forecast 2015-16 (\$'000)	Actual 2015-16 (\$'000)
Dajarra	Network embedded generator in the Dajarra area for supporting voltage and outages. This project will be reviewed to determine the value under new safety net security criteria and a complete site audit will be performed.	Review existing risks and generation operation to determine value and ongoing costs.		-	3
Kajabbi	Network embedded generator in the Kajabbi area for supporting voltage and outages. This project will be reviewed to determine the value under new safety net security criteria and a complete site audit will be performed.	Review existing risks and generation operation to determine value and ongoing costs.		-	0
Alpha	The Alpha network from Barcaldine has voltage constraints and is supported by an integrated network embedded generator.	Operational costs to be reported with the Embedded Generation initiatives on an on-going basis.	1.0MVA	-	151
Adminis- tration	Administration costs associated with the embedded generation systems which were not attributed to a specific embedded generator.	Review these administration costs and ensure future costs are captured in overall program administration.		-	57
Total					211

Planned - Network constraint and targeted programs

These projects commenced or were forecast to commence in 2015-16.

Planned Programs	Description	Objective	Forecast 2015-16 (\$'000)	Actual 2015-16 (\$'000)	Asset deferral value (\$'000)
Charleville	Charleville, due to its location has high solar resources creating opportunities for solar farms. The static VAR compensator is also ageing in the area.	Investigate the opportunities for utilising solar farm inverters to support of replace the SVC need.	-	240	35,000
Mackay (North)	North Mackay has substantial growth risks with greenfield developments and if these risks materialise significant network investment will be required.	Nil direct activities for 15-16 as per variation, future programs will be rolled into the OIP program	280	4	OIP program ⁴
Ooralea	Ooralea has substantial growth risks with greenfield developments and if these risks materialise significant network investment will be required.	Nil activities for 15-16 as per variation, future programs will be rolled into the OIP program	100	-	OIP program ⁴
Gracemere	Gracemere has substantial growth risks with greenfield developments and if these risks materialise significant network investment will be required.	Nil activities for 15-16 as per variation, program is on hold subject to a Regulatory Investment Test for Distribution (RIT-D).	531	-	Deferral value post RIT-D
Charters Towners	The Weir Single Wire Earth Return (SWER) has experienced power quality issues on peak demand days and will have a Grid Utility Support System (GUSS) installed.	Monitoring and investigation activities for 2015-16 as per variation. GUSS units installed.	100	9	OIP program ⁴
Feeder program	Nil activities as the program concept has evolved into our OIP program which was approved in May 2016 and launched in August 2016.		300	-	-
Alpha	The Alpha feeder is supported by an embedded generator (see Embedded Generation) for voltage support. Any peak demand reductions will reduce the operational times of this generator.	Implement a demand management program to mitigate peak demand in order to reduce operation costs of the generator.	45	5	-
Bustard Head	The Bustard Head SWER supports a lighthouse and transverses terrain that creates high operating costs.	Examine alternative supply arrangement for the Bustard Head lighthouse.	-	1	1,000
Photovoltaic (PV) voltage investing-ations	Extensive PV installations on the network can lead to power quality issues.	Examine and report on the voltage complaints and develop mitigation solutions where appropriate.	-	755	-
Others	Other network risk areas such as Charlton, Tukura, Broxburn, Kunawarra, Bundaberg Port, Yarranlea, Hervey Bay (Pialba), Bargara, Avoca, Kingaroy, Emerald, Lower Burnett, Burnett Heads	Commence programs depending on network risk and investment on an as needs basis within OIP program.	870	-	-
Total network support available for risk mitigation		36.6MVA			1,013

⁴ OIP based programs are valued based on the Optimal Incremental Pricing methodology as such do not have specific asset deferral values, see page 5 pricing network risk.

Planned - Safety net

As per the variation, the list of locations identified as requiring attention were reviewed and the safety net requirements were met through contingency planning in 2015-16, rather than deploying demand management. The safety net business case is continuing to develop and demand management will be deployed if it is identified as a suitable option in the future.

Safety net	Description	Objective	Forecast 2015-16 (\$'000)	Actual 2015-16 (\$'000)
Safety net risk mitigation	Ensure that the safety net restoration times and load at risk can be maintained appropriately.	Nil as per variation, safety net activities dependent on final safety net business case.	350	-
Total			350	-

Planned - Broad based

Broad based programs that can apply across the entire network.

Broad based	Description	Objective	Forecast MVA	Forecast 2015-16 (\$'000)	Actual 2015-16 (\$'000)
Demand mapping	Program reporting moved to capability building				
Tariff switching	Enable and encourage consumer uptake of cost reflective tariffs for residential, commercial and industrial customers. This includes the promotion of controlled load tariffs as an option for customers.	Promote cost reflective tariffs into market and work with retailers and customers to remove barriers for alternative tariff adoption. Encourage the uptake of controlled load tariffs.	0.5	50	33
PeakSmart	PeakSmart will be deployed as part of individual contracting programs and not delivered as a broad based initiative.		-	150	0
Education	Ensure that our customers view us as a trusted source for information and can utilise information provided to manage their costs while reducing our network risks.	Deploy a range of activities that educate our customers, suppliers and the general market on energy use, peak demand and opportunities to manage costs.	-	180 ⁵	64
Total			0.5	380	97

⁵ Includes the Your Power Queensland forecast costs.

Planned - Program management initiatives

These initiatives help develop the program, build capabilities and support overall administration of demand management.

Management, capability and administration	Description	Objective	Forecast 2015-16 (\$'000)	Actual 2015-16 (\$'000)
GUSS integration and support	To further develop the business case for the purchase and deployment of GUSS systems to manage peak demand on SWER networks and develop the foundations for integration of energy storage as a demand solution.	Finalise the deployment and integration works for the GUSS systems. This will enable the deployment of GUSS units to support demand management projects across the network.	-	139 ⁶
Feeder of the future probe reads	Determine the value of fine grained data and generate demand and voltage profiles of a network element.	Identify an appropriate geographical area and probe read all electronic meters to perform network modelling with the data to determine demand side opportunities.	-	44
ADMD Phase 2 Calculator	Development and validation of a tool to model expected After Diversity Maximum Demand (ADMD) in greenfield developments.	Recommendations and options for business integration of the calculator, including other uses.	145	65
Demand mapping	Map our network constraints and incentive locations to enable our customers to participate in demand side opportunities.	Produce a dynamic demand map across our network and publish the map on the internet therefore reducing barriers for demand side participation.	50	40
Dynamic price development	Price risk on the network that is related to capacity, growth and development to enable earlier demand side intervention.	Automate the OIP tool which calculates the pricing for the OIP programs and develop a business case for go-to-market activities on the outcome.	-	8
230V transition	Evaluate use of international standard 230V (+10/-6%).	Acceptance by stakeholders and 230V supply implementation as standard.	-	113
Administration	Administration support cost for the demand management program as a whole.	To provide administration and support services to the demand management program.	475	37
Total			670	446

⁶ Costs associated with the deployment of GUSS systems and implications on demand side solutions.

Project updates

Updates of 2015-16 projects, including projects that were actioned, planned, amended, cancelled or introduced over the course over the year.

Program	Planned / Actual	Comments
Your Power QLD	Planned and cancelled	The Your Power Queensland website was closed and the content merged across to the Ergon Energy website.
ESC Bohle Industrial Area	Planned and actioned	Program is continuing within the OIP program.
Empower Mackay	Planned and actioned	Program is continuing with the incentives revalued in line with the network risks.
Cannonvale	Planned and actioned	No changes to program, continuing in line with project plan.
Kingaroy Power Factor	Planned and actioned	Program was completed as planned in 2015-16
Mackay (North)	Planned, not actioned	Program was listed twice (Mackay North and North Mackay) in the demand management plan (contracting and forecast). The program had commenced and was investigating opportunities for demand management however flat growth reduced the immediate needs of the program. Any future demand management initiative in this area will continue within the OIP program.
Cairns Northern Beaches	New, unplanned	Cairns Northern Beaches has been a risk area for some time with a range of demand management and network solutions considered depending on the network growth forecasts and greenfield developments. Embedded generation sites have been investigated for the potential rapid deployment risk mitigation as opposed to longer duration demand management.
ADMD Phase 2 Calculator	Planned and actioned	No changes to program, continuing in line with project plan.
Charleville	Planned and actioned	Program was planned and continued in 2015-16 with extensive network modelling and investigations into the benefits of MVAR network support.
Ooralea	Planned and not actioned	Program is being reviewed in line with network risks and if it continues will do so in the OIP program.
Gracemere	Planned and on hold	The initiative is on hold awaiting the outcome of the RIT-D.
Charters Towers	Planned and cancelled	The program was cancelled due to the installation of GUSS units. The area will be monitored for risks and network performance.
Alpha	Planned and actioned	The Alpha area network risks include power quality and voltage. Several initiatives are active in this area to mitigate the voltage risks.
Hervey Bay	Planned, not actioned	The Hervey Bay area holds several network risks due emerging capacity constraints and the high levels of renewable penetration. Demand management programs are forecast to be implemented in this area in the future to manage these risks.
Bustard Head	New, unplanned	Bustard Head is a SWER with high operational expenditure, the Bustard Head initiative is to investigate the opportunity for removing the SWER and supplying energy from a stand-alone power system.
Feeder program	Planned, not actioned	The feeder program was not actioned due to reviews following the Australian Energy Regulator's Distribution Determination. Any future feeder programs will be instigated under the OIP program.

Program	Planned / Actual	Comments
SWER	Planned, not actioned	SWER continues to be a high risk network area. The SWER network continues to be monitored for increased network risk.
Demand mapping	Planned and actioned	The demand mapping project was completed in 2016-16, with the launch of the first on line demand management map.
Tariff switching	Planned and actioned	A range of activities were commenced to encourage swapping of tariffs. These initiatives will continue to be expanded and include cost reflective tariffs.
PeakSmart	Planned, not actioned	PeakSmart as a broad based initiative did not commence in 2015-16 and any peak smart offering will be offered as a product through business as usual targeted programs.
Education	Planned and actioned	A range of education initiatives were developed to support our customers. These will continue and expand.
GUSS integration and support	New, unplanned	The development of the deployment and integration of GUSS systems as a support tool for network risks. The project works hand in hand with demand management and determines the interaction of demand management and GUSS for managing that risk. Project is associated with the Charters Towers project but has broader application across the network.
Feeder of the future probe reads	New, unplanned	The acquisition of data from meters to underpin network modelling and customer side options for advanced demand management programs.
Embedded generation initiatives	New, unplanned	The embedded generation initiatives have been transitioned to the demand management program as they have been established to manage network risks. The projects consist of embedded generation that is owned and operated by Ergon Energy. The program will continue to monitor the network risks and customer side solutions for more efficient options.
Dynamic price development	New, unplanned	The dynamic pricing initiative was developed to enable the pricing of risk in the network and to underpin valuation of future demand management initiatives. Dynamic pricing includes the development of the OIP methodology which is used within the OIP tool and calculates the price for the OIP program. This dynamic price underpins our future demand management program.
230V transition	New, unplanned	Determine the barriers to moving to 230V and the benefits this has on network risk and demand side options and the potential for improving network access for renewable energy systems.
PV voltage investigations	New, unplanned	Project is to review and investigate on voltage complaints related to photovoltaic systems and enables monitoring and tracking of these costs and potential demand side solutions.
Fuel switching	New, unplanned	To enable and remove barriers for customers to utilise electricity as an alternate fuel source, such as electric vehicles.
Safety net risk mitigation	Planned, not actioned	Utilise demand side options to support the reduction in safety net risks. This program is forecast to continue once the safety net program has performed detailed modelling and achieved Gate 3 business case approval.
Others	Planned, not actioned	These programs were not commenced as the development of the OIP methodology enabled alternate valuation mechanisms. Appropriate sites will be included in future OIP programs.
Maintenance initiatives	Panned, actioned	The maintenance programs were actioned as planned with the exception of Stanage Bay as listed below.
Stanage Bay	New, unplanned	There is a growing voltage risk in the Stanage Bay area especially at peak holiday seasons with the risks being mitigated by the contracting of embedded generation.