TasNetworks DMIAM Report 2019-20

CONTACT

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1. Demand Management Innovation Allowance Mechanism

This submission has been prepared under the Demand Management Innovation Allowance (DMIA) scheme applied to TasNetworks by the Australian Energy Regulator (AER).

Under Section 2.3 of the AER's final determination for The Demand Management Innovation Allowance Mechanism, Dec 2017, TasNetworks is required to submit an annual report on expenditure under the DMIA for each regulatory year.

The annual report must include:

1. the amount of the allowance spent by the distributor;
2. a list and description of each eligible project on which the allowance was spent;
3. a summary of how and why each eligible project complies with the project criteria;
4. For each eligible project on which the allowance was spent, and in a form that is capable of being published separately for each individual eligible project, a project specific report that identifies and describes:
    a. The nature and scope of the eligible project;
    b. The aims and expectations of the eligible project;
    c. How and why the eligible project complies with the project criteria;
    d. The distributor's implementation approach for the eligible project;
    e. The distributor's outcome measurement and evaluation approach for the eligible project;
    f. The costs of the eligible project:
        i. incurred by the distributor to date as at the end of that regulatory year;
        ii. incurred by the distributor in that regulatory year; and
        iii. expected to be incurred by the distributor in total over the duration of the eligible project.
    g. For ongoing eligible projects:
        i. a summary of project activity to date;
        ii. an update of any material changes to the project in that regulatory year; and
        iii. reporting of collected results (where available).
    h. for eligible projects completed in that regulatory year:
        i. reporting of the quantitative results of the project;
        ii. an analysis of the results; and
        iii. a description of how the results of the eligible project will inform future demand management projects, including any lessons learnt about what demand management projects or techniques (either generally or in specific circumstances) are unlikely to form technically or economically viable non-network options.
    i. any other information required to enable an informed reader to understand, evaluate, and potentially reproduce the demand management approach of the eligible project.
5. Where an eligible project has extended across more than one regulatory year of the regulatory control period, details of the actual expenditure on each such project or program in each regulatory year of the regulatory control period to date.
6. A statutory declaration signed by an officer of the distributor delegated by the chief executive officer of the distributor, certifying that the costs being claimed for each demand management project:
    a. are not recoverable under any other jurisdictional incentive scheme;
    b. are not be recoverable under any state or Australian Government scheme; and

c. are not otherwise included in forecast capital expenditure or operating expenditure approved in the AER's distribution determination for the regulatory control period under which the mechanism applies, or under any other incentive scheme in that distribution determination.

7. Each of the projects in the DMIA submission is defined as an 'eligible project' based upon the following criteria listed under Section 2.2.1. of the AER's final determination for The Demand Management Incentive Scheme, Dec 2017.
8. An eligible project must:
9. be a project or program for researching, developing or implementing demand management capability or capacity; and
10. be innovative, in that the project or program:
    a. is based on new or original concepts; or
    b. involves technology or techniques that differ from those previously implemented or used in the relevant market; or
    c. is focused on customers in a market segment that significantly differs, from those previously targeted by implementations of the relevant technology, in relevant geographic or demographic characteristics that are likely to affect demand; and
11. have the potential, if proved viable, to reduce long term network costs

Accordingly, this submission details DMIA projects undertaken by TasNetworks in the 2018/19 financial year.

7.1 Governance

7.1.1 DMIA spending in 2019/20

There were **one** (1) new projects and **zero** (0) ongoing DMIA projects under implementation or development for which TasNetworks incurred costs in 2019/20.

TasNetwork's submission identifies claimable costs incurred **totalling $0**.

7.1.2 Compliance with DMIA Criteria

Information addressing items Section 2.3 of the AER's final determination for The Demand Management Innovations Allowance Mechanism, Dec 2017 can be found in the sections below.

7.1.3 Project selection process

When opportunities are identified for new projects, TasNetworks uses the following methodology when assessing projects for funding under the DMIA allowance:

Concept Stage: For new concepts, approval for project research and development is carried out by the Future Networks Team Leader, Future Networks who ensures that the proposed project meets the funding criteria specified under the DMIA Scheme. This component of the project is defined as a Conceptual Project.

Development Stage: Where early stage research and development indicates a potential viable demand reduction solution, the project is approved to proceed to the Development Stage where a project proposal for a full trial is prepared. Approval to proceed to Developmental Stage is by the Future Networks Team Leader, Future Networks.

Delivery Stage: The project proposal is reviewed by the Future Networks Team Leader, Future Networks to ensure it meets the funding criteria specified under the DMIA Scheme and checks are also made to ensure that budget projects costs are within the DMIA allowance. After consideration of the available DMIA budget, proposed projects will be selected for inclusion in the DMIA program and recommended for authorisation at the appropriate delegation level.

7.2 Statement on costs

In submitting this program for inclusion in the DMIA Scheme, TasNetworks confirms that the program costs:

- are not recoverable under any other jurisdictional incentive scheme;
- are not be recoverable under any state or Australian Government scheme; and
- are not otherwise included in forecast capital expenditure or operating expenditure approved in the AER's distribution determination for the regulatory control period under which the mechanism applies, or under any other incentive scheme in that distribution determination.

7.3 DMIA Project Summary

Projects	2019/2020 Actual Costs (exc GST)	Year Initiated
New Projects (initiated 19/20)		
Dynamic EV Charging Trial	$0	2020
New Project Sub-Total	$0	
Existing Projects (expenditure in 2019/20 and initiated prior)		
Existing Project Sub-Total	$0	
TOTAL	$0	

7.4 New Projects

7.4.1 Dynamic EV Charging Trial

EV charging or transport electrification has the potential to improve electricity network efficiency by increasing network energy throughput (the amount of energy transported through the network of poles and wires) leading to a reduction in network charges ($ per kWh) to all customers, but the benefit can only be realised if no/limited additional asset investment is required to enable EV charging. If not managed efficiently, even non-EV owners will bear the burden of the additional electricity required to charge EVs in terms of network infrastructure augmentation and addition of fossil fuel peaking plants to manage the peak demand. Residential EV impact study undertaken by Future Networks identified potential network augmentation costs in range of $4.3m – $7.3m with every 10% increase in EV penetration in no intervention scenario, this cost can be reduced to $0.7m-$1.2m with dynamic EV charging or orchestration.

7.4.2 Project nature and scope

This project is focused on understanding the technology and customer EV charging preferences in orchestrating this new form of DER (distributed energy resources). The most unique value of this project is its co-funded by ARENA, participation by multi DNSPs including Jemena, AusNet, United Energy, Evo Energy, and TasNetworks so project will contribute to collective learning of multiple DNSPs and industry, and project will test future scenario where network capacity is monitored in real time and EV charging is managed dynamically to get the best outcome for the networks and customers.

Insights from project will be fed to the retailers and aggregators to further stake energy market value stream for the customers.

This project will remove barriers unique to the transmission and distribution networks, will facilitate EV uptake for customers and a reduction in the electricity network charges for all customers in Tasmania.

7.4.3 Project aims and expectations

The project aims to determine ways to optimise and defer network asset augmentation required as a result of EV uptake and offer a smoother pathway for all customers.

The project has three main objectives:

Understand what and when spare capacity is available in the network and how the spare capacity can be used to charge EV in a manner that satisfies both customer and network needs

Understand customer preferences and participation in such initiatives

Understand what incremental investment is required after spare network capacity is fully utilised

This is an ARENA funded project put forward as a joint proposal from five DNSPs and its proposal for ARENA funding is led by Jemena Electricity Networks, ARENA will cover half of the expenditure of each of the participating DNSPs

7.4.4 How and Why Project Complies with Project Criteria

The Dynamic EV Charging Trial is a project for researching, developing or implementing demand management capability or capacity especially in determining network capabilities in regards to customers expectations with EV charging. It is innovative using emerging technologies such as LV Monitoring and simulation tools to provide a solution to EV integration. By making these learnings it can reduce long term network costs by minimising augmentation costs.

7.4.5 Implementation approach

The project will be spread over three calendar years (CY 20, 21 and 22) and will have the milestones:

Milestone 1

DNSPS will develop the detailed scope and design of the project. As the design progresses, the key material and services requirement will be identified and detailed specifications will be developed. It is more of refining costs particularly for the hardware-smart charger, control box etc. This stage will require some strategic decisions to be made on scoping, and design in consultation with all partners. A couple of OEMs will also be invited to provide input .A trial participant strategy will be developed during this time.

Deliverables – Completion of the design

Milestone 2 – Smart Charging Platform development

Development works related to the smart charging such as control box, Tesla API integration, aggregators platform JetCharge (ChargeFox), user interface, API integration with the DNSP side platform and optimisation engine will be completed by JetCharge. DNSPs will develop required platform to integrate with their internal systems as well as with the Charge Fox platform.

Deliverables – Fully tested hardware and software

Milestone 3- Customer recruitment

This is the most critical aspect of the trial given the low number of EVs hence will require concerted efforts from all DNSPs, JET Charge and other associates. A robust marketing plan will be developed to guide the process. This will continue until the end of the year.

Deliverables – Required number of EV owners recruited for the trial

Milestone 4 – Installations and testing

This involves installing the charging equipment at homes and distribution transformer monitoring systems on the Networks within DNSP's areas. The installation is expected to be staggered as the installation process will continue to be refined based on the lessons learnt as the installation progresses.

Deliverables – Onsite installation of the equipment at home and on Networks.

Milestone 5 – Dynamic charging field trials

A 12 month trial period is allocated to run variety of demand response trials offering variety of incentives in five DNSP's areas.

Deliverables – Successful completion of the field trial as per the plan.

Milestone 6 – Analysis and knowledge sharing

DNSPs will collect the data and perform the analysis to underpin the evaluation of the trial.

Deliverables – Knowledge sharing activities.

7.4.6 Results

There are no results at this point in time due to the early stages of the project.

7.4.7 Implementation costs of the project

The costs of the eligible project incurred by the distributor to date as at the end of that regulatory year and incurred by the distributor in that regulatory year is as follows:

Budget Item	2019/20 Actual	Total Actual
Project research and development	$0	$0
Project Delivery	$0	$0
Total (excl GST)	$0	$0

The costs of the eligible project expected to be incurred by the distributor in total over the duration of the eligible project is as follows:

Annual Budget	Yr 1 20/21 ($M)	Yr 2 21/22 ($M)	Total ($M)
Internal Labour (Incl. CAM)	0.293	0.036	0.329
Procure Sub/contractor (Incl. CAM)	0.054	0.077	0.131
ARENA Reimbursement	-0.161	-0.052	-0.213
TasNetworks Contribution (Incl. CAM)	0.185	0.06	0.246
Direct Cost Total	0.347	0.113	0.46

7.4.8 Project Progress & identifiable benefits

Key Deliverables	Start Date	End Date
Finalising agreements- Partners and ARENA	1 May 2020	30 September 2020
Pilot design: Marketing plans, test plans including hardware/ Software specifications, Knowledge Sharing plan.	1 May 2020	30 September 2020
Smart Charging Platform Development	1 September 2020	30 November 2020
Customer recruitment (existing EV owners and through point of sales)	1 September 2020	31 January 2021
Hardware installations and testing- Smart charging infrastructure with Network Sensors	1 December 2021	28 February 2021
Dynamic charging field trials	1 March 2021	1 March 2022
Analysis, final report and knowledge sharing	1 March 2022	31 July 2022

7.5 Existing Projects

There are no existing projects.


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