Final Plan Attachment 7.1

Consistency of the Victorian Gas Distribution Businesses' Joint Marketing Campaign with Rule 91 of the NGR

A Report Prepared for Australian Gas Networks, MultiNet Gas and AusNet Services

A Report by Axiom Economics

20 December 2016

Consistency of the Victorian gas distribution businesses' joint marketing campaign with rule 91 of the NGR

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1. Introduction and Summary of Findings

Axiom Economics has been asked by AGN, AusNet Services and Multinet (jointly 'the Victorian DBs') to assess whether a joint marketing campaign that they are proposing to undertake in the 2018-2022 Access Arrangement (AA) period satisfies rule 91 of the National Gas Rules (NGR).

Like the marketing campaigns employed by gas distribution businesses in other jurisdictions that have been approved by the Australian Energy Regulator (AER) and the Economic Regulation Authority (ERA), the joint campaign will focus on the residential segment of the market and seek to:

- counter some of the projected decline in residential consumption that is expected to occur in the next AA period by; and
  - encouraging the uptake and use of gas appliances by new and existing customers to try and stem the flow of appliance switching; and
  - retaining existing customers and encouraging new customers to connect; and
- encourage greater take up of gas in the regional areas, including those areas that have recently been connected through the Energy for the Regions program.

As the AER has previously observed,[1] a campaign of this nature can be an efficient response to lower than efficient levels of network utilisation if it results in a measurable increase in the volume of gas transported through the network.[2] It can also be in the interests of consumers if it results in lower reference tariffs over the long run, which will occur if the benefits of the incremental demand exceed the costs of the campaign.

Further detail on the joint campaign and our assessment of its consistency with rule 91 of the NGR is provided below.

1.1 Use of marketing by gas distribution businesses

Unlike electricity, natural gas (gas) is a fuel of choice. Customers must therefore make a conscious decision to connect to the network, install gas appliances and overcome the inertia associated with using electricity. Marketing can play an important role in influencing these decisions, which is why it has been so widely used by gas distribution businesses in Australia. The marketing campaigns employed by gas distribution businesses are typically designed to increase the utilisation of their networks by encouraging:

- new connections to the network to increase the penetration rate;
- existing customers to stay connected to the network; and/or
- greater volumes of gas to be consumed at each connection.

1 AER, Draft Decision: JGN Access arrangement 2015-20, Attachment 7, November 2014, p. 7-24.

2 This could occur as a result of an increase in the number of customers connected to the network and/or an increase in the average volume of gas consumed at connection points.

Given the predominantly fixed cost nature of providing distribution services, increasing the utilisation of the network in this manner allows the costs to be spread over a greater number of customers and/or volume of gas, which reduces the unit cost of transporting gas and, in turn, reference tariffs. A reduction in reference tariffs can lead to improvements in the competitiveness of gas *vis-à-vis* other fuels, which may also result in an increase in demand for gas.

Marketing has been recognised by both the AER and the ERA as a prudent and efficient form of expenditure under rule 91 of the NGR, where it can be demonstrated that it is in consumers' long-term interests and is:

- as such as would be incurred by a prudent service provider acting efficiently;
- in keeping with accepted good industry practice; and
- expected to achieve the lowest sustainable cost of delivering services.

Regulated gas distribution businesses that have carried out marketing and had their allowances approved by the AER and the ERA in the last five years include JGN, ATCO Gas, AGN, Allgas and ActewAGL.[3]

Other unregulated gas distribution businesses that have implemented marketing campaigns in their networks, include Tas Gas Networks and AGN (New South Wales), both of which face strong inter-fuel competition from electricity. The use of marketing by these two unregulated businesses, provides further support for the view that marketing is a prudent and efficient form of expenditure and consistent with what one would expect to observe in a workably competitive market.

1.2 Rationale for the joint marketing campaign in Victoria

In contrast to other jurisdictions, only a small amount of marketing has occurred in Victoria to date[4] because, unlike other jurisdictions where a single gas distribution business supplies all (or the majority) of the market, the Victorian market is supplied by three similarly sized DBs. The presence of more than one major distribution business in Victoria means that any marketing carried out by a single distribution business, particularly in areas where the networks are in close proximity (e.g. the Melbourne area), is likely to be subject to the 'free rider effect' and therefore result in sub-optimal levels of marketing. To overcome this impediment, the Victorian DBs are proposing to carry out a joint marketing campaign in the upcoming AA period.

[3] See: AER, Final Decision: Jemena Gas Networks AA 2015-2020, Attachment 7, June 2015, p. 7-24, JGN, ERA, Final Decision: Proposed Revisions to the AA for the Mid-West and South-West Gas Distribution Systems, 30 June 2015, pp. 47 and 97, AER, Final Decision: Envestra AA proposal for the SA gas network, June 2011, pp. 83 and 106, AER, Final Decision: Envestra AA proposal for the Qld gas network, June 2011, pp. 76 and 95, AER, Final Decision: Allgas AA proposal for the Qld gas network, June 2011, pp. 48, 51 and 67, AER, Final Decision: AA proposal for the ACT, Queanbeyan and Palerang gas distribution network, March 2010, pp. 100 and 146, AER, AA proposal for the Wagga Wagga natural gas distribution network, March 2010, pp. 55 and 66.

[4] The marketing activities to date have been limited to regional areas of Victoria.

One of the main objectives of the joint campaign is to counter some of the projected decline in demand that is expected to occur in the Victorian gas market over the next AA period. Conditions in this market are already starting to deteriorate and this trend is expected to continue at an accelerated rate, with the Australian Energy Market Operator's (AEMO's) most recent projections suggesting that total consumption in Victoria will fall from 206 PJ p.a. to 193 PJ p.a. between 2015 and 2022.[5] In the residential and small commercial segment of the market (i.e. Tariff V customers), AEMO is also projecting that demand will fall and that most of the decline will occur over the next AA period (2018-2022).[6] Over this period, AEMO is projecting that residential and small commercial:[7]

- demand will fall by approximately 0.9% p.a. from 123 PJ p.a. to 118 PJ p.a.;
- average consumption will fall by 2.2% p.a.; and
- connections will grow at a much slower rate than the historic average[8] (1.3% p.a. vs 1.8% p.a.)

To put the scale of the projected decline in Victorian residential and small commercial demand into perspective, it is worth noting that it is 5.5-12.5 times higher than the fall that AEMO expects to occur in Queensland, South Australia and New South Wales over the same period.[9] The particularly acute deterioration in conditions in Victoria reflects a range of factors, including:

- rising wholesale gas prices;
- a shift away from gas appliances to electric appliances;
- improvements in the energy efficiency of buildings and appliances;
- changes in the dwelling stock (e.g. from houses to smaller apartments and multi-unit developments, including smaller all-electric apartments);
- environmental concerns about unconventional sources of gas; and
- the growth in solar PV.

Of the factors listed above, AEMO expects rising wholesale gas prices to have the most significant effect on demand in the short-run. However, by 2020, appliance switching is expected to have a more marked impact, with residential and small commercial demand over the AA period expected to be 24 PJ lower than what AEMO projected demand would otherwise be in the absence of this factor.[10]

5 AEMO, National Gas Forecasting Report V2.0, 2 March 2016, Appendix A and associated spreadsheets.

6 *ibid*.

7 *ibid*.

8 The historic average has been measured over the period 2008-2015.

9 AEMO, National Gas Forecasting Report V2.0, 2 March 2016, Appendix A and associated spreadsheets.

10 *ibid*.

The effects of the factors listed above are already starting to be felt by the Victorian DBs, as evidenced by the 0.5% p.a. reduction in the overall level of demand that has occurred across the three networks between 2013 and 2015. Over the same period, demand in the residential and small commercial segment has only grown by 0.1% p.a., while average consumption in this segment has fallen by 1.5% p.a. and net connections have declined by 8.2% p.a..[11]

Looking forward over the next AA period, conditions are expected to deteriorate further, which will place upward pressure on reference tariffs in each network. If the increase in tariffs is large enough it may prompt more customers in these networks to reduce consumption or disconnect. This would place further upward pressure on prices – the consequences of which will be borne by the remaining customers.

It is against this backdrop that the Victorian DBs are considering implementing a joint marketing campaign to try and counter some of the projected decline in residential consumption over the next AA period. The Victorian DBs are also looking to marketing as a tool to encourage greater take-up of gas in regional areas (including those recently connected through the Energy for the Regions program) to reduce the average cost of transporting gas in these areas, which would benefit consumers in these regions.

1.3 Scope of the proposed marketing campaign

Much like the gas distribution businesses cited above, the Victorian DBs are proposing to employ the following measures to try and mitigate the effect of the projected decline in residential consumption over the next AA period and encourage greater take-up of gas in regional areas:

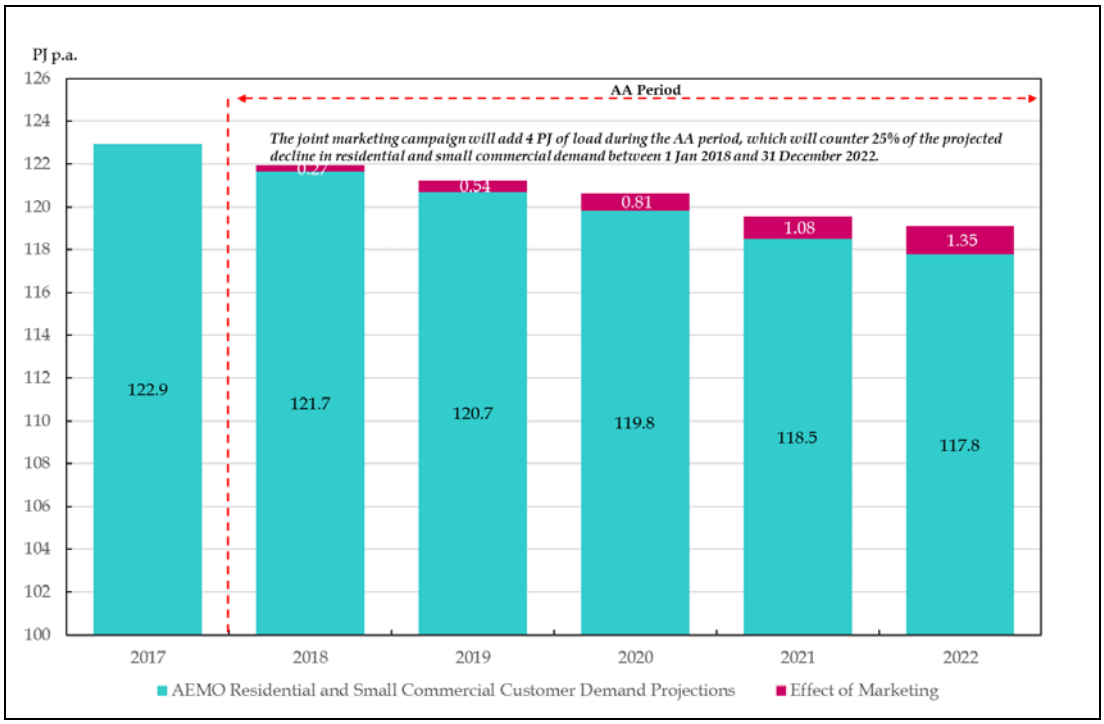
- **an appliance rebate program**, which would provide residential customers a financial incentive to purchase gas heaters and hot water systems and, in some cases, to connect to the relevant network;
- **an advertising campaign**, which would use a combination of television, print, outdoor and digital media to promote the use of gas, reinforce the benefits of using gas appliances and promote the appliance rebate scheme; and
- **industry representation**, which would promote the use of gas to intermediaries that can influence a residential customer's decision to connect to gas (e.g. builders, developers, plumbers, gas fitters and appliance retailers).

Together, these measures are expected to counter **25%** of the projected decline in residential and small commercial demand over the AA period (~4 PJ) and add 4,000 new connections across the three distribution networks. The incremental effect of the campaign on residential and small commercial demand is shown in Figure 1.1. While not shown in this figure, the uptake of gas appliances arising as a result of the campaign would continue to have an effect on residential demand post 2022, with a

[11] Calculated using aggregated information provided by AGN, AusNet Services and Multinet.

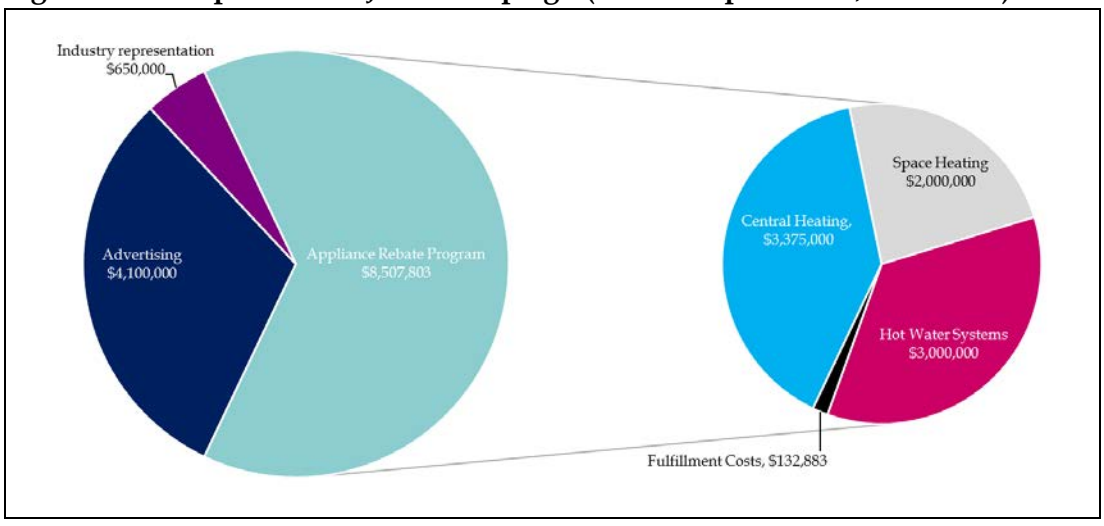
further 17.6 PJ of demand expected to be added between 2023 and 2041 as a result of the campaign.

Figure 1.1: Effect of Campaign on AEMO's Residential and Small Commercial Demand Forecasts



In total, the Victorian DBs are proposing to spend $13.26 million p.a. (real $2016) on the joint marketing campaign over the next AA period (see Figure 1.2).

Figure 1.2: Composition of Joint Campaign (annual expenditure, real $2016)



The costs and benefits of the proposed campaign have been allocated to each DB based on their share of the number of residential customers in Victoria as at 31 December 2015, as shown in the table below.

Table 1.1: Allocation of Costs and Benefits of Joint Campaign

		AGN	AusNet	Multinet	Total
2015 Residential Customer Numbers		615,311	633,940	674,931	**1,924,182**
Contribution to Joint Campaign		$4.24m p.a.	$4.37m p.a.	$4.65m p.a.	**$13.26m p.a.**
Incremental Load	**Over AA period**	1.30 PJ	1.33 PJ	1.42 PJ	**4.05 PJ**
	Over life of appliances	6.91 PJ	7.12 PJ	7.58 PJ	**21.6 PJ**
Number of New Connections Over AA period		**1,279**	**1,318**	**1,403**	**4,000**

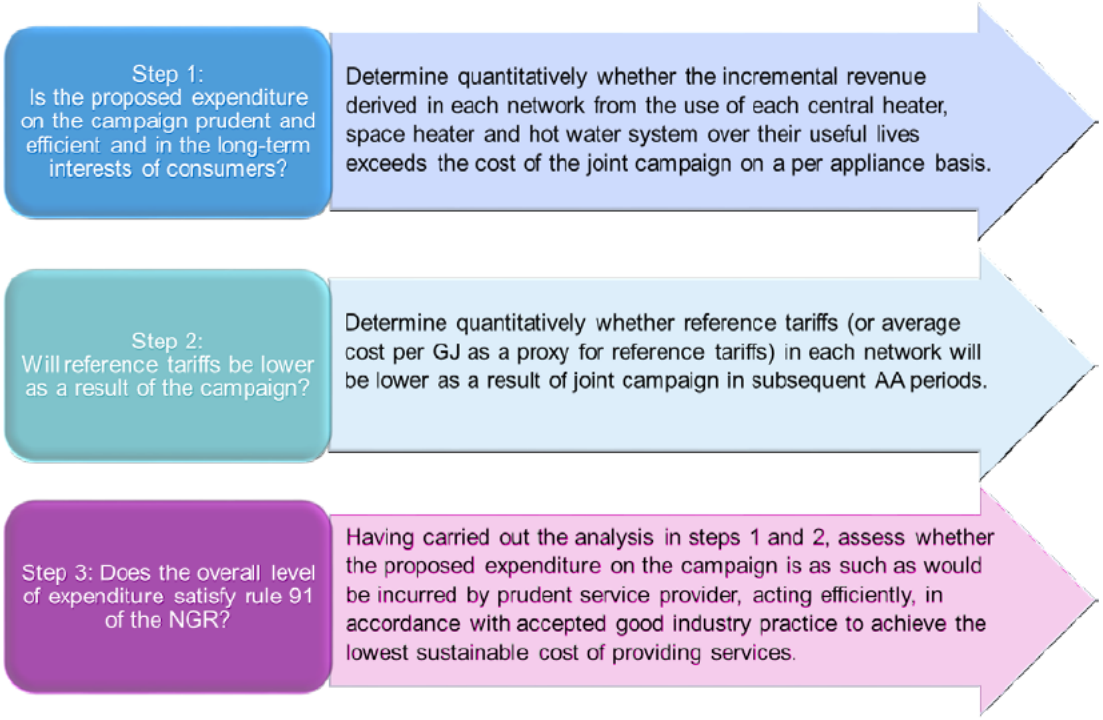
1.4 Consistency of the joint campaign with rule 91

Rule 91 of the NGR states that:

> *Operating expenditure must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.*

To determine whether the joint marketing campaign is likely to satisfy this rule, we have employed a similar assessment framework to that adopted in other AA reviews. This framework is summarised in Figure 1.3 below.[12]

Figure 1.3: Assessment Framework Applied to the Joint Marketing Campaign



[12] A similar approach was employed in the JGN 2015-2020 NSW AA review, the AGN 2013-2017 Victorian AA review and the AGN 2011-2016 South Australian and Queensland AA reviews. See for example, JGN, Appendix 7.3 - Step Change Report, 30 June 2014, AGN, Victoria & Albury Revised Access Arrangement Information, November 2012, Attachment 6.7 and AGN, Access Arrangement Information, 1 October 2010.

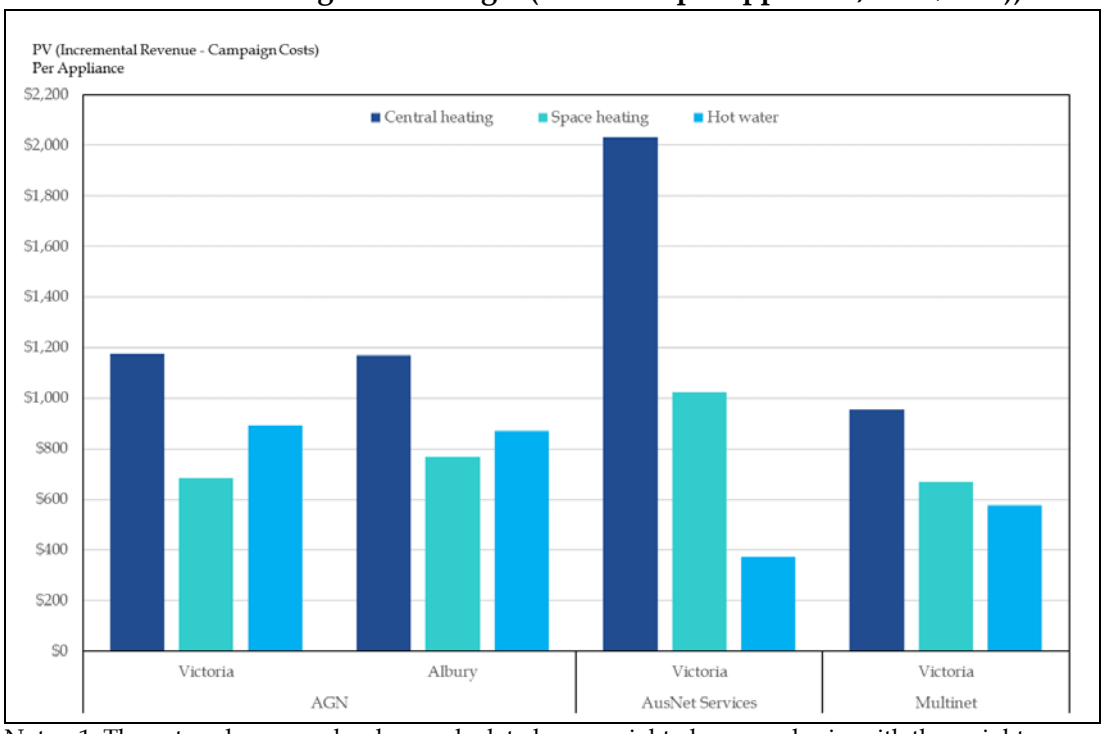
Step 1: Is the proposed expenditure prudent and efficient and in the long-term interests of consumers?

To determine whether the proposed expenditure on the campaign is prudent, efficient and in the long-term interests of consumers in Victoria, we have compared:

- the present value (PV) of the incremental revenue[13] to be derived from the use of the additional appliances over the life of those appliances; *with*
- the PV of the costs of the proposed campaign (i.e. the cost of the rebate program and the cost of the advertising and industry representation campaigns).

This analysis has been carried out at an individual appliance level and across each tariff zone in the three distribution networks. The aggregated results of this analysis by distribution network are summarised in Figure 1.4.

Figure 1.4: Prudence and Efficiency of Proposed Expenditure on Joint Campaign – Network Weighted Average[1] (measured per appliance, real $2016))



Notes: 1. The network average has been calculated on a weighted average basis, with the weights based on the number of residential customers in each tariff zone at the end of 2015.

As Figure 1.4 reveals, the incremental revenue generated from the use of the additional central heating, space heating and hot water systems exceeds the cost of the campaign in each of the Victorian DBs' tariff zones. The proposed expenditure on the campaign can therefore be considered prudent and efficient and in the long-term interests of consumers in these networks.

13 The incremental revenue has been calculated as revenue from the operation of the appliance *less* the share of new connection and incremental operating costs.

Step 2: What effect would the campaign have on reference tariffs?

To determine what effect the campaign would be expected to have on reference tariffs in each network, we have used the average cost per GJ metric as a proxy for reference tariffs. We then compared the value of this metric in the 'with marketing' and 'without marketing' states of the world across the three networks.

The results of this comparison reveal that the proposed campaign would result in an increase in the average cost per GJ metric in the 2018-2022 AA period but the increase would be more than offset by the expected reduction in the average cost per GJ in subsequent AA periods. These results, which are consistent with those in Step 1, confirm that Victorian customers are expected to be better off as a result of the campaign.

Step 3: Does the overall level of expenditure satisfy rule 91 of the NGR

Drawing on the analysis and observations set out above, it is clear the proposed expenditure on the joint marketing campaign is:

- **as such as would be incurred by a prudent service provider acting efficiently** – the prudence and efficiency of the proposed expenditure can be seen in:
  - the quantitative analysis outlined in steps 1 and 2, which show that the cost of the campaign is estimated to be more than offset by the forecast benefits from increased utilisation of the networks; and
  - other quantitative and comparative analysis, which shows that:
    - the level of the proposed rebates and the proposed expenditure on the advertising and industry representation campaigns are in line with those that have previously been approved by the AER and the ERA;
    - the proposed expenditure on the campaign, when expressed on a per residential customer basis, is at the lower end of the range of allowances approved by the AER and ERA in other decisions and well below the median allowance ($6.89 per customer vs $8.20 per customer); and
    - the proposed cost of the campaign, when expressed on a per GJ of incremental demand basis, is more efficient than the allowance the AER recently approved for JGN ($3.07 per GJ vs $3.60 per GJ).
- **in keeping with accepted good industry practice** – the consistency of the proposed expenditure with good industry practice is highlighted by:
  - the range of other regulated and unregulated gas distribution businesses that use marketing to promote the efficient utilisation of their networks; and
  - prior decisions by both the AER and ERA that have allowed regulated gas distribution businesses to undertake this expenditure; and
- **expected to achieve the lowest sustainable cost** – the projected increase in demand brought about by the proposed campaign would enable the fixed cost of providing services to be spread over a greater number of customers and volumes of gas, which can be expected to result in the lowest sustainable cost of delivering services over the longer run.

It follows that, in our opinion, the proposed expenditure on the joint marketing campaign satisfies rule 91 of the NGR and can be considered an efficient response to the expected deterioration in market conditions. The proposed expenditure on the campaign is also consistent with other elements of the regulatory framework, such as the National Gas Objective (NGO) and the revenue and pricing principles, which explicitly recognise that:

- promoting the efficient use of the networks is in the long-term interests of consumers; and
- underutilisation of a network can give rise to economic costs and risks, the effects of which will be borne by both consumers and the pipeline owner.

Finally, it is worth noting that the proposal to carry out the joint marketing campaign was tested with a number of consumer groups and retailers as part of the AGN Victoria and Albury Draft Plan stakeholder workshops. In short, stakeholders were supportive of a joint campaign, although, perhaps not surprisingly, their support was conditional on the benefits of the marketing campaign being shown to exceed the costs - the very question explored in this report. [14]

1.5 Structure of report

Further detail on the joint marketing campaign and the analysis we have carried out to determine whether it satisfies rule 91 of the NGR is provided in the remainder of this report, which is structured as follows:

- Chapter 2 outlines the rationale for carrying out marketing in Victoria and also examines the marketing related measures that DBs have employed in other jurisdictions;
- Chapter 3 provides further detail on the joint marketing campaign, with particular emphasis placed on the objectives and scope of the campaign, the projected costs of the campaign and how those costs would be shared between the Victorian DBs;
- Chapter 4 describes the assessment framework that we have used to determine whether the joint marketing campaign satisfies rule 91 and sets out the results of the application of this framework to the proposed campaign; and
- Appendices A-C provide more detail on the quantitative analysis that has been carried out to determine whether each Victorian DB's share of the proposed campaign satisfies rule 91.

Before moving on it is worth noting that some of the quantitative analysis contained in this report relies upon data, assumptions and modelling that have been provided by the Victorian DBs (for example, the estimated effect of the marketing campaign on tariffs). Where possible, we have sought to ensure that these data, assumptions and modelling are accurate and reasonable.

[14] AGN and Deloitte, Victoria and Albury Draft Plan – Stakeholder Workshops Summary, September 2016, slide 3 and Origin, Re: Submission to AGN Draft Plan for Victorian Gas Distribution Networks, 22 August 2016, p. 2.

It is also worth noting that we have relied upon some of the cost estimates contained in a marketing plan that was commissioned by the Victorian DBs and developed by Dentsu AEGIS Network. A copy of the marketing plan can be found in Attachment A.

2. Rationale for marketing in Victoria

Conditions in the Victorian gas market are, as noted in Chapter 1, deteriorating and are expected to continue to do so at an accelerated rate over the next AA period with demand expected to fall by 5.5-12.5 times more than in any other jurisdiction over this period. If nothing is done to arrest the projected decline in demand then the cost of transportation will rise in each network, which could prompt further reductions, the costs of which would be borne by their customers. It is not surprising therefore that the Victorian DBs are looking to marketing to:

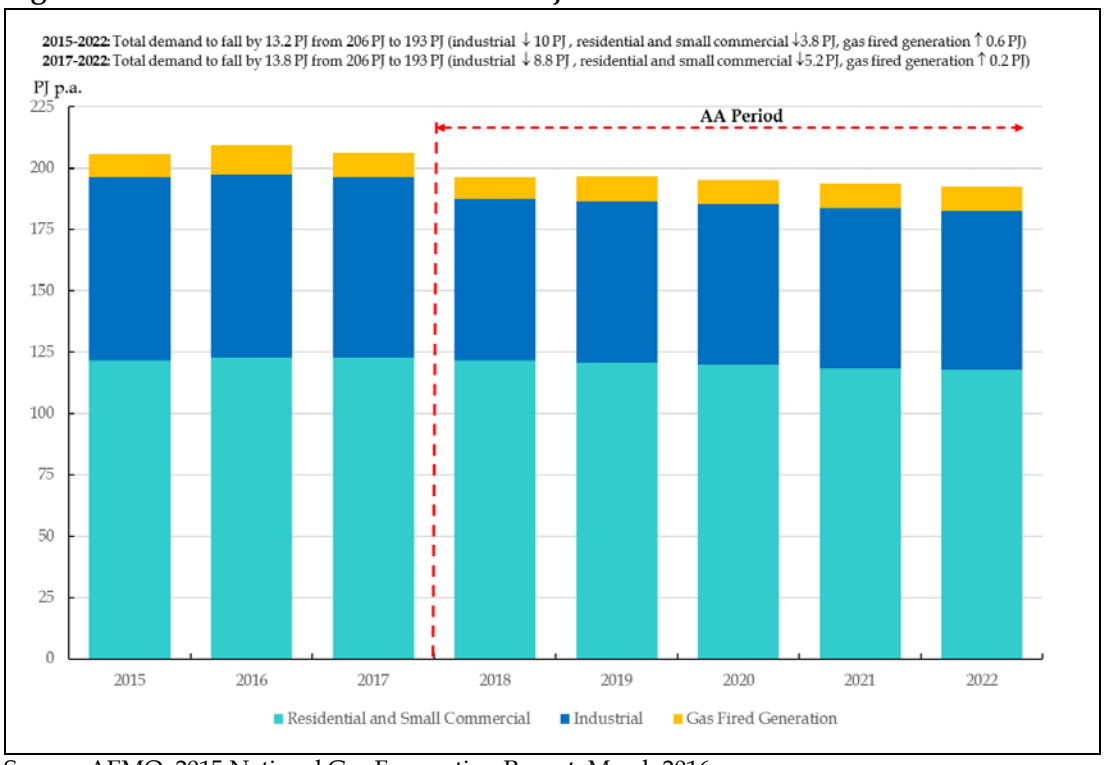
- try and address this adverse trend over the next AA period; and
- encourage greater network utilisation in regional areas, including those being connected through the Victorian Government's Energy for the Regions program.

Further detail on the factors that are driving the joint marketing campaign is provided in the remainder of this chapter, which also contains an overview of the marketing campaigns that gas distribution networks in other jurisdictions have used to address similar issues.

2.1 Deteriorating market conditions

As noted above, conditions are expected to deteriorate in the Victorian gas market over the next AA period with AEMO's most recent projections suggesting that demand will fall from 206 PJ p.a. to 193 PJ p.a. (~1% p.a.) between 2015 and 2022.[15] Some insight into the sources of the projected decline can be found in Figure 2.1.

Figure 2.1: AEMO Victorian Demand Projections



Source: AEMO, 2015 National Gas Forecasting Report, March 2016.

15 AEMO, National Gas Forecasting Report V2.0, 2 March 2016, Appendix A and associated spreadsheets.

As this figure highlights, the majority of the decline in demand between 2015 and 2022 is expected to come from the industrial sector (10.2 PJ). However, AEMO is also projecting a significant decline in residential and small commercial demand (Tariff V), with most of the decline expected to occur over the next AA period.[16]

Over this period, AEMO is projecting that in the residential and small commercial segment of the market: [17]

- demand will fall by approximately 5 PJ (~1 PJ p.a. or 0.9% p.a.) from 123 PJ p.a. to 118 PJ p.a. which, over the five-year term of the AA period, implies that demand will be 16 PJ lower (on a cumulative basis) than what it would have been if it had remained at the 2017 level;[18]
- average consumption will fall by 2.2% p.a.; and
- connections will grow at a much slower rate than the historic average[19] (1.3% p.a. vs 1.8% p.a.).

To put the 5 PJ projected decline in residential and small commercial demand into perspective, over the same period AEMO is projecting that demand from this segment will fall by just 0.9 PJ in NSW, 0.5 PJ in South Australia and 0.4 PJ in Queensland.[20] The decline in demand in Victoria is therefore expected to be 5.5-12.5 times higher than the fall in these other jurisdictions.[21]

Elaborating further on the projected decline in residential and small commercial demand in Victoria, AEMO stated in its last National Gas Forecasting Report that, while it expects population growth to result in some growth in the number of new connections (albeit at a slower rate than historically), this will be offset by a reduction in average consumption per connection. It has attributed the decline in average consumption to: [22]

- rising wholesale gas prices, which is causing a deterioration in the relative competitiveness of gas *vis-à-vis* electricity;
- a shift away from gas appliances to electric appliances (e.g. as a result of the increased penetration of reverse cycle air conditioners, electric heat pumps and solar hot water systems);
- improvements in the energy efficiency of buildings and appliances; and

16 *ibid* .

17 *ibid*.

18 Residential and small commercial demand for gas is expected to be 1.3 PJ lower than the 2017 level in 2018, 2.2 PJ lower in 2019, 3 PJ lower in 2020, 4.5 PJ lower in 2021 and 5.2 PJ lower in 2022.

19 The historic average has been measured over the period 2008-2015.

20 AEMO, National Gas Forecasting Report V2.0, 2 March 2016, Appendix A and spreadsheets.

21 *ibid*.

22 *ibid*, pp. 6 and 43-44.

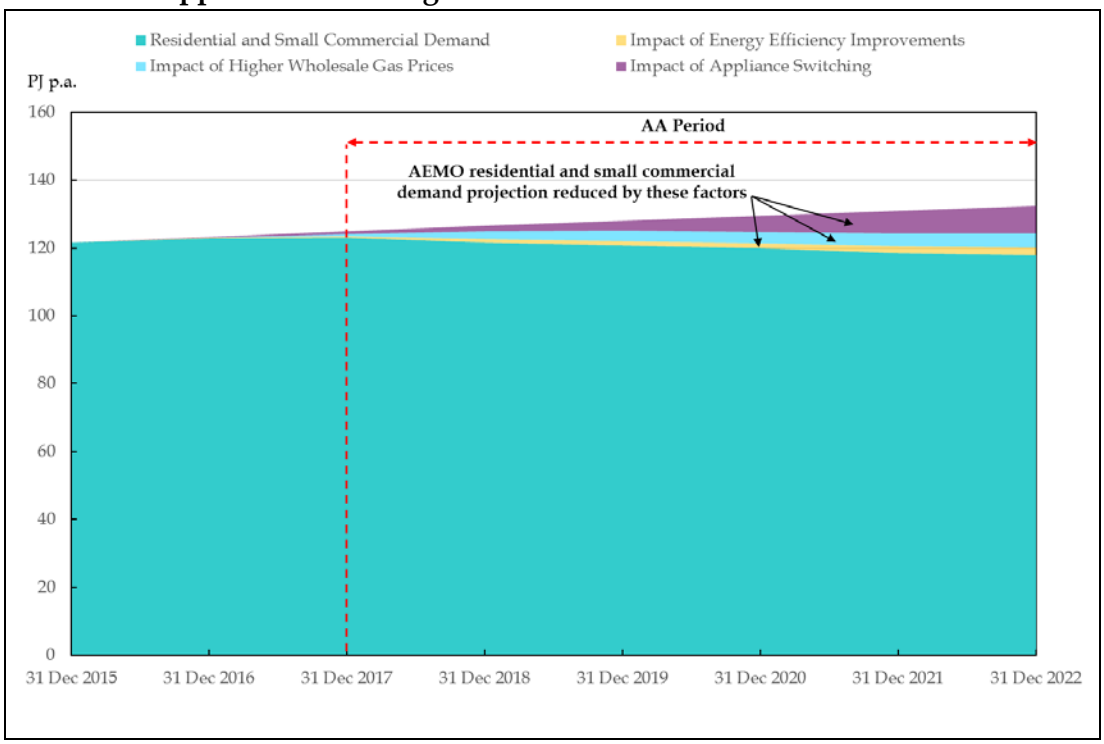
- changes in the dwelling preferences (e.g. from houses to smaller apartments and multi-unit developments, including smaller, all-electric apartments), which is resulting in lower gas consumption and fewer gas appliance purchases.

Two other factors that are contributing to the decline in gas consumption that were not specifically referred to by AEMO are:

- the adverse publicity that coal seam gas and fracking has attracted, which is affecting adversely consumer perceptions about natural gas and its environmental benefits;[23] and
- the growth in the number of residential customers in Victoria that have installed rooftop PV, which is also prompting some customers to reduce the volume of gas they consume as they switch to electric appliances.

The effect on residential and small commercial demand for gas that AEMO expects to arise from rising wholesale gas prices, energy efficiency improvements and appliance switching can be seen in Figure 2.2. As this figure shows, in the absence of these factors residential and small commercial demand would have continued to grow over the AA period from 125 PJ in 2017 to 133 PJ in 2022.

Figure 2.2: Impact of Rising Gas Prices, Energy Efficiency Improvements and Appliance Switching on Residential and Small Commercial Demand



Source: AEMO, 2015 National Gas Forecasting Report, March 2016.

Of the factors identified by AEMO, rising wholesale gas prices are expected to have the greatest impact on demand in the short-term. However, by 2020 appliance

[23] This issue was raised by a number of participants in AGN's stakeholder engagement process and reflects a more general trend that has been observed in other jurisdictions. See Deloitte, Victorian and Albury Stakeholder Engagement Program 2016, p. 29 and JGN Appendix 7.3 - Step Change Report, 30 June 2014, p. 11.

switching is forecast to have a more significant impact, with residential demand estimated to be 4.7 PJ p.a. lower than it otherwise would have been in 2020 as a result of this factor and 8.1 PJ p.a. lower by 2022.[24] In total, AEMO is expecting appliance switching to result in the demand for gas being 24 PJ lower when measured on a cumulative basis, than what it would otherwise have been over the AA period.

In calculating the effect of appliance switching on demand, AEMO has assumed that:

- 16% of existing homes and 3% of newer homes will switch their traditional gas hot water systems to gas or electric-boosted instantaneous hot water systems between 2015 and 2020, while 14% of existing homes and 1% of new homes will switch between 2020 and 2035; and
- 0.4% of existing homes and 1% of newer homes will switch their heating fuel source from gas to electric heating (heat pumps or reverse cycle air-conditioners) between 2015 and 2020, while 5% of existing homes and 1% of newer homes will switch between 2020 and 2035. [25]

Although AEMO did not publish the number of gas hot water systems and heating appliances that it expects to be switched during the AA period, we have been able to develop estimates based on:

- its forecast of the cumulative effect that appliance switching will have on demand (see Figure 2.2); and
- varying assumptions about the average volume of gas consumed by an appliance in a year, with the lower end of the range based on the average consumption of a hot water system (13 GJ p.a.) and the upper end of the range based on a central heating unit (25 GJ p.a.).

Using this information, we have estimated that between 290,000 and 558,000 appliances could be switched in this period (see Figure 2.3). This represents 14-21% of the stock of gas hot water and heating appliances currently in use in Victoria.[26]

As this analysis highlights, the scale of switching implied by AEMO's forecasts is significant, with gas expected to increasingly become a discretionary fuel in Victoria during the next AA period. This is a material change in the Victorian market and highlights clearly the need for steps to be taken by the DBs to encourage both:

- existing users that are considering replacing a gas appliance to replace it with another gas appliance; and
- new users to install gas appliances.

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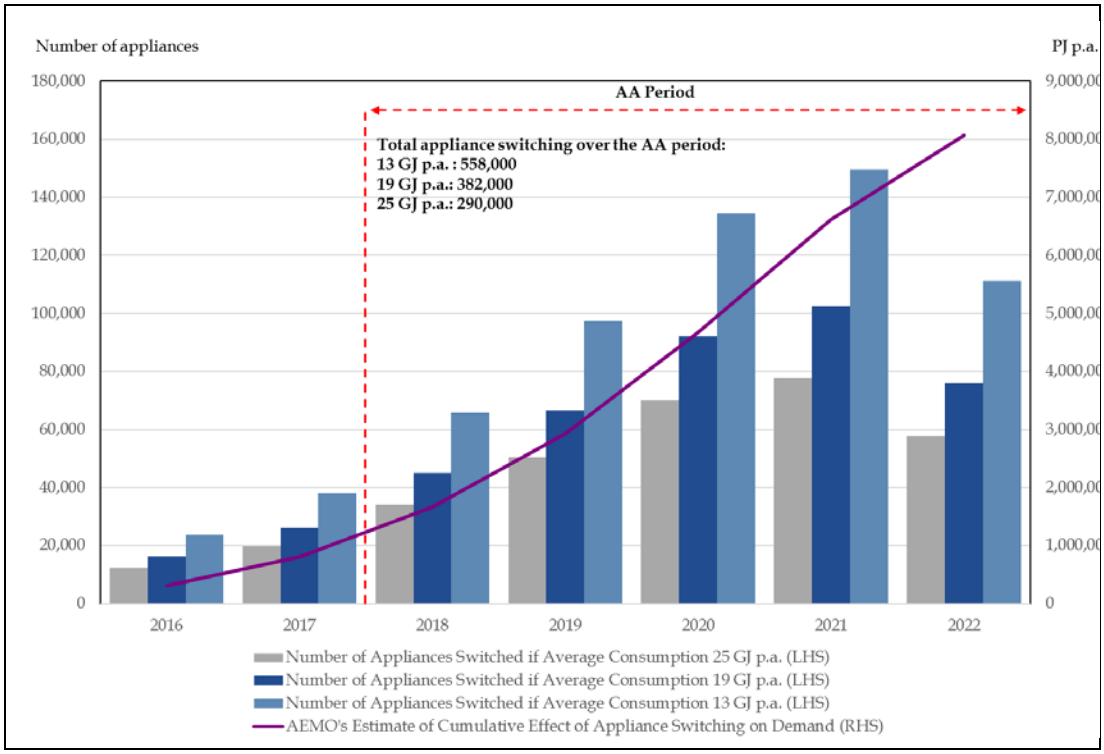
24 AEMO, National Gas Forecasting Report V2.0, 2 March 2016, pp. 31-32.

25 *ibid*.

26 The stock of hot water systems and heating appliances is based on a survey conducted by the Australian Bureau of Statistics (ABS) in 2014, which found that there were 1.48 million gas hot water systems and 1.44 million gas heating appliances in Victoria in 2014. See ABS, Environmental Issues: Energy Use and Conservation, December 2014, Tables 3 and 4.

Figure 2.3: Incremental Level of Appliance Switching Implied by AEMO Estimates



Source: Axiom analysis based on AEMO forecasts and alternative assumptions around the level of gas consumed by different appliances

2.1.1 Effect of the deteriorating conditions on the Victorian distribution networks and customers

The effects of the deteriorating conditions are already starting to be felt by the Victorian DBs. In the first three years of the current AA period (2013-2015), total consumption across the three networks fell by 0.5% p.a.. Over the same period, demand in the residential and small commercial segment rose by just 0.1% p.a., while average consumption fell by 1.5% p.a..[27] Residential and small commercial net connections also fell by 8.2% p.a. over this timeframe as a result of both:

- a reduction in the number of net connections, with the residential segment contracting by 9.0% p.a.; and
- an increase in the number of disconnections, which rose by 5.4% p.a. in the residential segment.

Conditions are expected to continue to deteriorate in the next AA period with the demand forecasts developed for AGN, AusNet Services and Multinet for the next AA period indicating that total consumption will fall by 1% p.a. across the three networks. In the residential and small commercial segment, the aggregated forecasts (see Figure 2.4) suggest that:[28]

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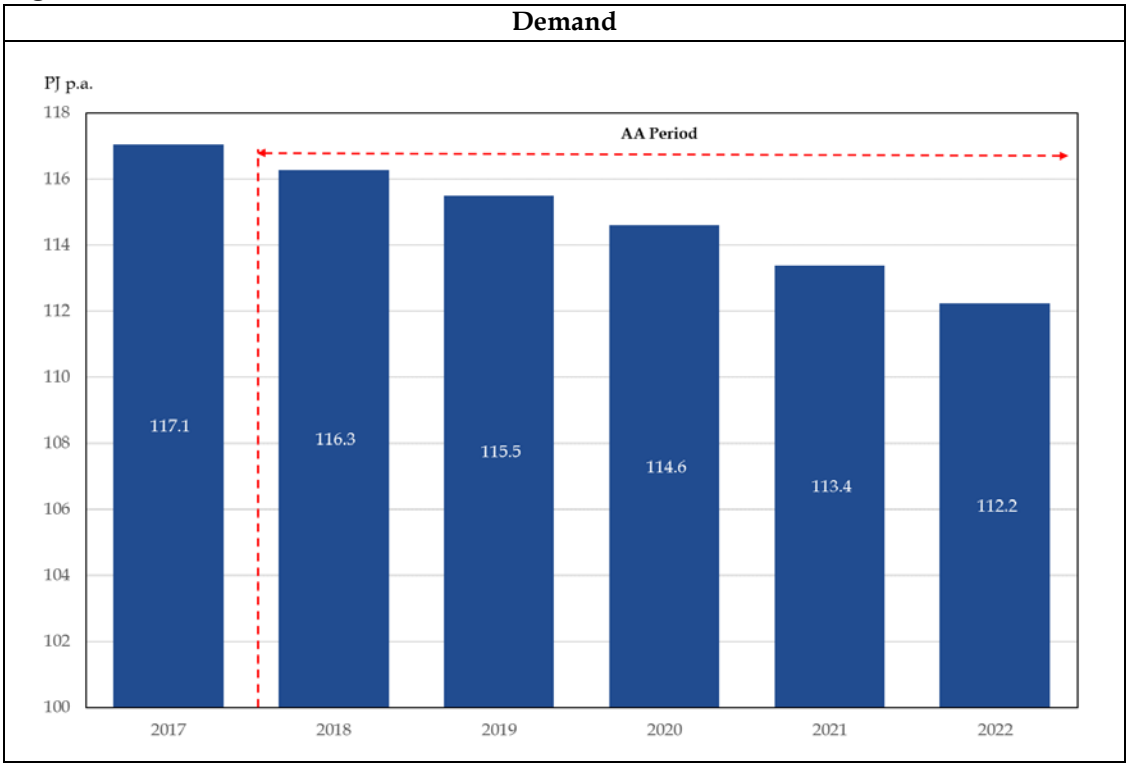
27 These estimates are all measured on an aggregate basis across the three networks.

28 The forecasts referred to in this section are based on the forecasts developed by Core, CIE and NIER, which have been provided by the Victorian DBs. See, Core, Gas Demand Forecast: Australian Gas Networks Victoria and Albury Gas Access Arrangement 2018-2022, December

- demand will fall by approximately 0.9% p.a. over the AA period from 117 PJ p.a. to 112 PJ p.a.;[29]
- average consumption will fall by approximately 2.3% p.a. over the AA period from 57 GJ p.a. to 51 GJ p.a.;[30] and
- net connections will remain well below the historic level of 34,600,[31,32] due in part to an increase in the number of residential disconnections that are expected to occur over the AA period.

These projections underscore the importance of using marketing and other tools to try and counteract the projected decline in residential consumption and average consumption over the next AA period. If this does not occur, then the diminishing demand will place upward pressure on reference tariffs, the consequences of which will be borne by customers in these networks. If the increase is large enough, it may prompt additional customers to disconnect, which will place even more upward pressure on reference tariffs.

Figure 2.4: Residential and Small Commercial Demand Forecasts



2016, CIE, 2018-2022 AusNet Services GAAR Consumption and Customer Forecasts, December 2016 and NIER, 2018-2022 Multinet 2018-2022 GAAR Demand Forecasts, December 2016.

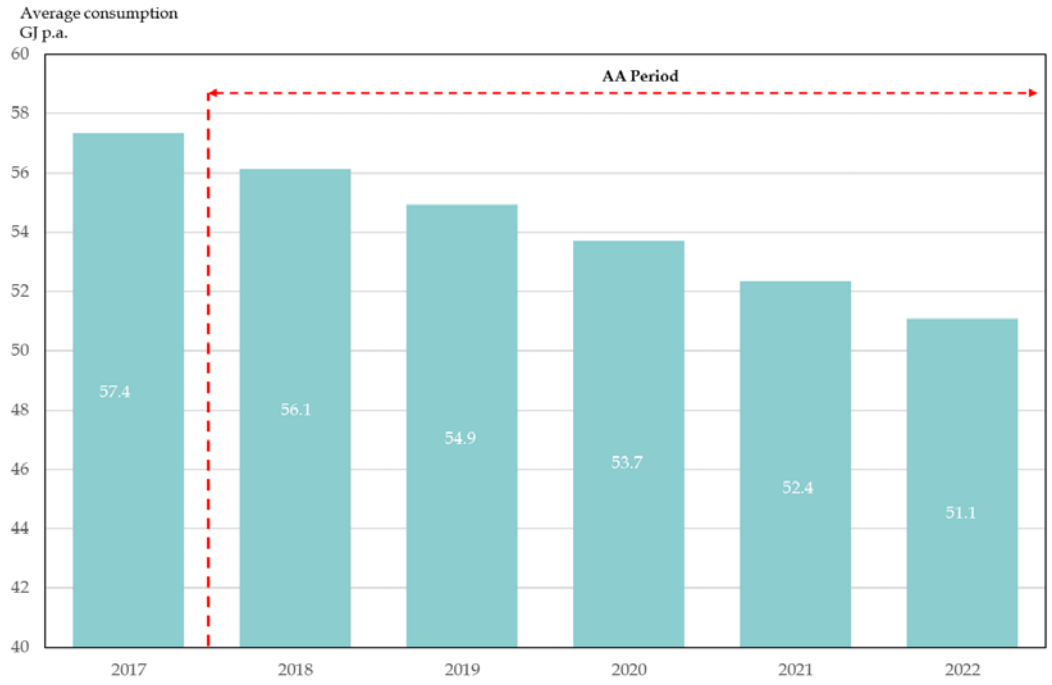
29 This aggregate forecast is consistent with AEMO's forecasts, with both AEMO and the Victorian DBs projecting a 5 PJ (0.9% p.a.) decline in demand over the AA period.

30 The average consumption forecasts are also broadly in line with AEMO's projections, with AEMO projecting a 2.2% p.a. decline while the Victorian DBs are projecting a 2.3% p.a. decline.

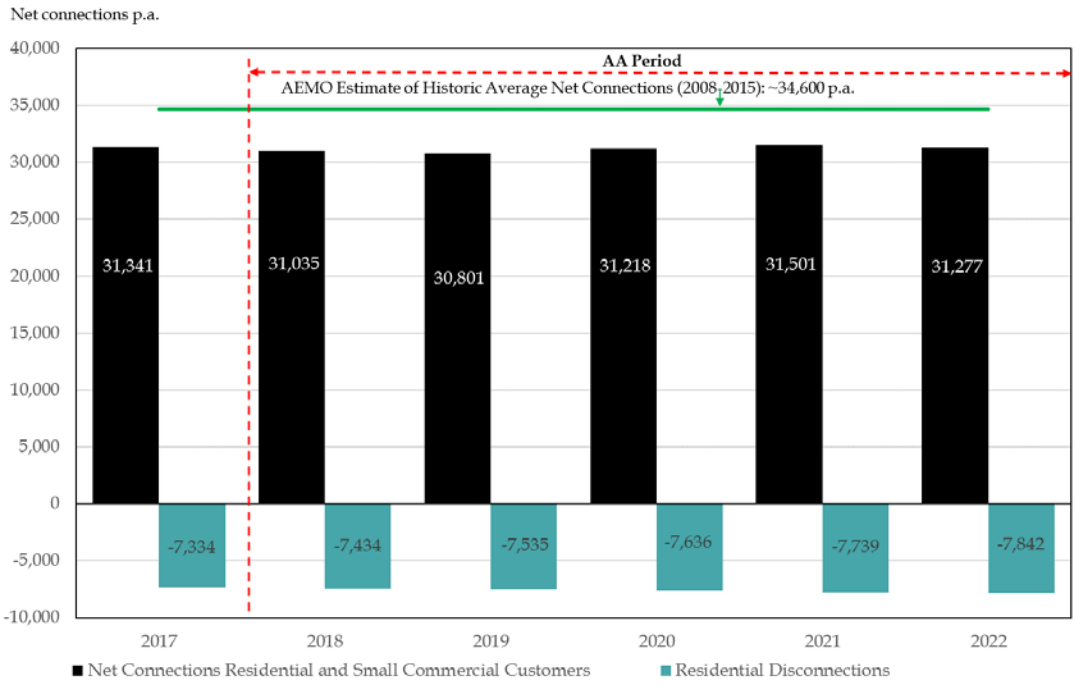
31 Measured over the period 2008-2015.

32 Note that the residential and small commercial net connection forecasts referred to in this context have not been adjusted to account for AGN's proposed removal of a number of zero consuming meters in 2017 and 2018, because doing so would overstate the impact of the deterioration in market conditions on connections.

Average Consumption



Net Connections and Residential Disconnections[33]



[33] Note that the residential and small commercial net connections and residential disconnection forecasts in this chart have not been adjusted to account for AGN's proposed removal of a number of zero consuming meters in 2017 and 2018, because doing so would overstate the impact of the deterioration in market conditions on connections. If the removal of these meters was taken into account:

- the residential and small commercial net connections would be 25,887 in 2017 and 25,582 in 2018; and
- the residential disconnections would be 11,640 in 2017 and 11,740 in 2018.

2.2 Expanding the regional footprint

As part of the Victorian Government's Energy for the Regions program, the Victorian DBs have, to varying degrees, been extending their networks into regional areas. For example:[34]

- AusNet Services completed the extension of its network to the Huntly township in 2014 and is in the process of extending its network to Winchelsea, Bannockburn and Avoca, which is due to be completed in 2017;
- Multinet has recently completed the extension of its network to Warburton; and
- AGN is in the process of extending its network to Koo Wee Rup and Wandong-Heathcote Junction, with completion expected in 2017.

Given the fixed cost nature of these network extensions, any increase in the number of connections and/or average consumption levels in these areas can be expected to reduce the average cost of transporting gas. This will, in turn, flow-through to tariffs and benefit users in these regions.

Because these regional areas have not previously been connected to gas, additional marketing efforts are likely to be required to encourage customers in these locations to connect to the network and switch their existing electric and/or LPG appliances to natural gas appliances. Encouraging customers in these regional areas to switch to gas is likely to be more difficult than it is in greenfield developments because, unlike new housing developments, customers in these areas will already have electric and/or LPG appliances in place. Additional incentives will therefore be required to encourage these customers to switch.

While the case for marketing in these newly-connected regional areas is strong, there is also a case for marketing in regional more generally, because the penetration rates in these areas tend to be much lower than in urban areas. By way of illustration, a study conducted by the Australian Bureau of Statistics (ABS) in 2014 found that the penetration rate in Melbourne was 91%, whereas in regional areas of Victoria it was just 62%.[35,36] If the rate of uptake in these areas could be increased, then it would result in a reduction in the average cost of supply, the ultimate beneficiaries of which would be the existing customers in these locations.

We understand that this has been the focus of AGN's marketing efforts in Victoria over the current AA period, which have concentrated on improving network utilisation in regional areas.

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34 Regional Development Victoria website, http://www.rdv.vic.gov.au/regional-projects/regional-gas-infrastructure.

35 ABS, 4602.0.55.001 Environmental Issues: Energy Use and Conservation, March 2014, Table 1.

36 We understand that the ABS' methodology for estimating penetration rates may be cruder than the methodology used in the development of the forecasts for the Victorian DBs. They do, however, provide a good indicator of the relative levels of penetration across areas within the state and should only relied upon to that extent.

2.3 Marketing in other jurisdictions

Marketing has been widely used by a range of regulated and unregulated gas distribution businesses in other jurisdictions to increase the utilisation of their networks by, for example:

- encouraging new connections to increase the penetration rate (e.g. by promoting the use of gas and offering connection-related incentives);
- encouraging existing customers to stay connected to the network; and/or
- encouraging greater volumes of gas to be consumed at each connection (e.g. by promoting the benefits of using gas appliances and offering rebates to encourage the take-up of these appliances).

Given the predominantly fixed cost nature of providing distribution services, increasing the utilisation of the network in this manner allows the largely fixed costs to be spread over a greater number of customers and/or volume of gas and leads to lower unit costs and, in turn, reference tariffs. A reduction in the cost of transporting gas on the distribution network may also lead to improvements in the competitiveness of gas *vis-à-vis* other fuels.

The marketing-related measures that gas distribution businesses have employed in other jurisdictions, include:

- offering rebates to customers that purchase gas appliances to reduce the upfront cost and improve their relative competitiveness as compared with other appliances – the rebates have been offered to:
  - residential customers on a range of appliances, including heating appliances (central heating, space heating and unflued heating), hot water systems and cooking appliances (see Table 3.2); and
  - commercial and industrial customers on gas air conditioning systems and gas generation (see Box 2.1);
- offering performance-based incentives to builders, plumbers and appliance retailers to encourage greater numbers of residential connections and appliance installations, in some cases, offering the incentives to customers themselves;
- carrying out advertising campaigns using a mixture of television, radio, print, digital and other media to promote the use of natural gas and support incentive-related programs; and
- engaging with industry to promote the use of gas to intermediaries that can have some influence over the take-up of gas (e.g. plumbers, gas fitters, developers, builders and appliance retailers).

While most marketing campaigns tend to focus on the residential segment of the market, some gas distribution businesses also target larger commercial and industrial (C&I) customers. For example, ATCO offers a financial incentive of $1,000-$6,000 to large C&I customers that install gas powered air conditioning. It

also offers an incentive of up to $25,000 to C&I customers that install gas fuelled generation (power generation, co-generation or tri-generation).[37]

In prior reviews carried out by both the AER and the ERA, marketing expenditure has been recognised as being consistent with rule 91 of the NGR, where the service provider has been able to demonstrate that it is in consumers' long-term interests and is:

- as such as would be incurred by a prudent service provider acting efficiently;
- in keeping with accepted good industry practice; and
- expected to achieve the lowest sustainable cost of delivering services.

The AER's most recent decision on this point was made in 2014-15 when it approved JGN's proposal to spend $45 million ($2014-15) on its marketing campaign. In approving the expenditure, the AER noted the following [38]

> *"Marketing expenditure can be an efficient response by a service provider to changes in market conditions. JGN provided a cost benefit analysis to demonstrate that it expected the marketing step change would generate a net benefit over fifteen years.*
>
> *… we are satisfied JGN provided sufficient justification to support the assumptions that underlie the expected positive benefit cost result. We are therefore satisfied that this program reflects efficient expenditure.*
>
> *In assessing this proposal, we have also considered whether this step change could be self-financing. That is, we considered whether the expected additional revenue the project would generate for JGN without an approved increase in opex would be sufficient to fund the step change. However, we consider it is unlikely that this would be the case. Forecast increased demand in the 2015–20 access arrangement period attributable to the marketing campaign is already reflected in JGN's demand forecasts and therefore will be reflected in JGN's reference tariffs for this period."*

The distribution businesses that have previously had a market allowance approved by either the AER or the ERA include, JGN, ATCO, AGN (NSW, South Australia, Queensland and regional Victoria), ActewAGL and Allgas (see Box 2.1). The marketing allowances that were approved for each of these distribution businesses are set out in top half of Figure 2.5, while the bottom half of this figure compares the allowances that were approved on a per residential customer basis.

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37 ATCO website (accessed October 2016) http://www.atcogas.com.au/For-Business/business-incentives/Gas-Powered-Air-Conditioning-Incentive

38 AER, Draft Decision: JGN Access arrangement 2015-20, Attachment 7, November 2014, p. 7-24.

Box 2.1: Marketing Campaigns Approved in Other Jurisdictions

JGN's 2015-2020 marketing campaign

As part of its 2015-2020 AA, JGN proposed to increase the scale and scope of its existing marketing campaign to try and counter 50% of the forecast reduction in residential demand over the period. In total, JGN proposed to spend $45 million ($2014-15) on marketing over the AA period to counter a projected reduction in residential demand of 6 PJ. Of the $45 million:[39]

- $20.1 million (45%) was to be spent on its Natural Gas, Natural Choice Campaign, which consists of both a mass marketing campaign and a website used to promote the use of natural gas and to market appliance rebates;
- $21.5 million (48%) was to be spent on an appliance rebate scheme, with rebates to be offered on central heating ($1,000), flued space heating ($500), unflued heating ($300) and hot water systems ($500);
- $2.4 million (5%) was to be spent on incentive payments to plumbers, gas fitters and appliance retailers where their actions resulted in a new connection ($300 per connection); and
- $1 million (2%) was to be spent on no interest loans for vulnerable customers.

This allowance was approved by the AER in its entirety.[40]

AGN's 2011/12-2015/16 South Australian network development campaign

As part of its 2011/12-2015/16 AA, AGN proposed to increase its marketing efforts in South Australia by spending $37 million ($2010-11) on a range of network development activities. Of the $37 million:

- $12 million (32%) was to be spent on advertising;
- $17 million (46%) was to be spent on an appliance rebate scheme, with rebates to be offered on central heating ($750), gas air conditioning ($2,000) and hot water systems ($500);
- $3 million (8%) was to be spent on industry representation to promote natural gas to industry and government stakeholders;
- $4 million (11%) was to be spent on the development and deployment of new gas technologies (e.g. gas powered air conditioning); and
- $0.6 million (2%) was to be spent on website development for consumer information, sales and service.

Of the activities listed above, the AER approved the advertising campaign, the industry representation program, the appliance rebate scheme for central heating and hot water systems and website development costs which, together, accounted for 80% of the proposed expenditure. The remaining elements of the campaign were considered too speculative.[41]

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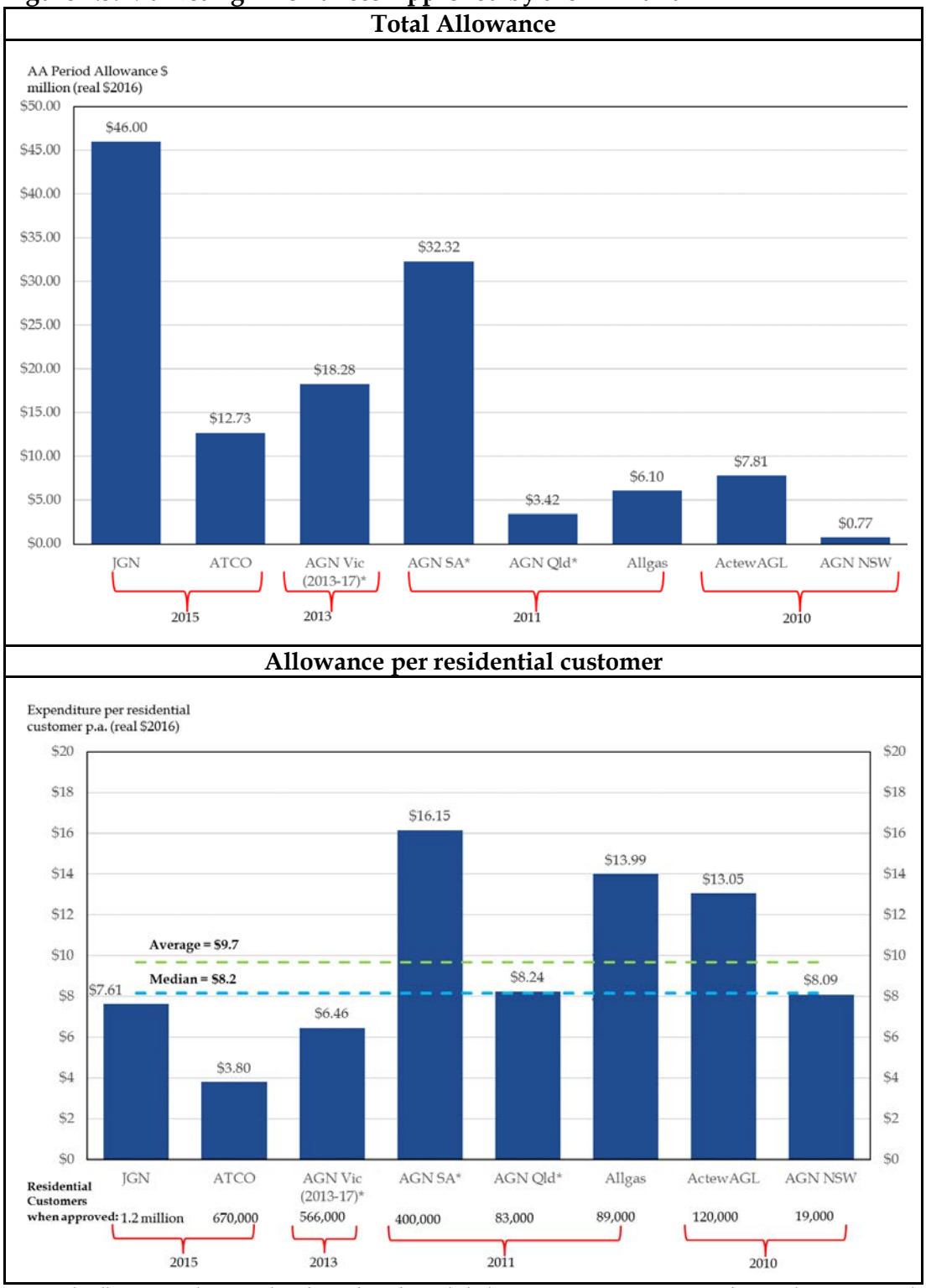
39 JGN, Appendix 7.3 - Step Change Report, 30 June 2014.

40 AER, Draft Decision: JGN Access arrangement 2015-20, Attachment 7, November 2014, pp. 7-24.

41 AER, Final Decision: Envestra AA proposal for the SA gas network, June 2011, pp. 83 and 106

Figure 2.5: Marketing Allowances Approved by the AER and ERA



Notes * The allowances in these cases have been adjusted to exclude the gas connection processing costs because they are not strictly marketing costs and are not included in the other distribution businesses' marketing allowances

Sources AER, Final Decision Jemena Gas Networks AA 2015-2020, Attachment 7, June 2015, p 7-24, JGN, Appendix 7 3 - Step Change Report, 30 June 2014, ERA, Final Decision Proposed Revisions to the AA for the Mid-West and South-West Gas Distribution Systems, 30 June 2015, pp 47 and 97, AER, Final Decision Envestra AA proposal for the SA gas network, June 2011, pp 83 and 106, AER, Final Decision Envestra AA proposal for the Qld gas network, June 2011, pp 76 and 95, AER, Final Decision Allgas AA proposal for the Qld gas network, June 2011, pp 48, 51 and 67, AER, Final Decision AA proposal for the ACT, Queanbeyan and Palerang gas distribution network, March 2010, pp 100 and 146, AER, AA proposal for the Wagga Wagga natural gas distribution network, March 2010, pp 55 and 66

While the preceding discussion has focused on regulated businesses, there are also numerous examples of unregulated businesses using marketing to encourage greater utilisation of their networks. For example, Tas Gas Networks and AGN (NSW) have implemented marketing campaigns in their networks, both of which face strong inter-fuel competition from electricity. [42] The fact that these unregulated businesses are also using marketing to try and increase the utilisation of their networks and compete with electricity provides further support for the view that marketing is a prudent form of expenditure that can constitute an efficient response to the conditions prevailing in a particular network. The proposal to carry out the joint campaign can therefore be viewed as replicating what would occur in a competitive market.

[42] https://www.tasgas.com.au/rebate and https://www.maketheconnection.com.au/nsw/household-nsw/promos-news/gas-promotions-rebates/

3. Scope of the proposed marketing campaign

As the preceding chapter highlights, there is a strong case for using marketing to try and increase the utilisation of the distribution networks in Victoria. It is not surprising therefore that the Victorian DBs are proposing to implement a joint marketing campaign in the next AA period.

Like the marketing campaigns adopted by gas distribution businesses in other jurisdictions, the joint campaign would focus on the residential segment of the market and seek to:

- counter some of the projected decline in residential consumption that is expected to occur in the next AA period by:
  - encouraging the uptake and use of gas appliances by new and existing customers to try and stem the flow of appliance switching; and
  - retaining existing customers and encouraging new customers to connect; and
- encourage greater take-up of gas in the regional areas, including those areas that have recently been connected through the Energy for the Regions program.

Further detail on the marketing activities the Victorian DBs are proposing to carry out is provided below. An overview is also provided of the effect the campaign is expected to have on demand and connections and of the projected cost of the campaign.

3.1 Marketing activities

In contrast to electricity, gas is a fuel of choice. A new residential customer's decision to connect to a gas network and use gas appliances will therefore depend on a range of factors, including, amongst other things:

- the perception of natural gas *vis-à-vis* other fuels;
- the upfront costs associated with installing gas appliances; and
- the competitiveness of the delivered price of gas *vis-à-vis* other fuels.

Similar factors will also influence an existing customer's decision to remain connected to the network and to select a gas appliance when the choice arises (e.g. when an appliance comes to the end of its life, when renovations occur or when an additional appliance is required). It is in this context that marketing can play an important role in:

- creating positive consumer sentiment towards gas and reinforcing the benefits of using gas appliances;
- overcoming the inertia that residential customers and other parties (e.g. developers) may exhibit in relation to using electric appliances;
- reducing the upfront cost of purchasing gas appliances; and
- improving the relative competitiveness of gas *vis-à-vis* other fuels by spreading fixed costs over a larger number of customers and volumes of gas.

While there are a number of parties in the supply chain that could, in principle, engage in this type of marketing, in practice they have little, if any, incentive to do so. For example, all the gas retailers in Victoria also retail electricity (and in some cases LPG) and are therefore ambivalent to a customer's fuel choice unless retailing gas is considered more profitable than other fuels. Energy retailers' marketing tends therefore to focus on branding. Appliance retailers and manufacturers also have little incentive to engage in this type of marketing, because they also sell and/or produce electric appliances and the market for gas appliances is small in comparison to the market for electric appliances. In contrast to these parties, gas distribution businesses have a strong incentive to maximise the utilisation of their networks and are best placed to do so. It is with this in mind that the Victorian DBs have developed their joint campaign.

In a similar manner to gas distribution businesses in other jurisdictions, the Victorian DBs are proposing to employ the following measures to try and counter the projected decline in residential demand over the next AA period and encourage greater take-up of gas in regional areas:

- **an appliance rebate program**, which would provide residential customers in metropolitan and regional areas a financial incentive to purchase gas heating and hot water systems to encourage the uptake of gas appliances and new connections to the network (i.e. by reducing the upfront costs of acquiring appliances and improve the relative competitiveness of gas versus electric and/or LPG appliances);
- **an advertising campaign**, which would use a combination of television, newspapers, radio, outdoor and digital media to:
  - promote the use of natural gas to residential customers in both metropolitan and regional areas, with more targeted campaigns to be used in newly connected regional areas;
  - reinforce the benefits of using gas appliances; and
  - promote the appliance rebate scheme; and
- **industry representation**, which would promote the use of natural gas to intermediaries that can influence a residential customer's decision to connect to the distribution networks (e.g. builders, developers, plumbers, gas fitters, appliance retailers and manufacturers).

In *principle*, each of the Victorian DBs could engage in these activities individually. However, in *practice*, they may be reluctant to do so and, if they did, the collective cost would be likely to be significantly higher than that entailed with a *joint* campaign – and potentially more confusing for customers. This is because:

- Individual DBs may be reluctant to use certain forms of marketing when their networks are located in close proximity to another network, because of the 'free rider' effect. For example, if one of the DBs was to carry out a television advertising campaign in Melbourne to promote the use of natural gas, it could benefit the other two networks who would not have contributed to the cost of the campaign. The DB may therefore be reluctant to engage in such a campaign,

or may use sub-optimal levels of this form of marketing. It is only through a joint campaign where all potential beneficiaries of such an initiative are contributing to its costs that an optimal level of this type of marketing expenditure can be undertaken.

- Individual DBs would not be able to access the economies of scale that could be achieved through a jointly run campaign. For example, the costs of carrying out television, radio, print and digital advertising are largely fixed, so if each DB was to carry out their own advertising campaign it could cost up to three times more than a joint campaign. A similar observation could be made about the costs of carrying out the industry representation campaign. In other words, even if bespoke campaigns could yield an optimal amount of marketing across the networks to drive uptake (which is doubtful, given 'free-rider' effects), there would be a needless replication of costs which would, ultimately, be borne by customers.
- Individual rebate schemes could be a more difficult value proposition for residential customers and cause more confusion if the financial incentives differ. For example, customers would need to know what network they are located in when deciding whether to purchase an electric, LPG or gas appliance – information that may not be 'top of mind' for the typical shopper.

The remainder of this section provides further detail on the appliance rebate program,[43] while the marketing plan prepared by Dentsu AEGIS Network provides more detail on the scope of the proposed advertising and industry representation campaigns.

3.2 Appliance rebate program

The proposed appliance rebate program, which would be supported by both the advertising and industry representation campaigns, is designed to mitigate some of the:

- projected decline in demand over the AA period arising from the appliance switching that is expected to occur in the period (see section 2.1); and
- projected increase in residential disconnections and lower than historic levels of new connections over the AA period (see section 2.1.1).

The overarching objective of the appliance rebate program is to counter 25% of the projected decline in residential and small commercial[44] demand that AEMO expects to occur over the next AA period. As noted in section 2.1, AEMO is projecting that

[43] It is worth noting that, while the joint campaign could have also targeted commercial and industrial customers (e.g. by offering financial incentives for gas powered air conditioning and gas generation as ATCO is doing), the Victorian DBs were cognisant of the concerns the AER raised previously about the experimental nature of some of this technology (see: AER, Final Decision: Envestra Ltd Access arrangement proposal for the SA gas network 1 July 2011-30 June 2016, June 2011, p. 81). They have therefore decided to just focus on residential customers at this stage.

[44] While the campaign will only target residential demand, AEMO does not publish separate forecasts for residential and small commercial demand. The analysis that follows therefore refers to the impact on AEMO's residential and small commercial forecasts.

demand from this segment of the market will be 16 PJ lower over the AA period than what it would otherwise have been if demand had remained around the 2017 level. Countering 25% of this projected decline would therefore require a 4 PJ increase in consumption, relative to this forecast, over the AA period.

Because the rebate scheme operates in a cumulative manner over the AA period, the target for the annual rebate program is 270 TJ p.a..[45] The scope of the appliance rebate program has therefore been developed to meet this target, which we consider to be reasonably achievable given the scale of the appliance switching that is expected to occur over the AA period.

Although it may have been possible to adopt a more aggressive target, the cost of meeting that target would have been considerably higher in the upcoming AA period, which would have placed further pressure on reference tariffs. While such an increase may be in the long-term interests of consumers (i.e. if it results in lower tariffs over the longer term), too large an increase in reference tariffs could prompt even more customers to switch away from gas. Based on our review of the proposal and the conditions that are expected to prevail over the next AA period, we are of the view that the 25% target strikes an appropriate balance between encouraging greater use of the network and not placing too much pressure on reference tariffs and is an appropriate target for the upcoming period.

Under the proposed rebate program, the Victorian DBs would offer the following rebates to residential customers in metropolitan and regional areas that are looking to replace existing gas appliances or purchase additional appliances:

- a $750 rebate for central heating, with 4,500 rebates to be made available in each year of the AA period;
- a $500 rebate for flued space heating, with 4,000 rebates to be made available in each year of the AA period; and
- a $400 rebate for hot water systems, with 7,500 rebates to be made available in each year of the AA period.

These rebates would be made available on purchases made in appliance retail stores or through a plumber/gas fitter with which the Victorian DBs have established an alliance. Importantly, the financial incentives payable under this program would only be paid if a customer procures a gas appliance.

Table 3.4 on the following page provides further detail on the assumptions underpinning this program. The key points to note from this table are set out below.

[45] The rebate scheme operates in a cumulative manner, so the rebate scheme is operated in each year of the AA period, then it would result in a 270 TJ p.a. increase in year 1 of the AA period, a 540 TJ p.a. increase in year 2 of the AA period, a 810 TJ p.a. increase in year 3 of the AA period, a 1.08 PJ increase in year 4 of the AA period and a 1.35 PJ increase in year 5 of the AA period. Over the five-year period this translates to a 4 PJ increase in consumption, relative to the 'baseline' forecast.

Table 3.1: Assumptions Underpinning the Annual Appliance Rebate Program (real $2016)

Input		Assumption	Central heating	Space heating	Hot water	Total
No. of appliances rebates p.a.	(a)	The number of appliance rebates to be offered each year is based on the level required to achieve the 270 TJ p.a. target.	4,500	4,000	7,500	16,000
Rebate per appliance	(b)	The rebate levels have been determined having regard to the rebates offered in other jurisdictions.	$750	$500	$400	n.a.
Take-up of rebates	(c)	The take-up rate is assumed to be 100% over the AA period because the rebates would be offered throughout the year and through a large number of channels, with any rebates left at the end of the year offered in the subsequent year.	100%			n.a.
Average load per appliance	(d)	Based on the Victorian DBs' experience of the average volume of gas used by appliances in Victoria.[1]	25 GJ	15 GJ	13 GJ	n.a.
Life of appliance	(e)	Based on the useful lives in ATO Taxation Ruling TR2016/1.	20 years	15 years	12 years	n.a.
Cost of rebates	(f)=(a)x(b)x(c)		$3.38m	$2m	$3m	$8.38m p.a.
Fulfilment costs	(g)=(a)x$8.30	Based on the estimate JGN obtained from an external provider of fulfilment services ($0.077m p.a. in $2013/14).[2] This estimate has been scaled up to reflect the greater number of rebates to be offered by the Victorian DBs relative to those offered by JGN (16,000 vs 9,603) and adjusted to a real $2016 value.	$8.30 per appliance rebate			$0.13m p.a.
Total cost of rebate scheme	**(h)=(f)+(g)**		n.a.			**$8.51m p.a.**
Incremental demand	**(i)=(a)x(d)**		112.5 TJ p.a.	60 TJ p.a.	97.5 TJ p.a.	**270 TJ p.a.**
Appliance Rebates that Result in New Connections	**(j)=5% x (a)**	5% of appliance rebates are assumed to result in new connections. This assumption is based on JGN's experience in NSW but scaled down to reflect the higher the penetration rate in Victoria *vis-à-vis* NSW.[2]	**5%**			800 p.a.

Notes: 1. These estimates are also consistent with what JGN assumed in its cost benefit analysis, see JGN, 2015-20 Access Arrangement Information: Appendix 7.3 – Operating expenditure step changes report, 30 June 2014, p. 18.

2. JGN, 2015-20 Access Arrangement Information: Appendix 7.3 – Operating expenditure step changes report, 30 June 2014, pp. 12-14

Rebate levels

The level of the rebates that the Victorian DBs are proposing to offer are set out in Table 3.2. As this table shows, the proposed rebates are broadly in line with those currently offered by distribution businesses in other jurisdictions. They are also broadly in line with the rebates the AER and ERA have approved in other AA reviews.[46]

Table 3.2: Rebates Offered by Other Gas Distribution Businesses

Business	Central heating	Space heating	Hot water	Cooking
Joint Campaign Proposal	**$750**	**$500**	**$400**	**n.a.**
JGN	$1,000	$500	$500	$200
AGN – SA and NSW[1]	$750	$250	$500	n.a.
ATCO	n.a.	n.a.	$300	n.a.
ActewAGL	$500 - $1,000[1]	$500	$250	n.a.
TasGas	$1,000	$500[2]	$500[2]	n.a.

Sources: JGN website http://www.gonaturalgas.com.au/cash-back-offers (accessed October 2016), AGN website: https://www.maketheconnection.com au/sa/household/promos-news/ (accessed October 2016), ATCO, Response to the ERA Draft Decision, 23 December 2014, p. 86, ActewAGl website: https://www actewagl.com.au/Networks/Networks-for-customers/Gas-rewards.aspx (accessed October 2016) and TasGas website, https://www.tasgas.com.au/rebate (accessed October 2016).

Notes:

1. $500 is payable for replacement of existing gas ducted heating and $1,000 for replacement of non-gas heating.
2. The $500 rebate is only payable if a customer connects two major appliances (e.g. hot water and space heating).

Rebate numbers

The numbers of rebates to be offered in each year of the AA period have been set to achieve the incremental load target of 270 TJ p.a. (see Table 3.3).

Table 3.3: Relationship between Rebate Numbers and 270 TJ p.a. Target

Input		Central heating	Space heating	Hot water	Total
No. of appliances rebates	(a)	4,500	4,000	7,500	16,000
Average load per appliance	(b)	25 GJ p.a.	15 GJ p.a.	13 GJ p.a.	n.a.
Incremental demand	**(c)=(a)x(b)**	**112.5 TJ p.a.**	**60 TJ p.a.**	**97.5 TJ p.a.**	**270 TJ p.a.**

An appliance rebate scheme of this scale has not previously been trialled in Victoria, and so it is not possible to assess the feasibility of the proposed program by

[46] The appliance rebates that JGN, AGN and ATCO are currently offering are consistent with the rebates that the AER and ERA approved. See AER, Final Decision: Jemena Gas Networks AA 2015-2020, Attachment 7, June 2015, p. 7-24, JGN, Appendix 7.3 - Step Change Report, 30 June 2014, ERA, Final Decision: Proposed Revisions to the AA for the Mid-West and South-West Gas Distribution Systems, 30 June 2015, pp. 47 and 97 and AER, Final Decision: Envestra AA proposal for the SA gas network, June 2011, pp. 83 and 106.

reviewing the success of prior programs in the state. This has instead been assessed having regard to projections of the level of appliance switching that is forecast to occur over the AA period.

As noted in section 2.1, AEMO is projecting that appliance switching will result in residential and small commercial demand being 24 PJ lower than it would otherwise have been over the AA period. Using an average appliance consumption range of 12-25 GJ p.a., this implies that 290,000-605,000 appliances could be switched over the AA period. Taking the upper and lower ends of this range, the number of rebates that the Victorian DBs are proposing to offer in each year of the AA period (16,000 p.a.) represents just 13-28% of the pool of potential gas appliances that could be switched over this period. When viewed in this way, the number of rebates that the Victorian DBs are proposing to offer appears conservative.

Further support for this view can be found in the fact that the proposed number of rebates represent just 2.5-3% of the stock of gas hot water systems and heaters in Victoria, which is relatively conservative given the typical age distribution of these assets. For example, a survey carried out by BIS Shrapnel in 2014, found that 24% of hot water systems were older than the standard life of 12 years.[47] Applying this age distribution to the ABS' estimates of the number of gas hot water systems in Victoria implies that approximately 356,000 gas systems could require replacement over the AA period, which is 10 times higher than the number of gas hot water system rebates the Victorian DBs are proposing to offer (i.e. 7,500 p.a.).

Take-up rate

In contrast to some of the rebate schemes employed by other gas distribution businesses, the Victorian DBs are proposing to offer the rebates at the point of sale.[48]

To maximise the effectiveness of the rebate program, the Victorian DBs are proposing to make the rebates available to residential customers throughout the year through a number of different sales channels (e.g. appliance retailers, plumbers and gas fitters). Rather than restricting the release of rebates to particular times of the year, the rebates would be available throughout the year until they have all been distributed.

Given the level of switching that is expected to occur over the AA period, it is reasonable to anticipate that all of the rebates would be taken up in each year, but to the extent they are not, they would be offered in the subsequent years (i.e. any undistributed rebates would 'carry-over'). The take-up rate for the rebates has therefore been assumed to be 100% over the AA period.

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47 BIS Shrapnel, The Household Appliances Market in Australia – Hot Water Systems, 2014, p. 6.

48 This differs from the approach that JGN employs in NSW, which requires customers to apply for the rebate after they have made the purchase. The approach employed by JGN will usually result in some customers not applying for the rebate, which is why it assumed a take-up rate of less than 100% in its marketing step change proposal.

See: JGN, 2015-20 Access Arrangement Information: Appendix 7.3 – Operating expenditure step changes report, 30 June 2014, p. 12.

Fulfillment costs

The Victorian DBs are proposing to outsource the task of processing the rebates and billing the relevant DB to a third-party provider, which would be selected through a competitive tender process. We understand that a tender is yet to be carried out, and so the cost of this task has been based on the estimate JGN provided in its 2015 AA submission ($76,764 p.a. real $2013/14).[49] Because this estimate was based on a smaller number of appliance rebates, it has been converted to a cost per appliance rebate metric in real 2016 terms ($8.30) and then multiplied by the number of rebates the Victorian DBs are proposing to offer in each year of the AA period. This yields a fulfilment cost estimate of $132,884 p.a..

Incremental demand

The Victorian DBs are proposing to run the appliance rebate program in each year of the AA period. Commencing with the rebates that are offered in year 1 of the AA period, the take-up of these rebates would mean that demand in:

- years 1-12 is forecast to be 270 TJ p.a. higher than what it would otherwise have been (see Table 3.3);
- years 13-15 is forecast to be 172.5 TJ p.a. higher than what it would otherwise have been (i.e. because the hot water system is assumed to no longer be operational); and
- years 16-20 is forecast to be 112.5 TJ p.a. higher than what it would otherwise have been (i.e. because the space heating is assumed to be replaced in year 16).

Similar patterns in demand would be observed in relation to the rebates that are offered in years 2-5 of the AA period. For example, the take-up of rebates offered in year 2 would mean that demand in:

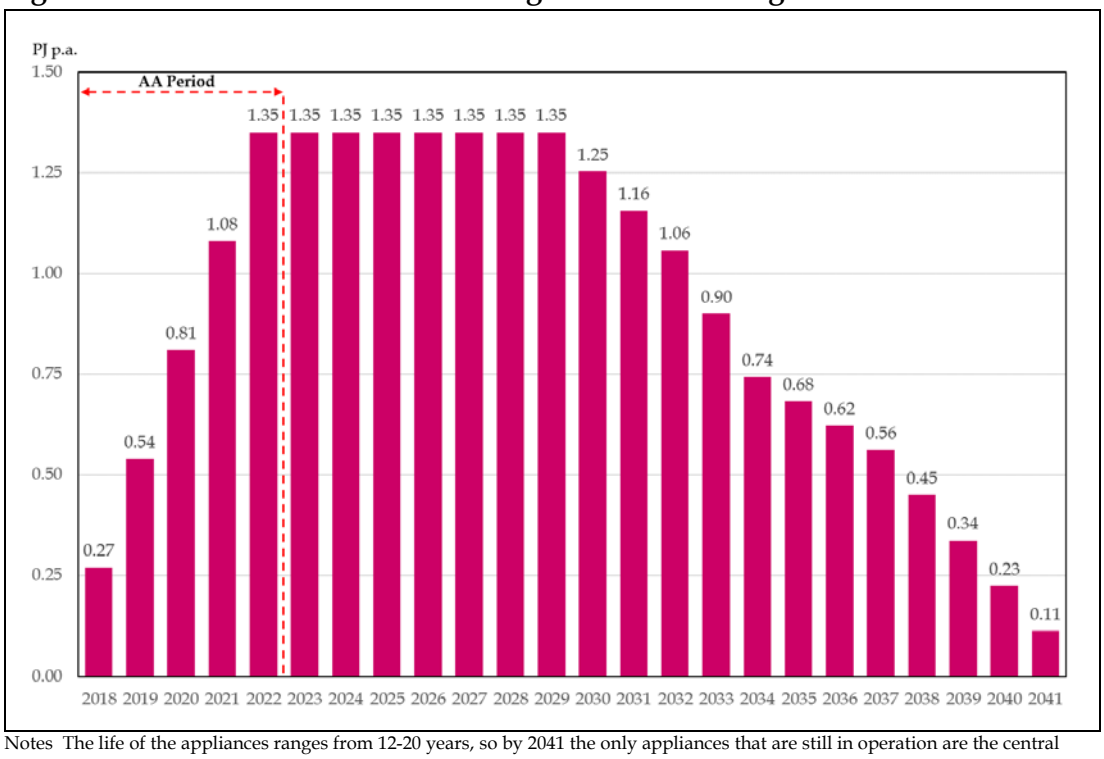
- years 2-13 is forecast to be 270 TJ p.a. higher than what it would otherwise have been;
- years 14-16 is forecast to be 172.5 TJ p.a. higher than what it would otherwise have been (i.e. because the hot water system is assumed to no longer be operational);
- years 17-21 is forecast to be 112.5 TJ p.a. higher than what it would otherwise have been (i.e. because the space heating is assumed to be replaced in year 16).

The cumulative effect of the rebate scheme on demand is illustrated in Figure 3.1. As this figure shows, the rebate scheme would result in forecast demand being:

- 4 PJ higher over the AA period than it would otherwise have been; and
- 21.6 PJ higher over the life of the appliances than it would otherwise have been.

[49] JGN, 2015-20 Access Arrangement Information: Appendix 7.3 – Operating expenditure step changes report, 30 June 2014, p. 14.

Figure 3.1: Incremental Demand Arising from Rebate Program



Notes The life of the appliances ranges from 12-20 years, so by 2041 the only appliances that are still in operation are the central heating units that were sold in 2022

New connections

The rebate program is expected to provide some customers that are not already connected to the network a financial incentive to do so (i.e. by reducing the up-front capital costs of purchasing a gas appliance). It has therefore been necessary to make an assumption about the number of new connections that are likely to flow from the appliance rebate program.

In NSW, JGN's experience has been that 16% of appliance rebates result in new electricity to gas connections.[50] The penetration rate in NSW is, however, far lower than it is in Victoria, with the ABS estimating that only 42.9% of households in NSW are connected to mains gas, while in Victoria 83% of households are connected.[51,52] The number of new gas connections associated with an appliance rebate program can therefore be expected to be far higher in NSW than it would be in Victoria.

Given the difference in the penetration rates between NSW and Victoria, it has been conservatively assumed that 5% of appliance rebates would result in new connections.[53] This translates to an additional 800 new connections in each year of the AA period, or 4,000 over the five-year period.

50 *ibid*.

51 ABS, 4602.0.55.001 Environmental Issues: Energy Use and Conservation, March 2014, Table 1.

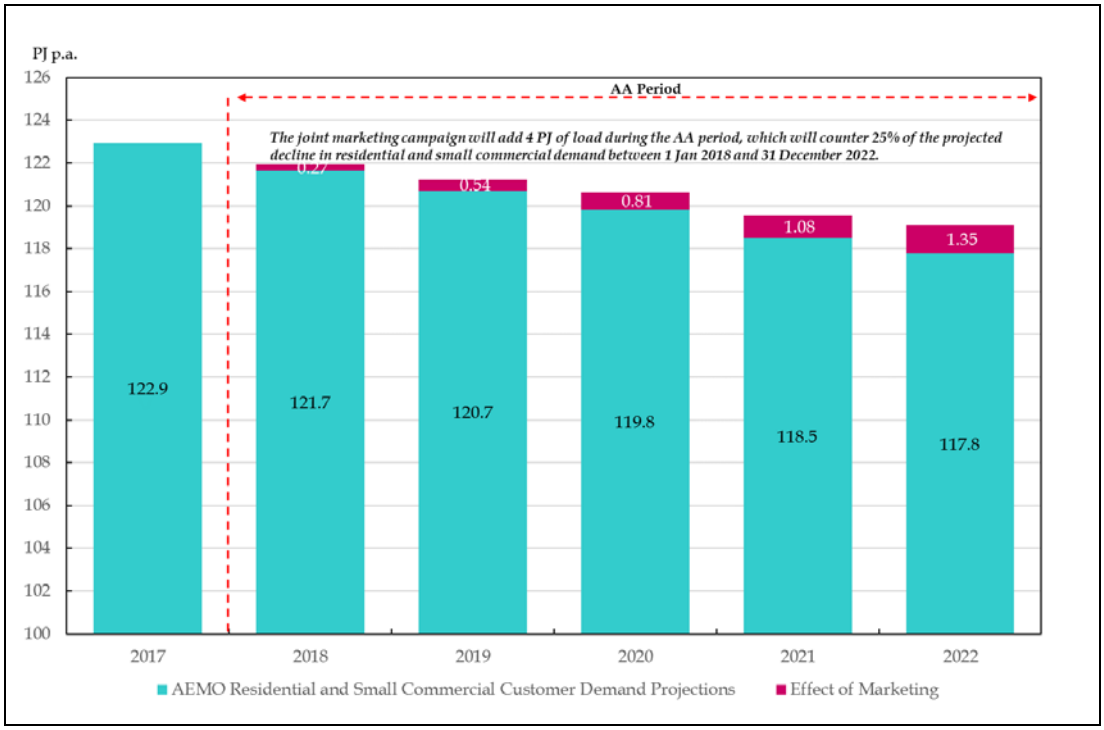
52 We understand that the ABS' methodology for estimating penetration rates may be cruder than the methodology used in the development of the forecasts for the Victorian DBs. They do, however, provide a good indicator of the relative levels of penetration across jurisdictions.

53 The sensitivity of the analysis of the program to this assumption is tested in section 4.3.1.

3.3 Effect of joint campaign on utilisation of the networks

Figure 3.2 illustrates the effect that the joint campaign is expected to have on AEMO's residential and small commercial demand forecast over the AA period. As this figure shows, the proposed campaign is not sufficient to completely counter the effect of the deteriorating market conditions on demand in the upcoming AA period, but it would address approximately 25% of the decline projected by AEMO.

Figure 3.2: Effect of Campaign on AEMO's Residential and Small Commercial Demand Forecasts



While not shown in this figure, if the marketing campaign ceased at the end of 2022, then residential and small commercial demand is forecast to be 17.6 PJ higher than what it would otherwise have been between 2023 and 2041. Specifically, demand is forecast to be:

- 6.75 PJ higher than it would otherwise have been in the 2023-2027 AA period;
- 6 2 PJ higher than it would otherwise have been in the 2028-2032 AA period; and
- 4.6 PJ higher than what it would otherwise have been between 2033 and 2041.

In relation to new connections, the joint campaign is expected to add 4,000 connections over the AA period. By the end of the period, the joint campaign is expected to result in the number of net connections reaching around 32,000,[54] which is still below the historic average of 34,600 p.a..

[54] This excludes the impact of AGN's proposal to remove zero consumption meters in 2017 and 2018.

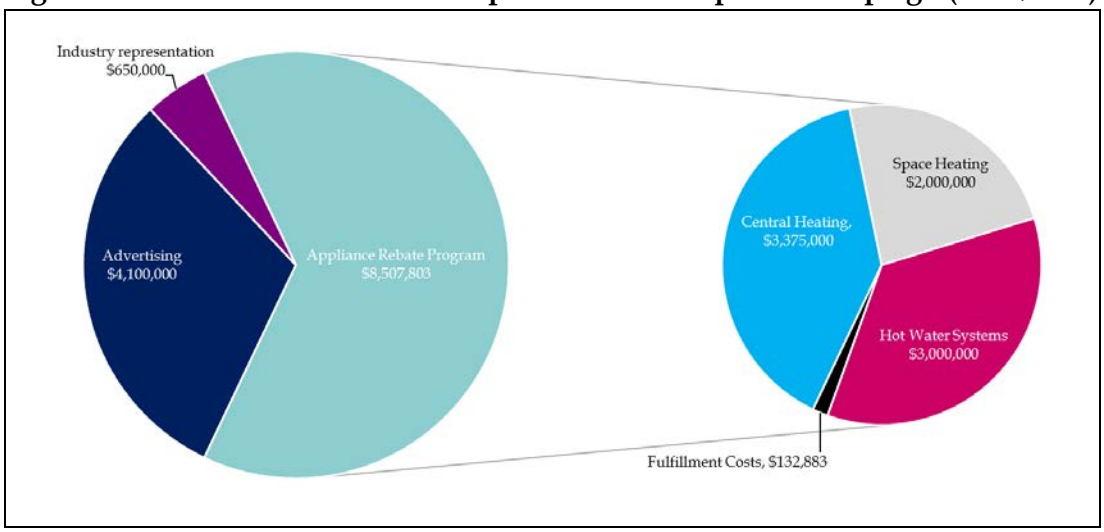
3.4 Projected cost of the campaign

The joint marketing campaign is projected to cost $13.26 million p.a. over the next AA period, of which:

- $8.5 million p.a. (64%) would be spent on the appliance rebate scheme and the associated fulfilment costs;
- $4.1 million p.a. (31%) would be spent on the advertising campaign; and
- $0.65 million p.a. (5%) would be spent on the industry representation campaign.

Figure 3.3 provides a more detailed breakdown of the annual cost of the campaign.

Figure 3.3: Breakdown of Annual Expenditure on Proposed Campaign (real $2016)



Expenditure on the appliance rebate program has been estimated using a bottom-up approach, having regard to the number of rebates that are expected to be paid over the AA period and fulfilment costs (see section 3.2). The proposed expenditure on the advertising and industry representation campaigns, on the other hand, is based on expert advice from Dentsu AEGIS Network and include the costs of developing and implementing the two campaigns.

The proposed expenditure on the advertising and industry representation campaigns is broadly in line with the allowances the AER has approved previously in other jurisdictions. Specifically:

- the proposed expenditure on the advertising campaign is in line with JGN's expenditure on the Natural Gas, Natural Choice campaign in NSW, which the AER approved in 2015;[55,56] and

[55] Note that in Box 2.1 the expenditure on the advertising campaign ($20.1 million over five years or $4.02 million per annum) is expressed in $2014-15 values. If this is converted to a 2016 value, the allowance would be $4.1 million per annum.

[56] See JGN, Appendix 7.3 - Step Change Report, 30 June 2014 and AER, Draft Decision: JGN Access arrangement 2015-20, Attachment 7, November 2014, pp. 7-24.

- the proposed expenditure on the industry representation campaign is in line AGN's expenditure on the South Australian campaign, which the AER approved in 2011.[57,58]

On a customer basis, the Victorian residential market is 1.6-5 times[59] larger than the residential markets in these other jurisdictions. The cost of carrying out the advertising and industry representation campaigns in Victoria would therefore be lower on a per customer basis than it was in NSW and South Australia.[60] The ability of the Victorian DBs to carry out these campaigns at a lower cost-per-customer reflects the economies of scale that they would be able to access by carrying out the campaign jointly.

In terms of the allocation of funds across activities, a greater proportion of the campaign allowance has been allocated to the rebate schemes than what other distribution businesses have assumed (see Box 2.1) because the incidence of appliance switching is expected to increase substantially in the next AA period.[61] The lower proportion of expenditure allocated to the advertising and industry representation campaigns also reflects the benefits of the economies of scale that can be achieved through the coordinated program.

Figure 3.4 shows how the cost of the proposed campaign compares with the allowances that have been approved in other distribution networks on a per residential customer per annum basis.

57 Note that in Box 2.1 the expenditure on the industry representation campaign ($3 million over five years or $0.6 million per annum) is expressed in $2010-11 values. If this is converted to a 2016 value, the allowance would be $0.67 million per annum.

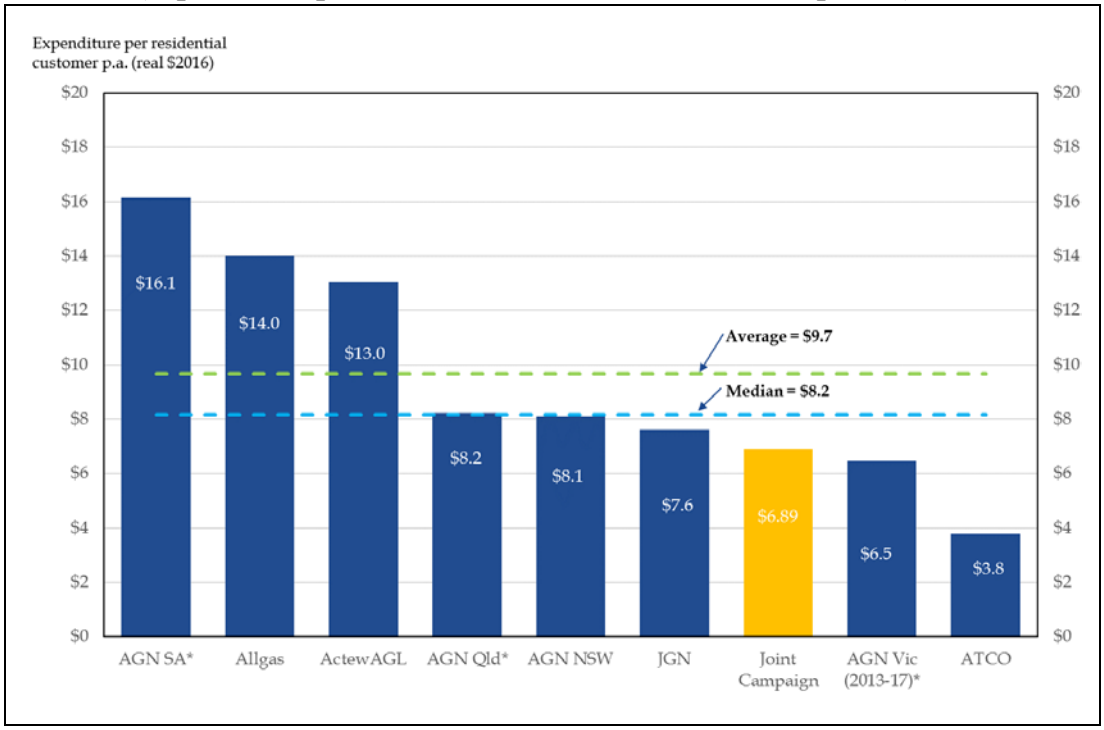
58 AER, Final Decision: Envestra AA proposal for the SA gas network, June 2011, pp. 83 and 106

59 Measured on a customer number basis.

60 The cost of carrying out the advertising campaign in Victoria on a per customer basis is $2.13 p.a. while in NSW it is $3.39. The cost of carrying out the industry representation campaign in Victoria on a per customer basis, on the other hand is $0.34 p.a. while in South Australia it was $1.56 p.a..

61 AEMO, National Gas Forecasting Report V2.0, 2 March 2016, Appendix A and associated spreadsheets, pp. 31-32.

Figure 3.4: Joint Marketing Campaign vs Other DBs Approved Allowances (expenditure per residential customer over the AA period)



Notes * The allowances in these cases have been adjusted to exclude the gas connection processing costs because they are not strictly marketing costs and are not included in the other distribution businesses' marketing allowances

As this figure shows, the joint marketing campaign is estimated to cost $6.89 p.a. per residential customer over the AA period, which is toward the lower end of the range of the allowances that have been approved by the AER and the ERA in the last six years. It is also lower than both the median ($8.20) and average ($9.70) allowances approved by the AER and the ERA over this period.

When expressed on a per GJ of incremental demand basis, the proposed expenditure on the joint campaign is equivalent to $3.07 per GJ,[62] which is 15% lower than the marketing allowance the AER approved for JGN in 2015 ($3.60 per GJ).[63] The proposed expenditure on the joint campaign can therefore be considered more cost effective than JGN's allowance, which reflects:

- the benefit of the economies of scale that the Victorian DBs would be able to access by carrying out the campaign jointly;[64] and
- the ability of the Victorian DBs to attract more heating-related demand because of the colder climatic conditions in Victoria.

62 This has been calculated by dividing the proposed allowance over the AA period by the incremental demand associated with the joint campaign between 2018 and 2041 (i.e. 21.6 PJ).

63 This has been calculated by dividing the $46 million allowance that JGN proposed by the incremental demand associated with its marketing campaign between 2015 and 2038 (i.e. 12.7 PJ).

64 Note that it was not possible to carry out this comparison for the marketing programs implemented by other gas distribution businesses because insufficient information on the incremental demand that was expected to be generated was provided in their proposals.

3.5 Allocation of costs and benefits between the DBs

The costs of carrying out the joint marketing campaign are to be split between the Victorian DBs in the following manner:

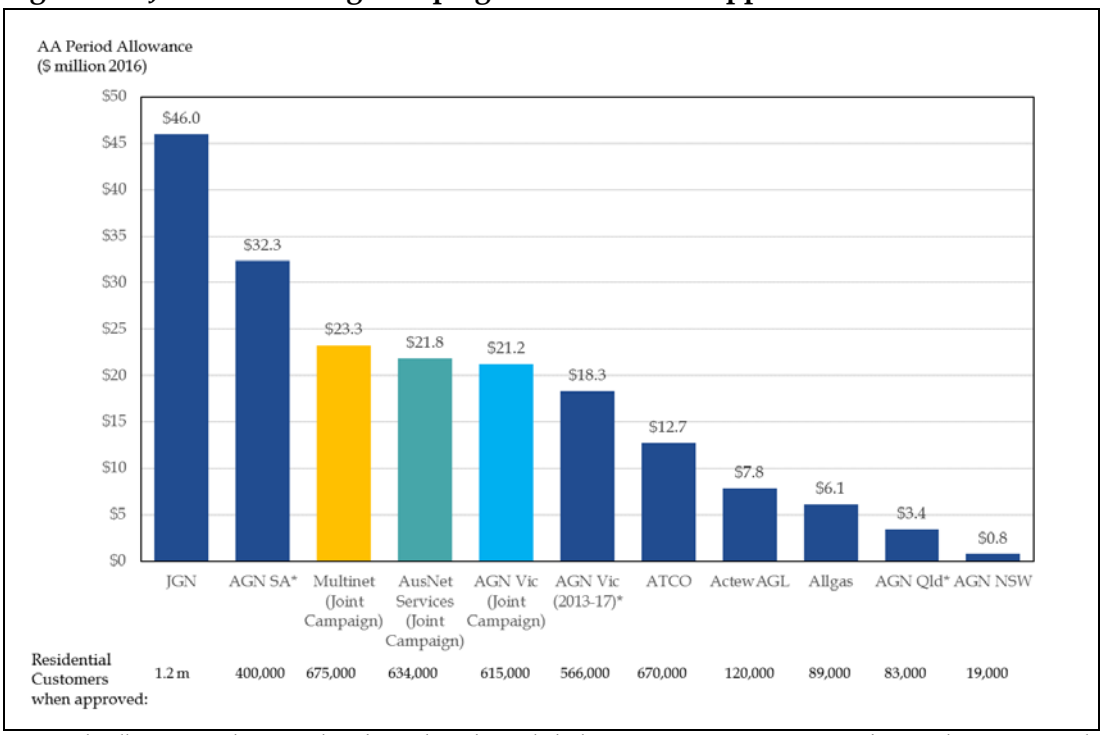
- the costs of carrying out the advertising campaign and industry representation would be divided between the three DBs on the basis of their shares of residential customer numbers in 2015; and
- the costs of the rebate program would be allocated to the network in which the customer that takes up the rebate or connects is located, which in the analysis set out in Chapter 4 is assumed to occur in proportion to the number of residential customers in each network in 2015.[65]

The application of this method results in the following allocation of costs:

- AGN: $4.24 million p.a. over the AA period;
- AusNet Services: $4.37 million p.a. over the AA period; and
- Multinet: $4.65 million p.a. over the AA period.

The figure below shows how the proposed allowance for each of the Victorian DBs compares with the allowances approved in other distribution networks.

Figure 3.5: Joint Marketing Campaign vs Other DBs Approved Allowances



Notes * The allowances in these cases have been adjusted to exclude the gas connection processing costs because they are not strictly marketing costs and are not included in the other distribution businesses' marketing allowances

The forecast benefits of the campaign have also been allocated to the Victorian DBs based on residential customer numbers in 2015, as set out in the table below.

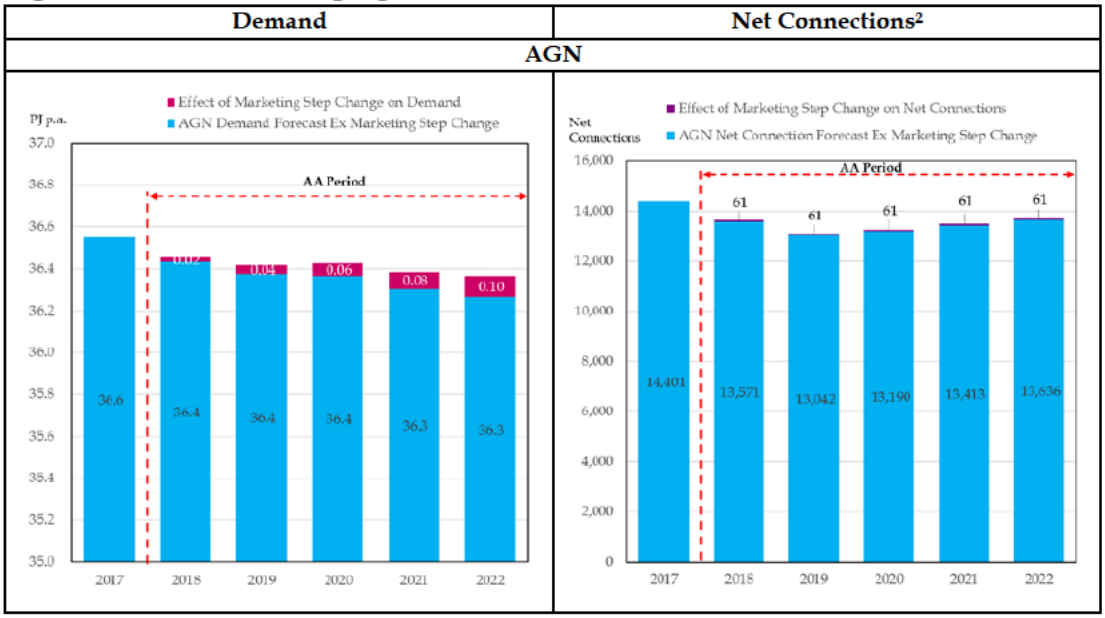
65 At the end of 2015, AGN had 615,311 residential customers, AusNet Services had 633,940 residential customers and Multinet had 674,931 residential customers.

Table 3.4: Assumptions - Appliance rebate program

		AGN	AusNet	Multinet	Total
Incremental Load	**Over AA period**	1.30 PJ	1.33 PJ	1.42 PJ	**4.05 PJ**
	Over life of appliances	6.91 PJ	7.12 PJ	7.58 PJ	**21.60 PJ**
Number of New Connections		256	264	281	**800**

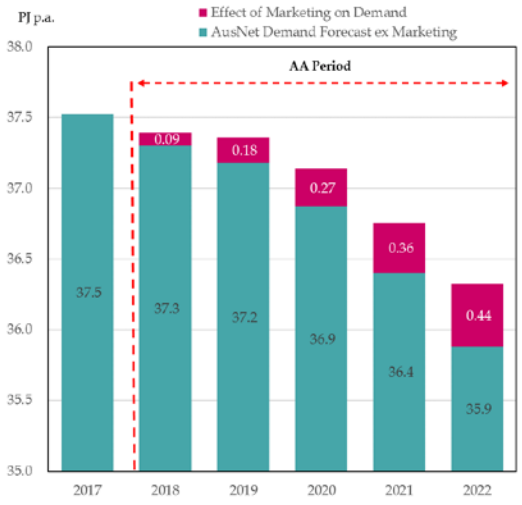
The effect that the joint marketing campaign is expected to have on each DB's residential and small commercial demand and net connection forecasts is shown in Figure 3.6. Before examining this figure, it is worth noting that AGN already has a marketing program in place in regional areas of Victoria, so it would only be seeking a step change of $1.0 million p.a. (i.e. the difference between its current expenditure and the allowance set out above). Because the effect of the existing marketing program has already been taken into account in AGN's demand and net connections forecasts, Figure 3.6 just illustrates the effect that the step change would have on AGN's demand and net connection forecasts.[66]

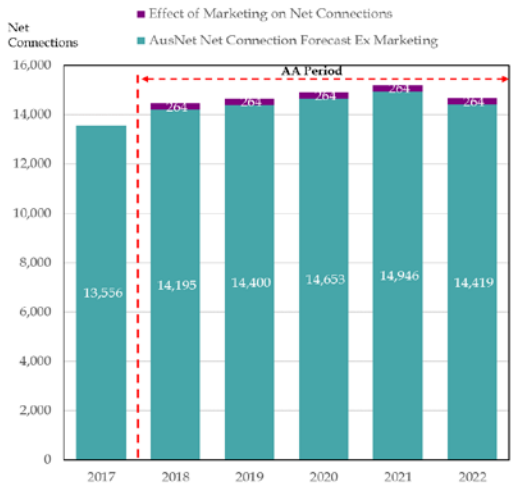
Figure 3.6: Effect of Campaign on Residential and Small Commercial Utilisation[1]



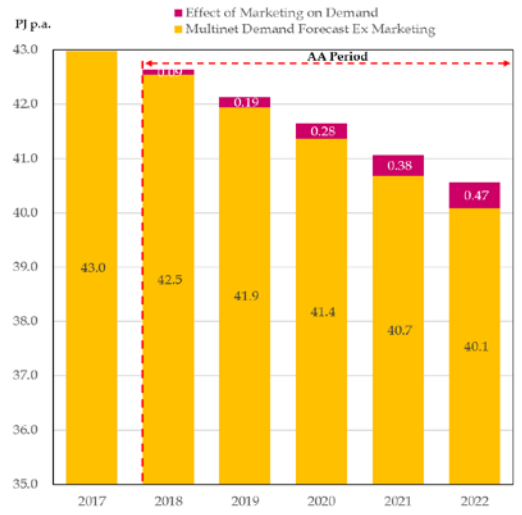
[66] To calculate the impact of the step change on demand and new connections we have multiplied the total benefit attributable to AGN's share of the expenditure by the ratio of the step change to AGN's share of the expenditure.

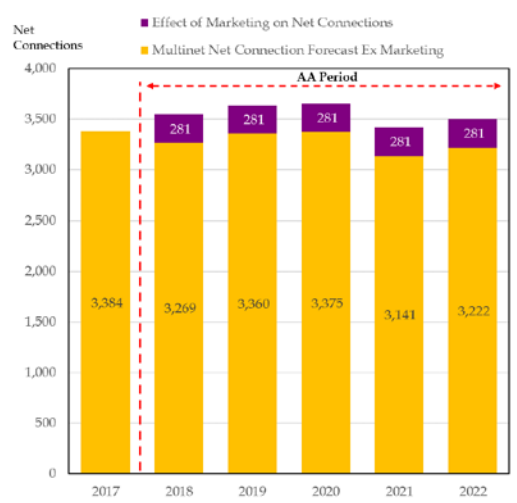
AusNet Services





Multinet





1. Note that the demand and net connection forecasts appearing in this figure are based on the DB specific forecasts developed by Core, CIE and NIEIR, rather than AEMO's forecasts.
2. AGN's net connections forecast have not been adjusted to account for the removal of zero consuming meters in 2017 and 2018, because doing so would overstate the impact of the deterioration in market conditions on connections. If these meters were removed, the net connections would be 8,948 in 2017 and 8,117 in 2018.

4. Consistency of the joint campaign with the NGR

As noted in the introduction to this report, the Victorian DBs have asked us to assess whether the joint marketing campaign satisfies rule 91 of the NGR, which is reproduced below:

> *Operating expenditure must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of delivering pipeline services.*

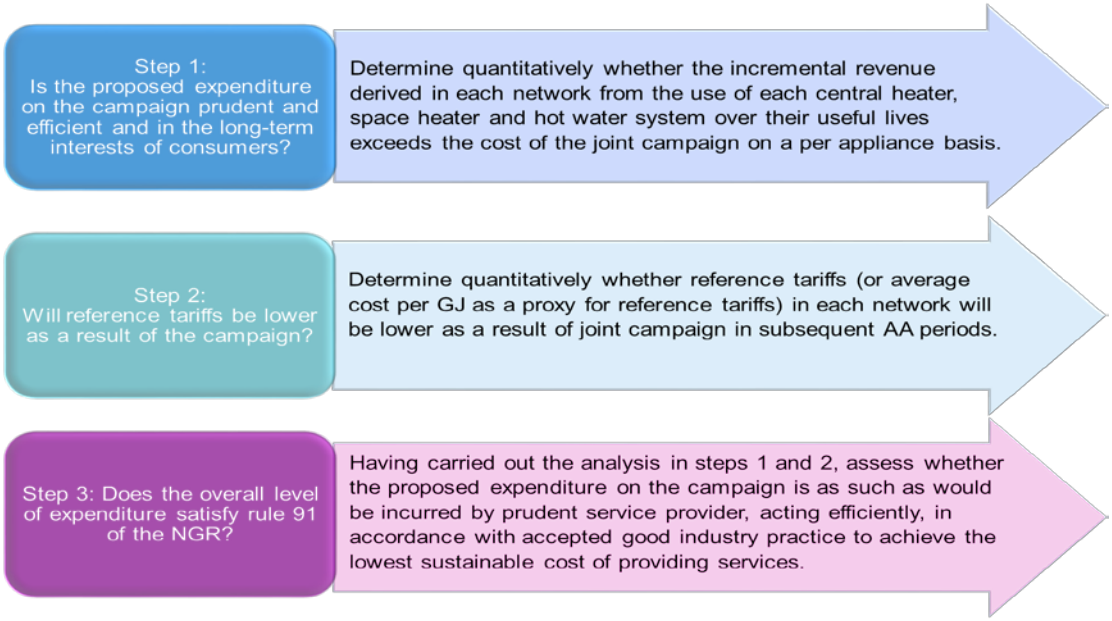
The remainder of this section describes the assessment framework we have used to carry out this assessment and the results of our application of this framework to the joint marketing campaign. More specific analyses for each DB are contained in Appendices A-C.

4.1 Assessment framework

The AER has observed previously[67] that marketing can be an efficient response to lower than efficient levels of network utilisation if it results in a measurable increase in the volume of gas transported through the network. It can also be in the long-term interests of consumers if it results in lower reference tariffs over time, which would occur if the benefits of the incremental demand exceed the campaign costs.

To determine whether the joint marketing campaign is likely to satisfy rule 91 of the NGR and be in the long-term interests of Victorian consumers, we have employed a similar assessment framework to that adopted in other AA reviews. [68] This framework is summarised in Figure 4.1 below.

Figure 4.1: Assessment Framework Applied to the Joint Marketing Campaign



67 AER, Draft Decision: JGN Access arrangement 2015-20, Attachment 7, November 2014, pp. 7-24.

68 A similar approach was employed in the JGN 2015-2020 NSW AA review, the AGN 2013-2017 Victorian AA review and the AGN 2011-2016 South Australian and Queensland AA reviews, all of which were approved by the AER. See for example, JGN, Appendix 7.3 - Step Change Report, 30 June 2014, AGN, Victoria & Albury Revised Access Arrangement Information, November 2012, Attachment 6.7 and AGN, Access Arrangement Information, 1 October 2010.

Step 1 of this assessment framework is consistent with test embodied in rule 79(2)(b) of the NGR. In simple terms, this requires consideration to be given to whether the present value (PV) of the incremental revenue to be derived from the use of each appliance over its useful life exceeds the costs of the proposed campaign on a per appliance basis. Formulaically, this can be expressed as follows:

$$PV(revenue\ from\ operation\ of\ the\ appliance - connection\ costs - incremental\ operating\ cost) > PV(rebate + fulfilment\ costs + advertising\ campaign + industry\ representation)$$

If the incremental revenue is greater than the cost of the campaign then it implies that the proposed expenditure is prudent and efficient and in the long-term interests of consumers (i.e. because the incremental revenue would be deducted from the service provider's revenue requirement, resulting in lower costs for all customers). If, on the other hand, the cost of the campaign exceeds the incremental revenue, the campaign would not be prudent and efficient. Nor would it be in the long-term interests of consumers in these networks.

This analysis has been carried out at an appliance level in each of the Victorian DBs' networks, so that the prudence and efficiency of each element of the rebate program can be assessed in each network and in each tariff zone.

As a further check on this analysis, we have examined whether the forecast reference tariffs (or the average cost per GJ as a proxy for reference tariffs) in each network would be expected to be lower as a result of the marketing campaign in subsequent AA period (Step 2).

Drawing on the results of the analysis from Steps 1 and 2 and other information, we have then considered whether the proposed expenditure on the joint campaign is:

- as such as would be incurred by prudent service provider, acting efficiently;
- consistent with accepted good industry practice; and
- expected to achieve the lowest sustainable cost of delivering distribution services.

The inputs that we have used when carrying out this analysis and the results of the application of this assessment framework analysis are set out in the following sections.

4.2 Inputs used in the quantitative analysis

Table 4.1 sets out the inputs we have used to carry out the quantitative analysis described in Steps 1 and 2 of the assessment framework for each network. Before examining this table, it is worth noting that, in developing these inputs, we have been cognisant of rule 74(2) of the NGR, which states that any forecast or estimate must be arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances. In our opinion the inputs used in the analysis satisfy this requirement and provide an appropriate basis upon which to assess the joint campaign.

Table 4.1: Inputs for Quantitative Analysis

		AGN	AusNet	Multinet	Total
Number of rebates per annum	**Central heating**	1,439	1,483	1,578	**4,500**
	Space heating	1,279	1,318	1,403	**4,000**
	Hot Water	2,398	2,471	2,631	**7,500**
Rebates per appliance	**Central heating**	$750			
	Space heating	$500			
	Hot Water	$400			
Fulfilment cost per appliance rebate		$8.30			
Advertising and industry representation campaigns cost per appliance rebate		$296.90			
Average load (life)	**Central heating**	25 GJ p.a. (20 years)			
	Space heating	15 GJ p.a. (15 years)			
	Hot Water	13 GJ p.a. (12 years)			
Annual Cost of Marketing Campaign					
Cost of rebates		$2,678,139	$2,759,224	$2,937,637	**$8,375,000**
Fulfilment cost		$42,493	$43,780	$46,610	**$132,883**
Advertising campaign		**$1,311,089**	**$1,350,784**	**$1,438,127**	**$4,100,000**
Industry representation		**$207,856**	**$214,149**	**$227,996**	**$650,000**
Annual cost of campaign		**$4,239,577**	**$4,367,936**	**$4,650,370**	**$13,257,883**
Other Inputs					
Connection cost (service + meter unit rate)		**$1,482**	$1,800	$2,191	**n.a.**
Incremental operating and maintenance cost		$22.40[69]			**n.a.**
Measurement period		Based on the life of the appliance			**n.a.**
Revenue over measurement period		Based on reference tariffs as at 1 Jan 2016[70]			**n.a.**
Pre-tax real WACC[71] (based on AER's 2013 decision)		5.34%	5.01%	4.97%	**n.a.**
Benefit of Campaign					
Incremental Load	**Over AA period**	1.30 PJ	1.33 PJ	1.42 PJ	**4.05 PJ**
	Over life of appliances	6.91 PJ	7.12 PJ	7.58 PJ	**21.6 PJ**
Number of New Connections Over AA period		256	264	281	**800**

69 Based on the requirements set out in the Victorian Gas Distribution Code V11 for economic feasibility tests of this nature.

70 The use of these tariffs and the rate of return implicit in these tariffs is consistent with rule 79(4)(a), which states that when determining the present value of the incremental revenue:

- the tariff should be based on prevailing reference tariffs (or an extrapolation from these tariffs); and
- the discount rate should be equal to the rate of return implicit in the reference tariff.

This approach is also consistent with what JGN assumed in its recent analysis, which was approved by the AER.

71 *ibid.*

4.3 Results of the analysis

4.3.1 Step 1: Is the proposed expenditure prudent and efficient and in the long-term interests of consumers?

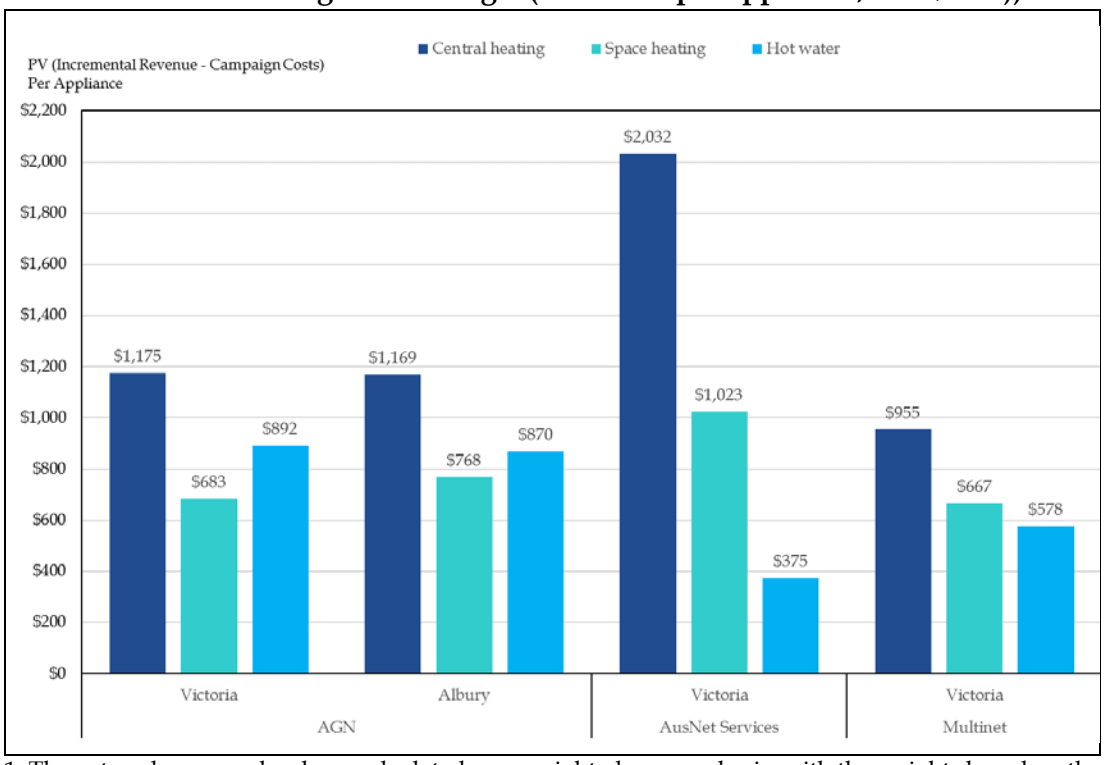
To determine whether the proposed expenditure on the campaign is likely to be prudent, efficient and in the long-term interests of consumers in Victoria, we have compared:

- the PV of the incremental revenue to be derived from the use of each appliance over its useful life (i.e. revenue from the operation of the appliance *less* the share of new connection and incremental operating costs); *with*
- the PV of the costs of the proposed campaign measured on a per appliance basis.

This analysis has been carried out at on a per appliance basis to enable a more detailed assessment to be carried out of prudence and efficiency of each element of the appliance rebate program.

The analysis has also been carried out in each tariff zone across the three distribution networks using the inputs contained in Table 4.1. The results of this analysis by distribution network and tariff zone are set out in detail in Appendices A-C, while Figure 4.2 sets out the aggregated results for each network.

Figure 4.2: Prudence and Efficiency of Proposed Expenditure on Joint Campaign – Network Weighted Average[1] (measured per appliance, real $2016))



1. The network average has been calculated on a weighted average basis, with the weights based on the number of residential customers in each tariff zone at the end of 2015.

As this figure shows, at an appliance level, the benefits of the campaign (i.e. the incremental revenue generated from the use of each additional central heating, space heating and hot water appliance in each network) exceeds the cost of the

campaign. The proposed expenditure on the joint campaign can therefore be considered prudent and efficient and in the long-term interests of consumers in these networks (i.e. because the incremental revenue would be deducted from the Victorian DBs' revenue requirement in subsequent AA periods, resulting in lower costs for customers in these networks).[72]

It is worth noting that estimating the incremental revenue associated with an additional appliance requires an assumption to be made about where within the tariff structure the additional load falls. The results set out above assume the customer has no existing appliances connected. We have also tested what would occur if the customer had existing gas appliances in place and the additional appliances resulted in the customer moving into a lower price tariff block. The results of this analysis show that even if the additional demand was subject to a lower tariff it would still yield a positive NPV.

More generally, we have tested what would occur if incremental revenue was lower than what has been estimated, which could occur if:

- the average load per appliance is lower than what has been assumed;
- the campaign resulted in a greater number of new connections than implied by the 5% assumption; and/or
- customers have existing appliances and are pushed into a lower cost tariff band (see above).

The results of this sensitivity analysis show that even if incremental revenue was 20% lower than what has been estimated, the forecast benefits of the campaign would still exceed the cost of the campaign. This analysis provides further support for the earlier conclusion that the joint campaign is prudent and efficient and in the long-term interests of consumers in these networks.

4.3.2 Step 2: What effect would the campaign have on tariffs?

To determine what effect the campaign would have on reference tariffs in each network, we have used the average cost per GJ metric as a proxy for reference tariffs. We have then compared the value of this metric in the 'with marketing' and 'without marketing' states of the world across the three networks. The results of this comparison revealed the following:

- in the 2018-2022 AA period the forecast average cost per GJ metric would be \$0.02-\$0.08 p.a.[73] ***higher*** in the 'with marketing' state of the world across the three networks; and
- in subsequent AA periods the forecast average cost per GJ would be \$0.02-\$0.06 p.a.[74] ***lower*** in the 'with marketing' state of the world, with the reduction in

72 While the results for each tariff zone are not shown in this figure, the same findings were observed in each zone, with the incremental revenue exceeding the cost of the campaign.

73 This is measured on a weighted average basis over the relevant period.

74 ibid.

these AA periods being more than sufficient to offset the increase in the 2018-2022 period.

These results, which are consistent with those set out in Step 1, reinforce the conclusion that customers in the three networks would be better off as a result of the joint campaign.

4.3.3 Step 3: Does the overall level of expenditure satisfy rule 91 of the NGR?

To determine whether the overall level of expenditure proposed for the joint campaign satisfies rule 91 of the NGR, we have considered whether it is:

- as such as would be incurred by prudent service provider, acting efficiently;
- consistent with accepted good industry practice; and
- expected to achieve the lowest sustainable cost of delivering distribution services.

Drawing on the analysis set out above the proposed expenditure on the joint campaign can be considered both prudent and efficient, with the quantitative analysis showing that the cost of the campaign are more than offset by the forecast benefits from increased utilisation of the networks. Further support for this view can be found in the analysis contained in section 3.4, which shows that:

- the level of the proposed rebates and the proposed expenditure on the advertising and industry representation campaigns are in line with those that have previously been approved by the AER and the ERA;
- the proposed expenditure on the campaign, when expressed on a per residential customer basis, is at the lower end of the range of allowances approved by the AER and ERA in other decisions and well below the median allowance ($6.89 per customer vs $8.20 per customer); and
- the proposed expenditure is more cost effective than the allowance JGN proposed in 2014-15, which the AER approved ($3.07 per GJ of incremental demand vs $3.60 per GJ of incremental demand).

In addition to being both prudent and efficient, the proposed expenditure on the joint campaign is also consistent with good industry practice, as evidenced by:

- the number of other regulated and unregulated gas distribution businesses that used marketing to try and promote the efficient utilisation of their networks, including JGN, ATCO Gas, AGN (South Australia, Queensland, NSW and regional Victoria), Allgas, ActewAGL and TasGas (see section 2.3); and
- prior decisions by both the AER and ERA that have approved this type of expenditure (see Figure 2.5).

The proposed expenditure can also be expected to contribute to the attainment of the lowest sustainable cost over the longer term, because it would enable the fixed costs associated with providing distribution services to be spread over a greater

number of customers and volumes of gas. The ultimate beneficiaries of this reduction in average costs would be the customers in these networks.

It follows from these observations that the proposed expenditure on the joint campaign satisfies rule 91 of the NGR and would be an efficient response to the expected deterioration in market conditions. The proposed expenditure is also consistent with other elements of the regulatory framework, such as the NGO and the revenue and pricing principles, which explicitly recognise that:

- promoting the efficient use of the networks is in the long-term interests of consumers; and
- underutilisation of a network can give rise to economic costs and risks, the effects of which will ultimately be borne by consumers and the pipeline owner.

The significance of these factors was recognised by a number of stakeholders that participated in AGN's Victoria and Albury Draft Plan consultation process. Through this consultation process, consumer groups (e.g. PIAC, St Vincent DePaul), retailers, and a range of other interested parties (e.g. Energy Consumers Australia, Energy Water Ombudsman Victoria and the Council of Small Business of Australia) were asked for their views on the proposal to implement a marketing campaign in Victoria.

The stakeholders that participated in this process were broadly supportive of the proposal to implement a joint marketing campaign in the upcoming AA period given the discretionary nature of gas use and the expected change in energy markets (e.g. the expected uptake of renewable energy supported by battery storage). Their support was, however, conditional on the benefits of the campaign being shown to exceed the costs. Stakeholders also noted the importance of collaboration across the Victorian DBs to ensure the program is delivered in the most efficient manner.[75]

Finally, it is worth noting that if the proposed expenditure on the joint campaign is not approved by the AER then, even though the campaign is in the long-term interests of consumers, it is unlikely to proceed because the benefit that the Victorian DBs would derive in the upcoming AA period from the incremental demand would be insufficient to fund the campaign. The benefits of carrying out the campaign would instead be reaped over a 24-year period (2018-2041) and passed directly through to customers at each regulatory reset in the form of lower reference tariffs. The Victorian DBs would therefore be unable to recoup their expenditure on the campaign if AER approval is not obtained.

This point was recognised by the AER in its recent decision to approve JGN's proposed marketing allowance, as highlighted in the following extract.[76]

> *"In assessing this proposal, we have also considered whether this step change could be self-financing. That is, we considered whether the expected additional revenue the project would*

[75] See for example the AGN and Deloitte, Victoria and Albury Draft Plan – Stakeholder Workshops Summary, September 2016, slide 3 and Origin, Re: Submission to AGN Draft Plan for Victorian Gas Distribution Networks, 22 August 2016, p. 2.

[76] AER, Draft Decision: JGN Access arrangement 2015-20, Attachment 7, November 2014, p. 7-24.

generate for JGN without an approved increase in opex would be sufficient to fund the step change.

However, we consider it is unlikely that this would be the case. Forecast increased demand in the 2015–20 access arrangement period attributable to the marketing campaign is already reflected in JGN's demand forecasts and therefore will be reflected in JGN's reference tariffs for this period. In the access arrangement period beginning in 2020 we will set new reference tariffs. In all likelihood we would expect that gas consumption in 2015–20 will be given significant weight in forecasting demand from 2020. Some of this demand will be attributable to JGN's marketing campaign. We would therefore expect that any long term increases in demand as a result of JGN's marketing campaign will also continue to flow through to the regulated price(s) JGN's consumers face from 2020."

A step change in operating expenditure would therefore be required to fund the joint campaign.

Appendix A AGN

The following appendix provides further detail on:

- the assumptions that have been made when carrying out the quantitative assessment of AGN's share of the proposed expenditure on the joint campaign;
- the effect the campaign is expected to have on residential demand and new connections in AGN's Victorian and Albury networks; and
- the results of our quantitative assessment of:
  - whether the proposed expenditure on the joint campaign is prudent, efficient and in the long-term interests of consumers in AGN's Victorian and Albury networks (Step 1); and
  - the impact that the joint campaign would have on reference tariffs in AGN's Victorian and Albury networks in the upcoming AA period and subsequent AA periods (Step 2).

A.1 Assumptions

The costs and benefits of the joint campaign have been allocated to each DB based on their share of residential customers in 2015. Table A.1 sets out AGN's share of the proposed annual expenditure on the joint campaign while Table A.2 sets out its share of the incremental demand and new connections.

Before examining these tables, it is worth noting that AGN already has a marketing program in place in regional areas of Victoria and would only be seeking a step change of $1 million p.a. to account for the difference between its base year expenditure ($3.23 million (real $2016)) and the allowance set out above in Table A.1. The share of the incremental demand and net connections that can be attributed to the step change are set out in the bottom row of Table A.2.[77]

Table A.1: AGN - Share of Annual Expenditure on Joint Campaign (real $2016)

	Annual Expenditure
Advertising campaign	$1,311,089
Industry representation	$207,856
Appliance rebate scheme (including fulfilment costs)	$2,720,632
Total	**$4,239,577**
Base year expenditure	$3,232,990
Step change	**$1,006,587**

Note some numbers may not add up due to rounding.

[77] To calculate the impact of the step change on demand and new connections we have multiplied the total benefit attributable to AGN's share of the expenditure by the ratio of the step change to AGN's share of the proposed expenditure (i.e. 24%).

Table A.2: AGN - Share of Incremental Demand and New Connections

	Incremental load over AA period	Incremental load over life of appliances	Number of new connections over AA period
Total Share	1.30 PJ	6.91 PJ	1,279
Step Change	**0.31 PJ**	**1.64 PJ**	**304**

Table A.3 sets out the assumptions that have been made about AGN's total share of the proposed appliance rebate program. These assumptions are consistent with the assumptions set out in section 3.2.

Table A.3: AGN – Appliance Rebate Program Assumptions (real $2016)

Input		Central heating	Space heating	Hot water	Total
No. of appliances rebates p.a.	(a)	1,439	1,279	2,398	5,116
Rebate per appliance	(b)	$750	$500	$400	n.a.
Take-up of rebates	(c)	100%	100%	100%	n.a.
Average load per appliance	(d)	25 GJ	15 GJ	13 GJ	n.a.
Life of appliance	(e)	20 years	15 years	12 years	n.a.
Cost of rebates	(f)=(a)x(b)x(c)	$1,079,250	$639,556	$959,334	$2,678,139
Fulfilment costs	(g)=(a)x$8.30	$8.30 per appliance rebate			$42,493
Total cost of rebate scheme	**(h)=(f)+(g)**	**n.a.**			**$2,720,632 p.a.**
Advertising and industry campaigns	(i)=(a)x$296.90	$296.90 per appliance			**$1,518,940**
Incremental demand per annum	(j)=(a)x(d)	36.0 TJ p.a.	19.2 TJ p.a.	31.2 TJ p.a.	86.3 TJ p.a.
Appliance rebates that result in new connections	**(k)=5% x (a)**	**5%**			256 p.a.

Note some numbers may not add up due to rounding.

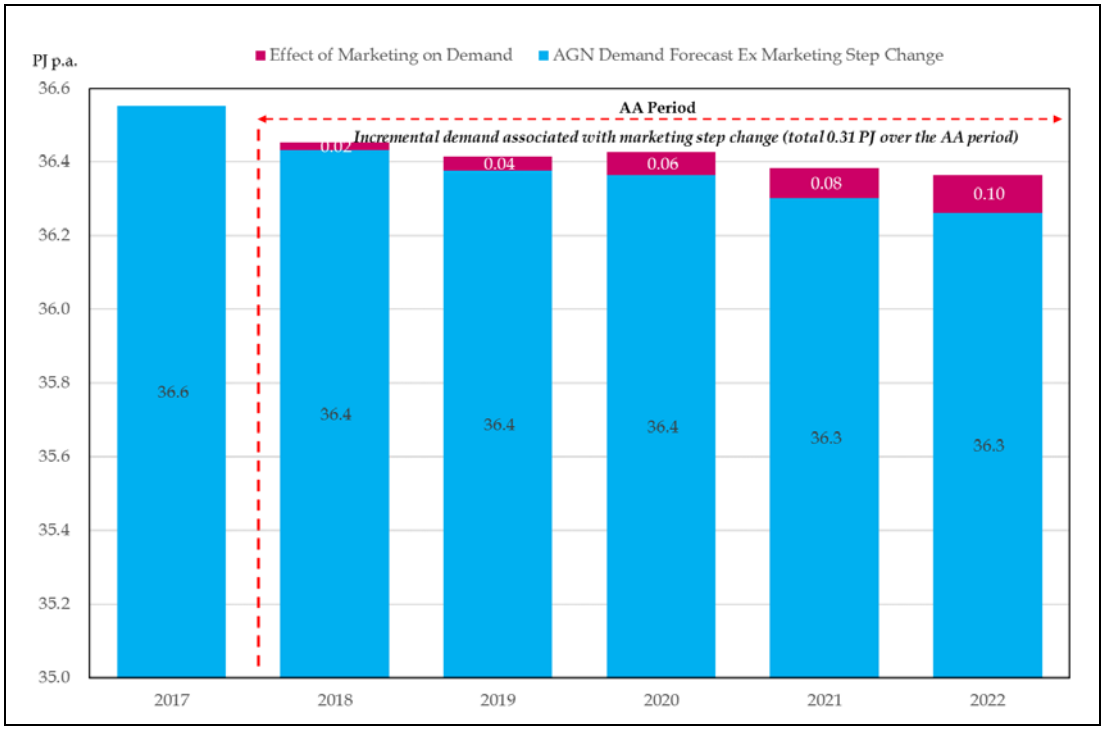
A.2 Effect on residential demand and new connections

AGN's demand projections for the next AA period assume that, in the absence of the proposed step change in marketing, residential and small commercial demand would fall by 0.3% p.a. from 36.4 PJ p.a. to 35.8 PJ p.a.. Over the five-year term of the AA period, this implies that demand would be 1.9 PJ lower than what it would have been had it remained at the 2017 level. These demand projections already reflect the effect of the marketing program AGN has implemented in regional Victoria. The analysis below therefore focuses on the effect that the step change

element of the proposed expenditure on the joint campaign would have on AGN's demand forecasts.[78]

If the joint campaign proceeds and AGN spends an additional $1.0 million p.a. (real $2016) on marketing, then, as shown in the bottom row of Table A.2, residential and small commercial demand in AGN's Victorian and Albury networks is expected to be 0.31 PJ higher over the next AA period. The incremental effect that the step change would have on AGN's demand projections in each year of the AA period is shown in Figure A.1.

Figure A.1: AGN - Effect of Marketing Campaign on Residential and Small Commercial Demand Over the AA Period



As Figure A.1 highlights, the additional demand that is expected to arise from the joint marketing campaign would not be sufficient to counter all of the projected decline in demand over the AA period, but it would offset 30% of it. [79]

While not shown in Figure A.1, if the marketing campaign ceased at the end of 2022 and the life of the appliances is as assumed in Table A.3, forecast residential and small commercial demand would be 1.33 PJ higher over the period 2023-2041. Specifically, forecast demand would be:

- 0.51 PJ higher than it would otherwise have been in the 2023-2027 AA period;

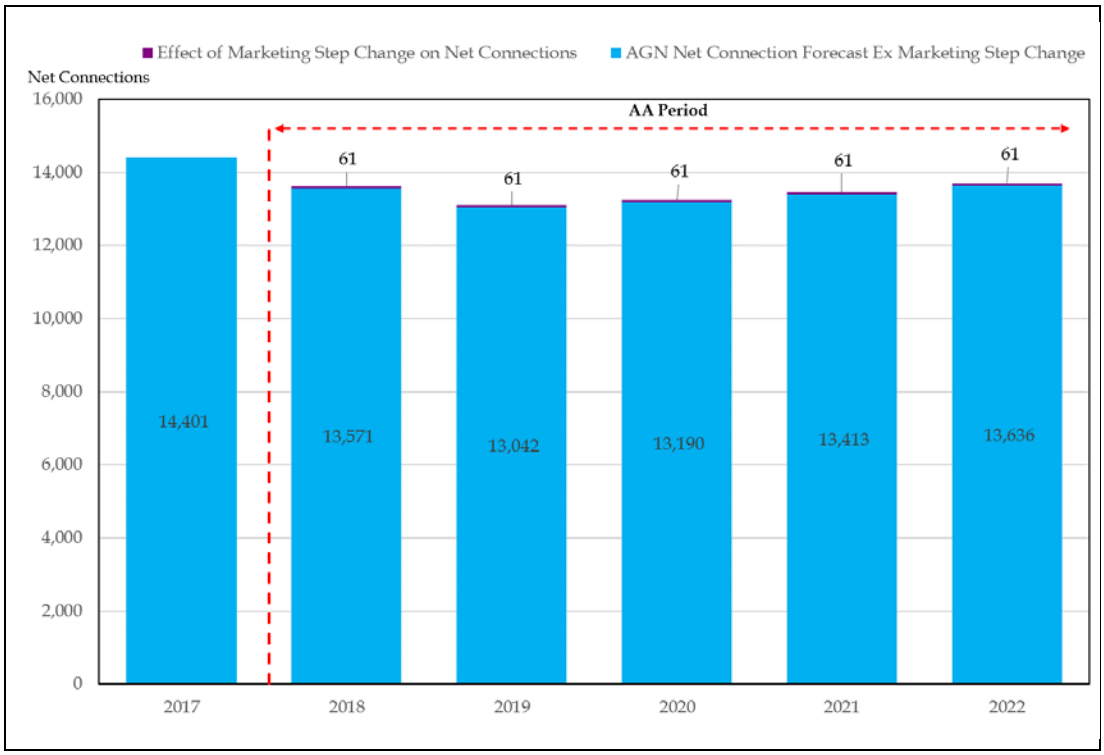
78 To calculate the impact of the step change on demand and new connections we have multiplied the total benefit attributable to AGN's share of the expenditure by the ratio of the step change to AGN's share of the expenditure.

79 Without the joint campaign, demand over the AA period is expected to be 1 PJ lower than what it would otherwise have been if demand had remained at the 2017 levels. With the campaign, demand will be 0.7 PJ lower, which implies that the joint campaign will offset 30% of the projected decline in demand.

- 0 47 PJ higher than it would otherwise have been in the 2028-2032 AA period; and
- 0.35 PJ higher than what it would otherwise have been between 2033 and 2041.

In terms of new connections, if AGN spends an additional $1.0 million p.a. (real $2016) on the joint campaign then residential and small commercial connections are expected to increase by 61 connections in each year of the AA period (304 in total) (see Figure A.2).

Figure A.2: AGN - Effect of Marketing Campaign on Residential and Small Commercial Net Connections[1] Over the AA Period



1. The net connections forecast in this chart has not been adjusted to account for the removal of zero consuming meters in 2017 and 2018, because doing so would overstate the impact of the deterioration in market conditions on connections. If these meters were removed, the net connections would be 8,948 in 2017 and 8,117 in 2018.

A.3 Step 1: Is the proposed expenditure prudent and efficient and in the long-term interests of consumers?

To determine whether the proposed expenditure on the campaign is likely to be prudent, efficient and in the long-term interests of consumers in Victoria, we have compared:

- the PV of the incremental revenue to be derived from the use of each additional appliance over the life of those appliances; *with*
- the PV of the costs of the proposed campaign measured on a per appliance basis.

This analysis has been carried out at an appliance level in each of AGN's tariff zones using the assumptions set out in Table A.4.

Table A.4: AGN - Assumptions for Assessment of Expenditure

Input	Assumption
Proportion of appliance sales resulting in new connections	5% of appliance sales are assumed to result in new connections.
Connection cost (unit rate) from AGN	$1,250 (real $2016) capex on services per connection; asset life of 60 years, consistent with AER PTRM for AGN's 2013 AA. $232 (real $2016) capex on meters per connection; asset life of 15 years, consistent with AER PTRM for AGN's 2013 AA.
Incremental operating cost (per customer)	$22.40 (real $2016) per customer, based on escalated value appearing in Victorian Gas Distribution Code V11.
Revenue	Revenue over the measurement period has been calculated using the residential reference tariffs applying as at 1 January 2016.[80, 81]
Measurement period	Life of the appliances
Discount rate	Pre-tax real WACC of 5.34% (based on AER's final decision for AGN's 2013-2017 AA)[82]

Rebate and New Connection Related Assumptions

	Central heating	Space heating	Hot water
Rebate	$750	$500	$400
Fulfilment cost per appliance rebate	**$8.30**		
Advertising and Industry representation costs per appliance rebate	**$296.90**		

Table A.5 sets out the results of our analysis for each of AGN's tariff zones. Before examining these results, it is worth noting that there is some variation in the results across tariff zones because of differences in tariff levels and structures.

80 The tariffs have been obtained from https://www.australiangasnetworks.com.au/our-business/regulatory-information/tariffs-and-plans (accessed October 2016).

81 The use of these tariffs and the rate of return implicit in these tariffs is consistent with rule 79(4)(a), which states that when determining the present value of the incremental revenue:

- the tariff should be based on prevailing reference tariffs (or an extrapolation from these tariffs); and
- the discount rate should be equal to the rate of return implicit in the reference tariff.

This approach is also consistent with what JGN assumed in its recent analysis, which was approved by the AER.

82 *ibid.*

Table A.5: AGN – Assessment of the Proposed Campaign (real $2016)

		Central heating	Space heating	Hot water
Central Zone				
PV of incremental revenue	(a)	$2,244	$1,495	$1,608
Proposed rebate and fulfilment cost	(b)	$758	$508	$408
Advertising and industry representation cost	(c)	$297		
Difference	**(d)=(a)-(b)-(c)**	**$1,189**	**$689**	**$903**
Northern Zone				
PV of incremental revenue	(e)	$2,048	$1,380	$1,467
Proposed rebate and fulfilment cost	(f)	$758	$508	$408
Advertising and industry representation cost	(g)	$297		
Difference	**(h)=(e)-(f)-(g)**	**$993**	**$575**	**$762**
Murray Valley Zone (Vic)				
PV of incremental revenue	(i)	$2,312	$1,590	$1,570
Proposed rebate and fulfilment cost	(j)	$758	$508	$408
Advertising and industry representation cost	(k)	$297		
Difference	**(l)=(i)-(j)-(k)**	**$1,257**	**$785**	**$865**
Bairnsdale Zone				
PV of incremental revenue	(m)	$3,741	$2,501	$2,682
Proposed rebate and fulfilment cost	(n)	$758	$508	$408
Advertising and industry representation cost	(o)	$297		
Difference	**(p)=(m)-(n)-(o)**	**$2,686**	**$1,696**	**$1,977**
Albury				
PV of incremental revenue	(q)	$2,224	$1,573	$1,575
Proposed rebate and fulfilment cost	(r)	$758	$508	$408
Advertising and industry representation cost	(s)	$297		
Difference	**(t)=(q)-(r)-(s)**	**$1,169**	**$768**	**$870**

As Table A.5 shows, the forecast incremental revenue that would be generated through the use of each additional central heating, space heating and hot water systems exceeds the cost of the campaign in each of AGN's tariff zones. AGN's share of proposed expenditure on the campaign can therefore be considered prudent and efficient and in the long-term interests of consumers in the Victorian and Albury networks.

It is worth noting that estimating the incremental revenue associated with an additional appliance requires an assumption to be made about where within the tariff structure the additional load falls. The results in Table A.5 assume the customer has no existing appliances connected. We have also tested what would happen if the customer had some existing gas appliances in place and the additional appliances resulted her moving into another tariff block. In particular, we have tested what would occur if a customer:

- Adds a gas central heating appliance to her set of existing space heating, hot water and cooking appliances.[83] In this case, the difference between the PV of the incremental revenue and the cost of the joint campaign ranges from $672 to $2,078 (real $2016), depending on the tariff zone.
- Adds a gas space heating appliance to her set of existing central heating, hot water and cooking appliances. In this case, the difference between the PV of the incremental revenue and the cost of the joint campaign ranges from $306 to $1,187 (real $2016), depending on the tariff zone.
- Adds a gas hot water system to her set of existing central heating, space heating and cooking appliances. In this case, the difference between the PV of the incremental revenue and the cost of the joint campaign ranges from $189 to $893 (real $2016), depending on the tariff zone.

The results of this analysis indicate that, even if the customer was adding an appliance to her existing set of appliances, the proposed expenditure on the campaign would be prudent, efficient and in the long-term interests of consumers (i.e. because the PV of the incremental revenue is greater than the cost of the campaign).

More generally, we have tested what would occur if incremental revenue was lower than what has been estimated, which could occur if:

- the average load per appliance is lower than what has been assumed;
- the campaign resulted in a greater number of new connections; and/or
- customers have existing appliances and are pushed into a lower cost tariff band (see above).

The results of this sensitivity analysis are summarised in Table A.6. As the results in this table show, even if the incremental revenue from each appliance is assumed to be 20% lower, the forecast benefits of the joint campaign would still exceed the costs. This analysis provides further support for the conclusion that the proposed campaign would be prudent, efficient and in the long-term interests of customers in AGN's Victorian and Albury networks.

[83] Cooking appliances are assumed to consume an average of 2 GJ of gas per year.

Table A.6: AGN – Sensitivity analysis (PV incremental revenue – PV cost of campaign per appliance, real $2016)

	Central heating	Space heating	Hot water
Incremental revenue 20% lower than assumed			
Central Zone	$740	$391	$581
Northern Zone	$583	$299	$468
Murray Valley Zone (Vic)	$794	$467	$551
Bairnsdale Zone	$1,938	$1,196	$1,440
Albury	$724	$453	$555

A.4 Step 2: What effect would the campaign have on tariffs?

To determine what effect the campaign would have on reference tariffs in AGN's Victorian and Albury networks, we have used an average cost per GJ metric (measured across the two networks), as a proxy for reference tariffs. We have then compared the value of this metric in the 'with marketing' and 'without marketing' states of the world.

Because some of the proposed expenditure on the joint campaign is already in AGN's base year expenditure, the 'with marketing' state of the world just focuses on the step change component of the joint campaign. When calculating the average cost per GJ in this state of the world, the following assumptions have been made for the 2018-2022 AA period:

- AGN's revenue requirement has been increased by the marketing step change ($1.0 million p.a.) and the capital and incremental operating costs associated with the 304 new connections; and
- residential demand in the 2018-2022 AA period has been assumed to increase by 0.31 PJ.

In subsequent AA periods, it has been assumed that in the 'with marketing' state of the world:

- AGN's revenue requirement would be reduced by the marketing step change;[84,85] and

[84] The step change has been excluded from this point because the incremental demand estimates have only been calculated on the basis that the marketing campaign is carried out over the upcoming AA period. If the marketing campaign was to be repeated in subsequent periods, then consideration would need to be given to the additional demand that would be associated with these campaigns.

[85] It has also been assumed that in the with marketing state of the world AGN's revenue requirement will be equal to the 2022 revenue requirement less the marketing step change. A similar simplifying assumption has been made in the without marketing state of the world, with the revenue requirement in that case assumed to be equal to the 2022 revenue requirement in real terms. This simplifying assumption has been made because all the analysis is intended to do is

- residential demand would be 0.51 PJ higher in the 2023-2027 AA period, 0.47 PJ higher in the 2028-2032 AA period and 0.35 PJ higher between 2033 and 2041.

The results of this analysis reveal the following:

- in the 2018-2022 AA period, the forecast average cost per GJ metric is $0.02 p.a.[86] ***higher*** in the 'with marketing step change' state of the world in AGN's network; and
- in subsequent AA periods, the forecast average cost per GJ is $0.02 p.a.[87] ***lower*** in the 'with marketing' state of the world, with the estimated reduction in these later AA periods being more than sufficient to offset the increase in the 2018-2022 period.

These results, which are consistent with those set out in Step 1, confirm that customers in AGN's Victorian and Albury networks would be better off as a result of the joint campaign.

measure the incremental impact of the joint campaign on the average cost per GJ (i.e. holding all other things constant).

86 This has been measured on a weighted average basis over the relevant period.

87 *ibid*.

Appendix B AusNet Services

The following appendix provides further detail on:

- the assumptions that have been made when carrying out the quantitative assessment of AusNet Services' share of the proposed expenditure on the joint campaign;
- the effect the campaign is expected to have on residential demand and new connections in AusNet Services' network; and
- the results of our quantitative assessment of:
  - whether the proposed expenditure on the joint campaign is prudent, efficient and in the long-term interests of consumers in AusNet Services' network (Step 1); and
  - the impact that the joint campaign would have on reference tariffs in AusNet Services' network in the upcoming AA period and subsequent AA periods (Step 2).

B.1 Assumptions

The costs and benefits of the joint campaign have been allocated to each DB based on their shares of residential customers in 2015. Table B.1 sets out AusNet Services' share of the proposed annual expenditure on the joint campaign, while Table B.2 sets out its share of the incremental demand and new connections.

Table B.1: AusNet - Share of Annual Expenditure on Joint Campaign (real $2016)

	Annual expenditure
Advertising campaign	$1,350,784
Industry representation	$214,149
Appliance rebate scheme (including fulfilment costs)	$2,803,003
Total	**$4,367,936**

Table B.2: AusNet Services - Share of Incremental Demand and New Connections

	Incremental load over AA period	Incremental load over life of appliances	Number of new connections over AA period
Share	1.33 PJ	7.16 PJ	1,318

Table B.3 sets out the assumptions that have been made about AusNet Services' share of the proposed appliance program, which are consistent with the assumptions set out in section 3.2.

Table B.3: AusNet Services – Appliance Rebate Program Assumptions (real $2016)

Input		Central heating	Space heating	Hot water	Total
No. of appliances rebates p.a.	(a)	1,483	1,318	2,471	5,271
Rebate per appliance	(b)	$750	$500	$400	n.a.
Take-up of rebates	(c)	100%	100%	100%	n.a.
Average load per appliance	(d)	25 GJ	15 GJ	13 GJ	n.a.
Life of appliance	(e)	20 years	15 years	12 years	n.a.
Cost of rebates	(f)=(a)x(b)x(c)	$1,111,926	$658,919	$988,379	$2,759,224
Fulfilment costs	(g)=(a)x$8.30	$8.30 per appliance rebate			$43,780
Total cost of rebate scheme	**(h)=(f)+(g)**	**n.a.**			**$2,803,003 p.a.**
Advertising and industry campaigns	**(i)=(a)x$296.90**	**$296.90 per appliance rebate**			**$1,564,933**
Incremental demand per annum	(j)=(a)x(d)	37.1 TJ p.a.	19.8 TJ p.a.	32.1 TJ p.a.	88.95 TJ p.a.
Appliance rebates that result in new connections	**(k)=5% x (a)**	**5%**			264 p.a.

Note some numbers may not add up due to rounding.

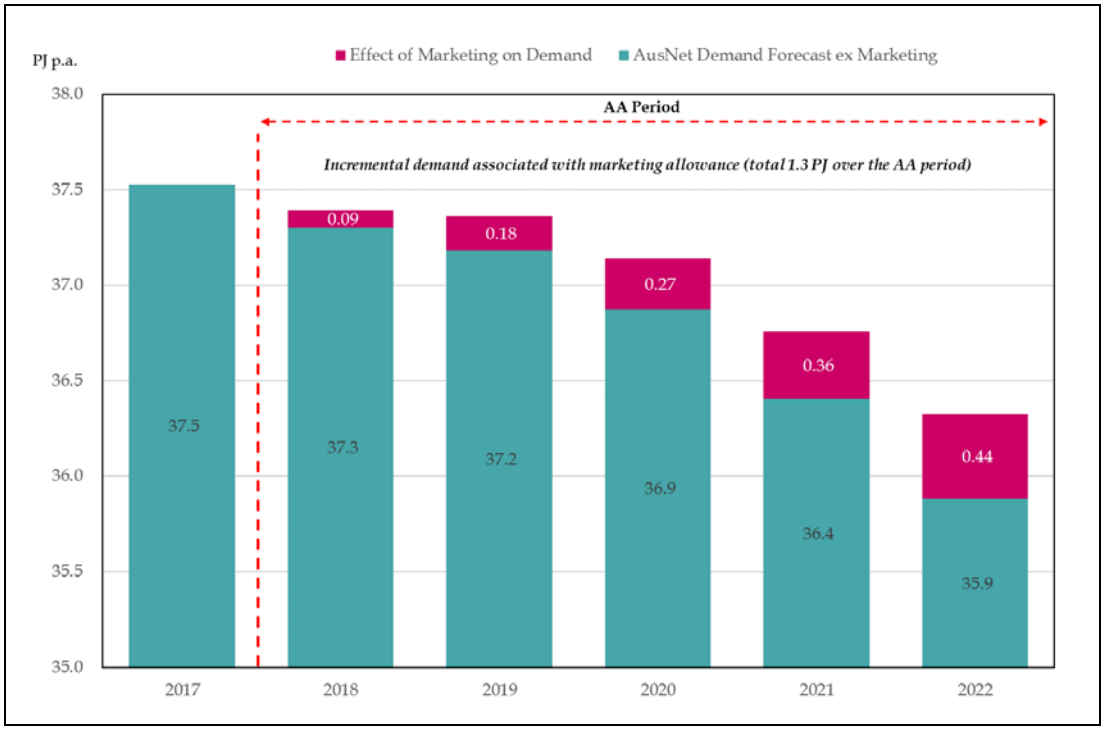
B.2 Effect on residential demand and new connections

AusNet Services' demand projections for the next AA period assume that, in the absence of the proposed marketing campaign, annual residential and small commercial demand could fall by around 0.9% p.a. from 37.5 PJ p.a. to 35.9 PJ p.a.. Over the five-year term of the AA period, this implies that demand would be 4 PJ lower than what it would have been if demand had remained at the 2017 level.

If the joint campaign proceeds, then as highlighted in Table B.2, residential and small commercial demand in AusNet Services' network is expected to be 1.33 PJ higher over the AA period. The incremental effect that the campaign would have on AusNet Services' demand projections in each year of the AA period is shown in Figure B.1. As this figure shows, the additional demand expected to arise from the joint marketing campaign would not be sufficient to counter all of the projected decline in demand over the AA period, but it would offset 33% of it. [88]

[88] Without the joint campaign, demand over the AA period is expected to be 4 PJ lower than what it would otherwise have been if demand had remained at the 2017 levels. With the campaign, demand will be 2.7 PJ lower, which implies that the joint campaign will offset 33% of the projected decline in demand.

Figure B.1: AusNet Services - Effect of Marketing Campaign on Residential and Small Commercial Demand Over the AA Period

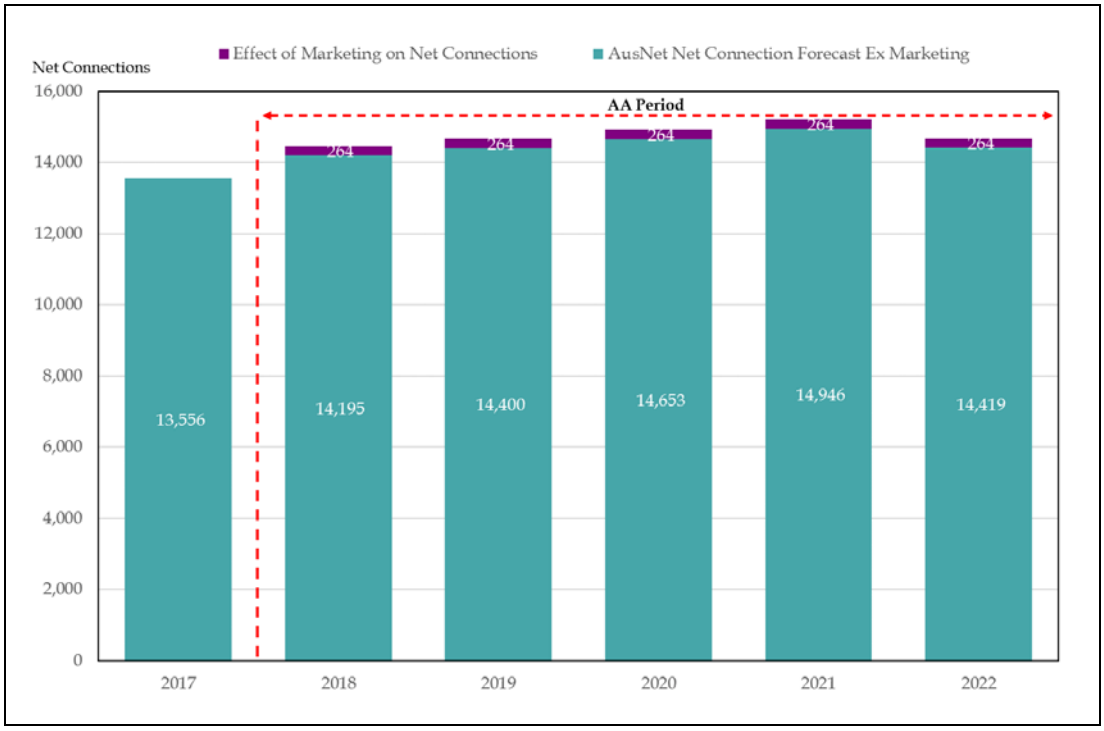


While not shown in Figure B.1, if the marketing campaign ceased in 2022 and the life of the appliances is as assumed in Table B.3, forecast residential and small commercial demand would be 5.8 PJ higher over the period 2023-2041. Specifically, forecast demand would be:

- 2.2 PJ higher than it would otherwise have been in the 2023-2027 AA period;
- 2.0 PJ higher than it would otherwise have been in the 2028-2032 AA period; and
- 1.5 PJ higher than what it would otherwise have been between 2033 and 2041.

In terms of new connections, the joint campaign is expected to result in residential and small commercial connections increasing by 264 connections in each year of the AA period (see Figure B.2).

Figure B.2: AusNet Services - Effect of Marketing Campaign on Residential and Small Commercial Net Connections Over the AA Period



B.3 Step 1: Is the proposed expenditure prudent and efficient and in the long-term interests of consumers?

To determine whether the proposed expenditure on the campaign is likely to be in the long-term interests of consumers in Victoria, we have compared:

- the PV of the incremental revenue to be derived from the use of each additional appliance over the life of those appliances; *with*
- the PV of the costs of the proposed campaign measured on a per appliance basis.

This analysis has been carried out at an appliance level in each of AusNet Services' tariff zones using the assumptions set out in Table B.4.

Table B.4: AusNet Services - Assumptions for Assessment of Expenditure

Input	Assumption
Proportion of appliance sales resulting in new connections	5% of appliance sales are assumed to result in new connections.
Connection cost (unit rate) from AusNet	$1,600 (real $2016) capex on services per connection, asset life of 60 years, consistent with AER PTRM for 2013 AA. $200 (real $2016) capex on meters per connection; asset life of 20 years, consistent with AER PTRM for AusNet's 2013 AA.
Incremental operating cost (per customer)	$22.40 (real $2016) per customer, based on escalated value appearing in Victorian Gas Distribution Code V11.
Revenue	Revenue over the measurement period has been calculated using the residential reference tariffs applying as at 1 January 2016.[89,90]
Measurement period	Life of the appliances
Discount rate	Pre-tax, real WACC of 5.01% (based on AER's final decision for AusNet Services 2013-2017 AA) [91]

Rebate and New Connection Related Assumptions

	Central heating	Space heating	Hot water
Rebate	$750	$500	$400
Fulfilment cost per appliance rebate	**$8.30**		
Advertising and Industry representation costs per appliance rebate	**$296.90**		

Table B.5 sets out the results of our analysis for each of AusNet Services' tariff zones. Before examining these results, it is worth noting that there is some variation in the results across tariff zones because of differences in tariff levels and structures.

89 The tariffs have been obtained from http://www.ausnetservices.com.au/Gas/Managing+Usage/Network+Tariffs.html (accessed October 2016).

90 The use of these tariffs and the rate of return implicit in these tariffs is consistent with rule 79(4)(a), which states that when determining the present value of the incremental revenue:

- the tariff should be based on prevailing reference tariffs (or an extrapolation from these tariffs); and
- the discount rate should be equal to the rate of return implicit in the reference tariff.

This approach is also consistent with what JGN assumed in its recent analysis, which was approved by the AER.

91 *ibid.*

Table B.5: AusNet Services – Assessment of the Proposed Campaign (real $2016)

		Central heating	Space heating	Hot water
Central Zone - Domestic (TNVDC)				
PV of incremental revenue	(a)	$3,250	$1,914	$1,116
Proposed rebate and fulfilment cost	(b)	$758	$508	$408
Advertising and industry representation cost	(c)	$297		
Difference	**(d)=(a)-(b)-(c)**	**$2,195**	**$1,108**	**$411**
West Zone - Domestic (TNVDW)				
PV of incremental revenue	(e)	$2,452	$1,497	$926
Proposed rebate and fulfilment cost	(f)	$758	$508	$408
Advertising and industry representation cost	(g)	$297		
Difference	**(h)=(e)-(f)-(g)**	**$1,397**	**$692**	**$221**
Adjoining Central Zone - Domestic (TNVDAC)				
PV of incremental revenue	(i)	$4,463	$2,530	$1,526
Proposed rebate and fulfilment cost	(j)	$758	$508	$408
Advertising and industry representation cost	(k)	$297		
Difference	**(l)=(i)-(j)-(k)**	**$3,408**	**$1,725**	**$821**
Adjoining West Zone - Domestic (TNVDAW)				
PV of incremental revenue	(m)	$3,668	$2,114	$1,387
Proposed rebate and fulfilment cost	(n)	$758	$508	$408
Advertising and industry representation cost	(o)	$297		
Difference	**(p)=(m)-(n)-(o)**	**$2,613**	**$1,309**	**$682**

As Table B.5 shows, the forecast incremental revenue that would be generated through the use of each additional central heating, space heating and hot water systems exceeds the cost of the campaign in each of AusNet Services' tariff zones. AusNet Services' share of the proposed expenditure on the campaign can therefore be considered prudent and efficient and in the long-term interests of consumers in this network.

It is worth noting that estimating the incremental revenue associated with an additional appliance requires an assumption to be made about where within the tariff structure the additional load falls. The results in Table B.5 assume the customer has no existing appliances connected. We have also tested what would happen if the customer had some existing gas appliances in place and the additional

appliances resulted in her moving into another tariff block. In particular, we have tested what would occur if a customer:

- Adds a gas central heating appliance to her existing set of space heating, hot water and cooking appliances.[92] In this case, the difference between the PV of the incremental revenue and the cost of the joint campaign ranges from $900 to $2,472 (real $2016), depending on the tariff zone.
- Adds a gas space heating appliance to her existing set of central heating, hot water and cooking appliances. In this case, the difference between the PV of the incremental revenue and the cost of the joint campaign ranges from $505 to $1,366 (real $2016), depending on the tariff zone.
- Adds a gas hot water system to her existing set of central heating, space heating and cooking appliances. In this case, the difference between the PV of the incremental revenue and the cost of the joint campaign ranges from $190 to $679 (real $2016), depending on the tariff zone.

The results of this analysis indicate that even if the customer was adding an appliance to her existing set of appliances, the proposed expenditure on the campaign would be prudent, efficient and in the long-term interests of consumers (i.e. because the PV of the incremental revenue is greater than the cost of the campaign).

More generally, we have tested what would occur if incremental revenue was lower than what has been estimated, which could occur if:

- the average load per appliance is lower than what has been assumed;
- the campaign resulted in a greater number of new connections; and/or
- customers have existing appliances and are pushed into a lower cost tariff band (see above).

The results of this sensitivity analysis are summarised in Table B.6. As the results in this table show, even if the incremental revenue from each appliance is assumed to be 20% lower, the forecast benefits of the joint campaign would still exceed the costs. This analysis provides further support for the conclusion that the proposed campaign is prudent, efficient and in the long-term interests of customers in AusNet Services' networks.

[92] Cooking appliances are assumed to consume an average of 2 GJ of gas per year.

Table B.6: AusNet Services – Sensitivity analysis (PV incremental revenue – PV cost of campaign per appliance, real $2016)

	Central heating	Space heating	Hot water
Incremental revenue 20% lower than assumed			
Central Zone	$1,545	$726	$188
West	$906	$393	$36
Adjoining Central	$2,515	$1,219	$516
Adjoining West	$1,879	$886	$404

B.4 Step 2: What effect would the campaign have on tariffs?

To determine what effect the campaign would have on reference tariffs in AusNet Services' network, we have used an average cost per GJ metric (measured across the whole network), as a proxy for reference tariffs. We have then compared the value of this metric in the 'with marketing' and 'without marketing' states of the world.

When calculating the average cost per GJ metric in the 'with marketing' state of the world, the following assumptions have been made for the 2018-2022 AA period:

- AusNet Services' revenue requirement has been increased by its share of the marketing allowance ($4.37 million p.a. (real $2016)) and the capital and incremental operating costs associated with the 1,318 new connections; and
- residential demand in the 2018-2022 AA period has been assumed to increase by 1.33 PJ.

In subsequent AA periods, it has been assumed that in the 'with marketing' state of the world:

- AusNet Services' revenue requirement would be reduced by the marketing step change;[93,94] and
- residential demand would be 2.2 PJ higher in the 2023-2027 AA period, 2 PJ higher in the 2028-2032 AA period and 1.5 PJ higher between 2033 and 2041.

[93] The step change has been excluded from this point because the incremental demand estimates have only been calculated on the basis that the marketing campaign is carried out over the upcoming AA period. If the marketing campaign was to be repeated in subsequent periods, then consideration would need to be given to the additional demand that would be associated with these campaigns.

[94] It has also been assumed that in the with marketing state of the world AusNet's revenue requirement will be equal to the 2022 revenue requirement less the marketing step change. A similar simplifying assumption has been made in the without marketing state of the world, with the revenue requirement in that case assumed to be equal to the 2022 revenue requirement in real terms. This simplifying assumption has been made because all the analysis is intended to do is measure the incremental impact of the joint campaign on the average cost per GJ (i.e. holding all other things constant).

The results of this analysis reveal the following:

- in the 2018-2022 AA period, the forecast average cost per GJ metric is $0.08 p.a.[95] ***higher*** in the 'with marketing' state of the world in AusNet Services' network; and
- in subsequent AA periods, the forecast average cost per GJ is $0.04-$0.05 p.a.[96] ***lower*** in the 'with marketing' state of the world, with the reduction in these periods being more than sufficient to offset the increase in the 2018-2022 period.

These results, which are consistent with those set out in Step 1, confirm that customers in AusNet Services' network would be better off as a result of the joint campaign.

95 This has been measured on a weighted average basis over the relevant period.

96 *ibid*.

Appendix C Multinet

The following appendix provides further detail on:

- the assumptions that have been made when carrying out the quantitative assessment of Multinet's share of the proposed expenditure on the joint campaign;
- the effect the campaign is expected to have on residential demand and new connections in Multinet's network; and
- the results of our quantitative assessment of:
  - whether the proposed expenditure on the joint campaign is prudent, efficient and in the long-term interests of consumers in Multinet's network (Step 1); and
  - the impact that the joint campaign would have on reference tariffs in Multinet's network in the upcoming AA period and subsequent AA periods (Step 2).

C.1 Assumptions

The costs and benefits of the joint campaign have been allocated to each DB based on their shares of residential customers in 2015. Table C.1 sets out Multinet's share of the proposed annual expenditure on the joint campaign while Table C.2 sets out its share of the incremental demand and new connections.

Table C.1: Multinet - Share of Annual Expenditure on Joint Campaign (real $2016)

	Annual Expenditure
Advertising campaign	$1,438,127
Industry representation	$227,996
Appliance rebate scheme (including fulfilment costs)	$2,984,247
Total	**$4,650,370**

Table C.2: Multinet - Share of Incremental Demand and New Connections

	Incremental load over AA period	Incremental load over life of appliances	Number of new connections over AA period
Share	1.42 PJ	7.58 PJ	1,403

Table C.3 sets out the assumptions that have been made about Multinet's share of the proposed appliance rebate scheme, which are consistent with those set out in section 3.2.

Table C.3: Multinet – Appliance Rebates Program Assumptions (real $2016)

Input		Central heating	Space heating	Hot water	Total
No. of appliances rebates p.a.	(a)	1,578	1,403	2,631	5,612
Rebate per appliance	(b)	$750	$500	$400	n.a.
Take-up of rebates	(c)	100%	100%	100%	n.a.
Average load per appliance	(d)	25 GJ	15 GJ	13 GJ	n.a.
Life of appliance	(e)	20 years	15 years	12 years	n.a.
Cost of rebates	(f)=(a)x(b)x(c)	$1,183,824	$701,525	$1,052,288	$2,937,637
Fulfilment costs	(g)=(a)x$8.30	$8.30 per appliance rebate			$46,610
Total cost of rebate scheme	**(h)=(f)+(g)**	**n.a.**			**$2,984,247 p.a.**
Advertising and industry campaigns	(i)=(a)x$296.90	$296.90 per appliance rebate			$1,666,122 p.a.
Incremental demand per annum	(j)=(a)x(d)	39.5 TJ p.a.	21.0 TJ p.a.	34.2 TJ p.a.	94.7 TJ p.a.
Appliance Rebates that Result in New Connections	**(k)=5% x (a)**	**5%**			281 p.a.

Note some numbers may not add up due to rounding.

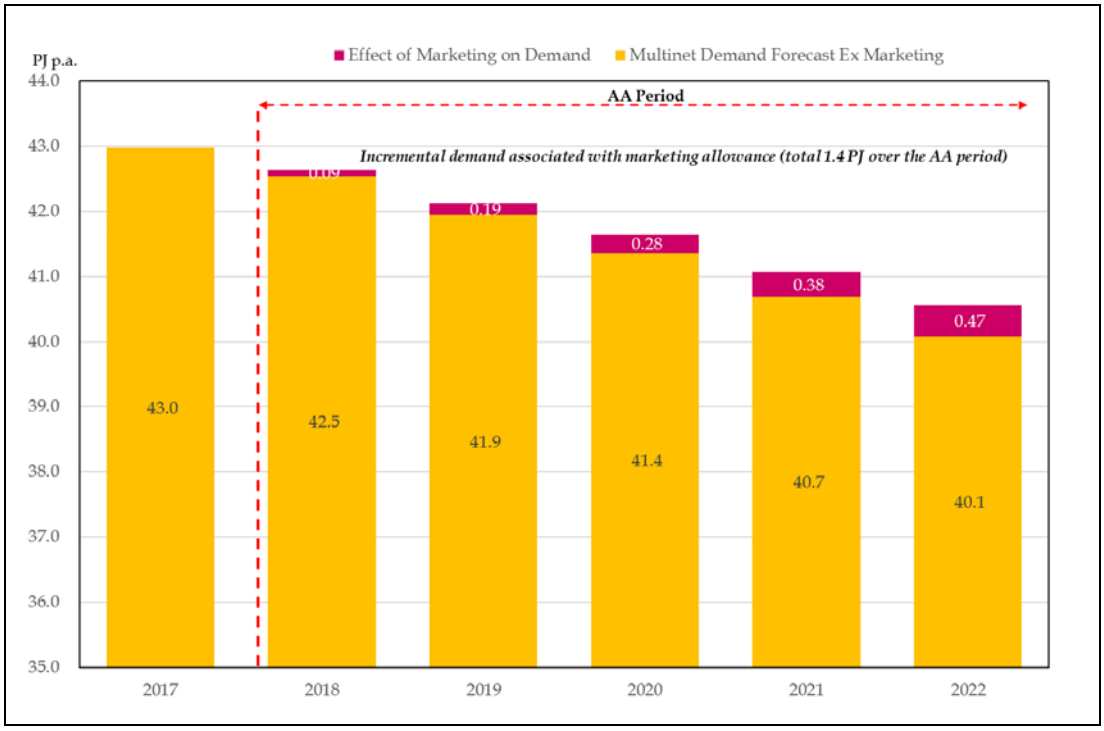
C.2 Effect on residential demand and new connections

Multinet's demand projections for the next AA period assume that, in the absence of the proposed marketing campaign, annual residential and small commercial demand could fall by 1.4% from 43.0 PJ p.a. to 40.1 PJ p.a.. Over the five-year term of the AA period, this implies that demand would be 8.3 PJ lower than what it would have been had it remained at the 2017 level.

If the joint campaign proceeds then, as highlighted in Table C.2, residential and small commercial demand in Multinet's network is expected to be 1.4 PJ higher over the AA period. The incremental effect that the campaign would have on Multinet's demand projections in each year of the AA period is shown in Figure C.1. As this figure shows, the additional demand expected to arise from the joint marketing campaign would not be sufficient to counter all of the projected decline in demand over the AA period, but it would offset 17% of it.[97]

[97] Without the joint campaign, demand over the AA period is expected to be 8.3 PJ lower than what it would otherwise have been if demand had remained at the 2017 levels. With the campaign, demand will be 6.9 PJ lower, which implies that the joint campaign will offset 17% of the projected decline in demand.

Figure C.1: Multinet - Effect of Marketing Campaign on Residential and Small Commercial Demand Over the AA Period

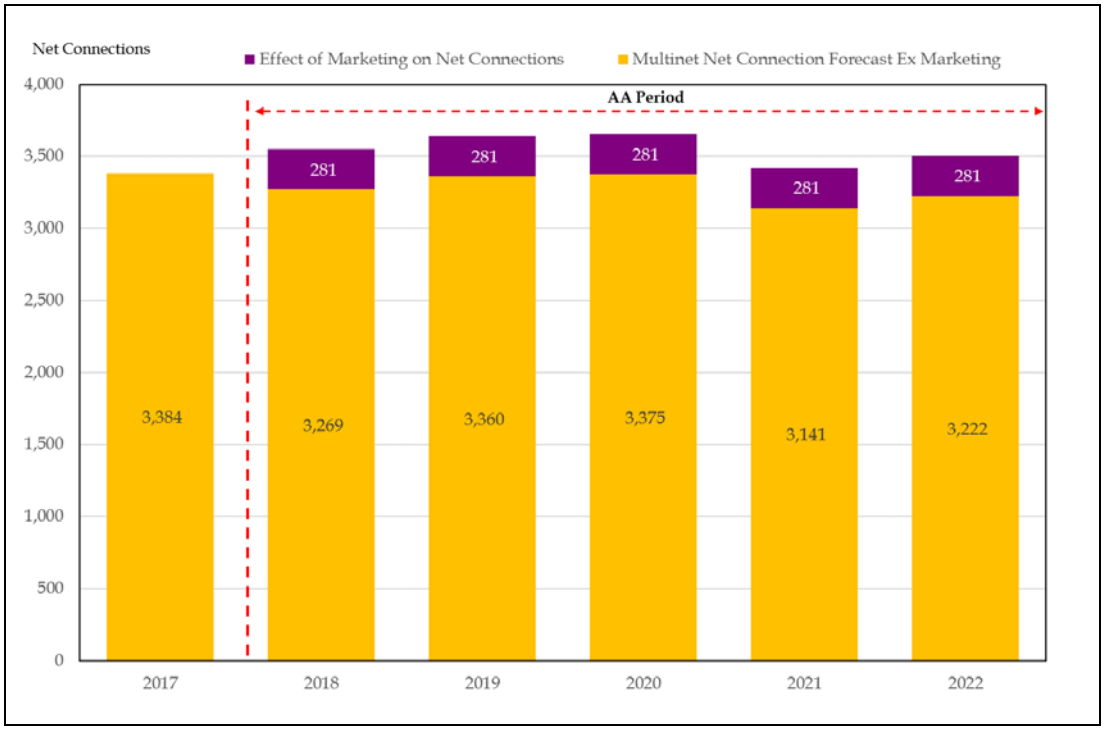


While not shown in Figure C.1, if the marketing campaign ceased in 2022 and the life of the appliances is as assumed in Table C.3, forecast residential and small commercial demand would be 6.2 PJ higher over the period 2023-2041. Specifically, forecast demand would be:

- 2.4 PJ higher than it would otherwise have been in the 2023-2027 AA period;
- 2.2 PJ higher than it would otherwise have been in the 2028-2032 AA period; and
- 1.6 PJ higher than what it would otherwise have been between 2033 and 2041.

In terms of new connections, the joint campaign is expected to result in residential and small commercial connections increasing by 281 connections in each year of the AA period (see Figure C.2).

Figure C.2: Multinet - Effect of Marketing Campaign on Residential and Small Commercial Net Connections Over the AA Period



C.3 Step 1: Is the proposed expenditure prudent and efficient and in the long-term interests of consumers?

To determine whether the proposed rebates are prudent and efficient, we have compared:

- the PV of the incremental revenue that would be derived from the operation of an appliance over its life; *with*
- the proposed rebate and fulfilment costs.

This analysis has been carried out at an appliance level in each of Multinet's tariff zones using the assumptions set out in Table C.4.

Table C.4: Multinet - Assumptions for Prudence and Efficiency Assessment

Input	Assumption
Proportion of appliance sales resulting in new connections	5% of appliance sales are assumed to result in new connections.
Connection cost (unit rate) from Multinet	$1,959 (real $2016) capex on services and mains per connection; asset life of 50 years, consistent with AER PTRM for Multinet's 2013-2017 AA. $232 (real $2016) capex on meters per connection; asset life of 30 years, consistent with AER PTRM for Multinet's 2013-2017 AA.
Incremental operating cost (per customer)	$22.40 (real $2016) per customer, based on escalated value appearing in Victorian Gas Distribution Code V11.
Revenue	Revenue over the measurement period has been calculated using the residential reference tariffs as at 1 January 2016.[98, 99]
Measurement period	Life of the appliances
Discount rate	Pre-tax, real WACC of 4.97% (based on AER's final decision for Multinet's 2013-2017 AA)[100]

Rebate Assumptions

	Central heating	Space heating	Hot water
Rebate	$750	$500	$400
Fulfilment cost per appliance rebate	$8.30		
Advertising and Industry representation costs per appliance rebate	**$296.90**		

Table C.5 sets out the results of our analysis for each of Multinet's tariff zones. Before examining these results, it is worth noting that there is some variation in the results across tariff zones because of differences in tariff levels and structures.

98 Tariffs obtained from https://www.multinetgas.com.au/document-centre/#tariffsdocs (accessed October 2016).

99 The use of these tariffs and the rate of return implicit in these tariffs is consistent with rule 79(4)(a), which states that when determining the present value of the incremental revenue:

- the tariff should be based on prevailing reference tariffs (or an extrapolation from these tariffs); and
- the discount rate should be equal to the rate of return implicit in the reference tariff.

This approach is also consistent with what JGN assumed in its recent analysis, which was approved by the AER.

100 *ibid.*

Table C.5: Multinet –Assessment of the Proposed Campaign (real $2016)

		Central heating	Space heating	Hot water
Multinet Melbourne - Residential				
PV of incremental revenue	(a)	$2,000	$1,467	$1,280
Proposed rebate and fulfilment cost	(b)	$758	$508	$408
Advertising and industry representation cost	(c)	$297		
Difference	**(d)=(a)-(b)-(c)**	**$945**	**$662**	**$575**
Multinet Yarra Valley - Residential				
PV of incremental revenue	(e)	$2,753	$1,802	$1,506
Proposed rebate and fulfilment cost	(f)	$758	$508	$408
Advertising and industry representation cost	(g)	$297		
Difference	**(h)=(e)-(f)-(g)**	**$1,698**	**$997**	**$801**
Multinet South Gippsland - Residential				
PV of incremental revenue	(i)	$2,960	$1,918	$1,598
Proposed rebate and fulfilment cost	(j)	$758	$508	$408
Advertising and industry representation cost	(k)	$297		
Difference	**(l)=(i)-(j)-(k)**	**$1,905**	**$1,113**	**$893**

As Table C.5 shows, the forecast incremental revenue that would be generated through the use of the additional central heating, space heating and hot water systems exceeds the cost of the campaign in each of Multinet's tariff zones. Multinet's share of the proposed expenditure on the campaign can therefore be considered prudent and efficient and in the long-term interests of consumers in these networks.

It is worth noting that estimating the incremental revenue associated with an additional appliance requires an assumption to be made about where within the tariff structure the additional load falls. The results in Table C.5 assume the customer has no existing appliances connected. We have also tested what would happen if the customer had some existing gas appliances in place and the additional appliances resulted in her moving into another tariff block. In particular, we have tested what would occur if a customer:

- Adds a gas central heating appliance to her existing set of space heating, hot water and cooking appliances.[101] In this case, the difference between the PV of the incremental revenue and the cost of the joint campaign ranges from $257 to $1,298 (real $2016), depending on the tariff zone.

[101] Cooking appliances are assumed to consume an average of 2 GJ of gas per year.

- Adds a gas space heating appliance to her existing set of central heating, hot water and cooking appliances. In this case, the difference between the PV of the incremental revenue and the cost of the joint campaign ranges from $47 to $570 (real $2016), depending on the tariff zone.
- Adds a gas hot water system to her existing set of central heating, space heating and cooking appliances. In this case, the difference between the PV of the incremental revenue and the cost of the joint campaign ranges from $66 to $444 (real $2016), depending on the tariff zone.

The results of this analysis indicate that, even if the customer was adding an appliance to her existing set of appliances, the proposed expenditure on the campaign would be prudent, efficient and in the long-term interests of consumers (i.e. because the PV of the incremental revenue would be greater than the cost of the campaign).

More generally, we have tested what would occur if incremental revenue was lower than what has been estimated, which could occur if:

- the average load per appliance is lower than what has been assumed;
- the campaign resulted in a greater number of new connections; and/or
- customers have existing appliances and are pushed into a lower cost tariff band (see above).

The results of this sensitivity analysis are summarised in Table C.6. As the results in this table show, even if the incremental revenue from each appliance is assumed to be 20% lower, the forecast benefits of the joint campaign would exceed the costs. This analysis provides further support for the conclusion that the proposed campaign is prudent, efficient and in the long-term interests of customers in Multinet's networks.

Table C.6: Multinet – Sensitivity analysis (PV incremental revenue – PV cost of campaign per appliance, real $2016)

	Central heating	Space heating	Hot water
Incremental revenue 20% lower than assumed			
Melbourne	$545	$368	$319
Yarra Valley	$1,147	$636	$500
South Gippsland	$1,313	$729	$573

C.4 Step 2: What effect would the proposed campaign have on tariffs?

To determine what effect the campaign would have on reference tariffs in Multinet's network, we have used an average cost per GJ metric (measured across the whole network), as a proxy for reference tariffs. We have then compared the value of this metric in the 'with marketing' and 'without marketing' states of the world.

When calculating the average cost per GJ metric in the 'with marketing' state of the world, the following assumptions have been made for the 2018-2022 AA period:

- Multinet's revenue requirement has been increased by its share of the marketing allowance ($4.65 million p.a.) and the capital and incremental operating costs associated with the 1,403 new connections; and
- residential demand in the 2018-2022 AA period will be increased by 1.42 PJ.

In subsequent AA periods, it has been assumed that in the 'with marketing' state of the world:

- Multinet's revenue requirement would be reduced by the marketing step change;[102,103] and
- residential demand would be 2.4 PJ higher in the 2023-2027 AA period, 2.2 PJ higher in the 2028-2032 AA period and 1.6 PJ higher between 2033 and 2041.

The results of this analysis reveal the following:

- in the 2018-2022 AA period, the forecast average cost per GJ metric is $0.07 p.a.[104] ***higher*** in the 'with marketing' state of the world in Multinet's network; and
- in subsequent AA periods, the forecast average cost per GJ is $0.06 p.a.[105] ***lower*** in the 'with marketing' state of the world, with the reduction in these later AA periods being more than sufficient to offset the increase in the 2018-2022 period.

These results, which are consistent with those set out in Step 1, confirm that customers in Multinet's network would be better off as a result of the joint campaign.

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102 The step change has been excluded from this point because the incremental demand estimates have only been calculated on the basis that the marketing campaign is carried out over the upcoming AA period. If the marketing campaign was to be repeated in subsequent periods, then consideration would need to be given to the additional demand that would be associated with these campaigns.

103 It has also been assumed that in the with marketing state of the world Multinet's revenue requirement would be equal to the 2022 revenue requirement less the marketing step change. A similar simplifying assumption has been made in the without marketing state of the world, with the revenue requirement in that case assumed to be equal to the 2022 revenue requirement in real terms. This simplifying assumption has been made because all the analysis is intended to do is measure the incremental impact of the joint campaign on the average cost per GJ (i.e. holding all other things constant).

104 This has been measured on a weighted average basis over the relevant period.

105 *ibid.*

Attachment A: Dentsu AEGIS network marketing plan

Note that the confidential material in this attachment is highlighted in yellow.

dentsu
AEGIS
network

Proposal

Document contents

1 Document Control & Project Approval

By signing this document the Client representative named below authorises the Dentsu Aegis Network (DAN) to undertake the project on the terms outlined in this Statement of Work.

Document Control	
Authors	Izzy McKenna, Adam Pinto, Ken Lam, and Brianna Lacy
Version	0.7
Reviewed by	
Status	Final for approval

1.1 Client Project Stakeholders

Name	Position
Jin Singh	Manager, Marketing and Communications, AGN
Ashley Muldrew	Senior Regulatory Economist, AGN
Jai McDermott	GM Corporate Affairs, Multinet
Stephanie McDougall	Price Review Manager, Multinet
Sarah Connolly	Customer Engagement Manager, Ausnet
Marissa Pappas	Regulatory Economist, Ausnet
Stephanie Judd	Customer Engagement Consultant

1.2 Dentsu Aegis Network Key Project Members

Name	Position
Brianna Lacy	Senior Account Director
Hayley Rose	Strategy Director
Izzy McKenna	Senior Strategy Consultant
Adam Pinto	Strategy Manager
Ken Lam	Client Services Director

2 Purpose

This document provides an overview of the proposed joint marketing approach for the Victoria's three Distribution Network Service Provides (DNSPs): AusNet Services, Multinet Gas, and Australian Gas Networks (AGN). This collaborative approach will support clear and consistent communications across distribution networks and media markets, as well as a lower overall cost benefiting end consumers.

In Victoria, the market conditions are starting to deteriorate and will continue to do so at an accelerated rate over the next five years, placing upward pressure on prices. AusNet stakeholder research identified that 10% of customers are expecting to disconnect in the next five to ten years[1]. The need for marketing is therefore stronger than it has ever been to help counter this decline.

A key role of the proposed gas marketing is to support the competitive pricing of gas to Victorian consumers now and into the future. By promoting gas, the DNSPs will increase the retention of existing consumers and drive new connections to the gas network, ensuring that network pricing remains at a level which is sustainable for consumers. This is particularly the case for consumers who may be unable or unwilling to make the necessary capital investment to pursue alternative energy options as gas becomes less affordable.

To maintain the stability of the network, consumers need to be informed of the benefits of natural gas, to be top of mind as their energy of choice. To do this, we have designed marketing activities outlined in this document to increase the level of awareness of natural gas within Victoria and, in turn, assist the gas DNSPs achieve their key objectives of:

- Encouraging the uptake and use of gas appliances by new and existing consumers
- Retain existing consumers and encourage new consumers to connect
- Encourage greater adoption of gas in the regional areas, including those areas that have recently been connected through the Energy for the Regions program.

This document will outline the marketing program recommended for the promotion of natural gas in Victoria focusing on the advertising and industry representation programs.

[1] Colmar Brunton Research, AusNet Services Energy Research, 2016.

3 Background

Natural gas is a fuel of choice that has typically enjoyed high levels of popularity in Victoria. This has predominantly been driven by consumer preferences for its heating qualities when compared to electric alternatives. The Eastern Australian gas market is, however, entering a period of significant change. In particular, market conditions are expected to deteriorate over the coming regulatory period, driving down demand for gas. AEMO's most recent projections suggested that annual gas consumption by residential and small commercial customers' will fall by approximately 1% per annum between 2015 and 2022[2].

There are a range of social and environmental factors facilitating this change:

- The new liquefied natural gas (LNG) export market from eastern Australia is pushing up retail prices for domestic gas[3], a situation that is expected to worsen in the coming years and make gas less affordable, as well as impacting the perception of gas as an affordable fuel in the current market.
- Many Victorians have resorted to appliance switching, switching from gas to electricity by replacing gas heating with electric reverse cycle, replacing gas hot water to heat pumps and replacing gas stoves with induction cook tops.
- Key influencers in the decision making process such as builders/developers, energy retailers, major appliances retailers and plumbers are not driven to inform the consumer about the benefits of connecting to gas and gas appliances.
- Favourable government incentives and increased customer engagement, media communications and awareness around the benefits of solar technology has meant that more than 1.4 million solar powered systems have been installed in Australia[4], changing the energy market permanently. This has led to confusion around the role of gas with renewables and also the benefits of gas appliances being connected in homes and businesses.
- Increased customer engagement and awareness around the benefits of solar technology has meant that thus driving down demand for gas-based appliances.
- A range of influential key stakeholders operating within the DNSPs networks (i.e., local councils and consumer advocacy groups) have been actively promoting the electrification of homes, therefore dissuading the installation of gas appliances.
- Energy retailers are not reliant on gas connections for business, actively promoting the electrification of homes and investing in media campaigns threatening top of mind gas awareness.
- Gas appliances are not as widely available as electric substitutes. Many major appliance retailers either do not sell gas appliances or have a reduced ranges. Gas appliances are sold by smaller specialist stores and installation requires an expert technician. This adds additional complexity to the purchasing process, requiring consumer awareness of where to go to buy, the range available and the expectations of the installation process.

[2] AEMO, National gas forecasting report for eastern and south-eastern Australia, December 2015.

[3] AER, State of the energy market, 2015.

[4] Clean Energy Council, Clean energy Australia Report, 2014.

- Consumer perceptions of natural gas and its environmental benefits have been damaged by the ongoing negative publicity that coal seam gas production has attracted in Australia[5].

There are also considerable changes happening within the Victorian gas market. Specifically, the State Government's investment in regional gas infrastructure (Energy for the Regions) will ensure greater reticulated natural gas supply to communities across the state. This project represents an opportunity for the Victorian gas DNSPs to connect new regional consumers to their networks. However, to encourage these connections it is imperative that they communicate with these potential consumers and increase awareness of gas which can be achieved through gas marketing efforts.

The competitive media landscape of the Victorian energy marketing is also something that needs to be considered in the design of any marketing efforts. Specifically, with an abundance of various players in the market (i.e., retailers and alternative energy companies) with different messages and large marketing budgets, the media environment is highly cluttered. To remain in consumers consideration set, it is important that gas DNSPs in Victoria find ways to cut through this media clutter and better promote the use of natural gas.

In light of changing market conditions and to safeguard the future of natural gas in Victoria, expenditure on a gas marketing program is required to:

- Maintain and increase the demand for gas services
- Increase new connection rates
- Stop appliance switching; and
- Positively influence consumers' attitudes and perceptions towards gas

Historically, DNSPs in Victoria have undertaken marketing activities in their own right. However, taking this approach is likely to cost more and be less effective than carrying out a joint marketing program. There are a number of factors that contribute, including:

(1) The cost of developing new advertising campaigns is fixed: for example, each advertising campaign requires strategy and production to carry out. Therefore if each distributor was to carry out their own advertising campaign production costs would be up to three times more than a joint campaign.
(2) Media cannibalisation: if one of the distributors was to carry out a television advertising campaign in Melbourne to promote the use of natural gas, it could benefit the other two networks who would not have contributed to the campaign. The distributor may therefore be reluctant to pay for the required media.
(3) Message dilution or misinterpretation: potential exposure to multiple natural gas campaigns would dilute and confuse when it comes to the saliency and consistency of messaging. We want to ensure that all consumers exposed to any campaign in Victoria have a clear understanding of natural gas and offers available to them.
(4) A joint DNSP campaign provides one single point of view from the Victorian DNSPs when engaging with Industry partners involved in the transactional side of selling gas or appliances. Streamlining marketing communications will help support and foster greater working relationships.

[5] Newgate Research, Research report on community attitudes towards energy networks, March 2016.

4 Strategy Overview

4. 1 Marketing Program Strategy

As outlined in section 2, the overarching objectives of the proposed marketing efforts are to:

- Encouraging the uptake and use of gas appliances by new and existing consumers
- Retain existing consumers and encourage new consumers to connect
- Encourage greater adoption of gas in the regional areas, including those areas that have recently been connected through the Energy for the Regions program.

Audience research[6] has shown that consumers generally have a good grasp of the advantages of natural gas. However, negative perceptions around price, environmental impact, and increased awareness of alternative energy solutions, pose potential threats. To mitigate the risk for potential decline, and see an increase in gas connections and consumption the campaign must tackle the following:

- Strong media campaign to efficiently garner awareness in a noisy energy category
- Influence consumers' attitudes and perceptions of gas as a fuel of choice
- Strengthen the heuristics (i.e., mental shortcuts) that consumers' use when making decisions about gas. This can be achieved through educating consumers on commonly used heuristics such as price, quality and safety.
- Improve service provision to Industry stakeholders to enable them to competitively sell gas and encourage the installation of gas appliances.

Therefore the **communication objectives** are to:

- Increase top of mind awareness of the benefits of gas (i.e., quality, safety, environmental and appliance performance) to residential consumers.
- Improve consumers' perception of the price of gas by promoting financial incentives.
- Equip Industry stakeholders (plumbers, gas fitters and builders) with the information required to promote gas appliances to residential consumers.

To do this, a five-year marketing program is being proposed, separated into two campaign streams:

1. Advertising campaign: utilising media to engage consumers
2. Industry representation: utilising owned channels to directly engage Industry stakeholders

Our key audiences for both campaigns, within the marketing program, are intrinsically linked. We need to ensure the messaging around the benefits of gas is consistent, whilst adapting how the messages are framed for the different target audiences. The dissemination of these messages will also require different tactics and channels (see Section 9 for more information).

To ensure the appropriateness of the messages, tactics, and channels for each audience, a range of research activities will conducted. It is anticipated that a number of important learnings will be garnered from this research and help to refine the messages, tactics and channels over the five-year

[6] Isobar, Personas & User Journeys, April 2015

period. Changes in the industry and environment will also need to be taken into consideration over the marketing program period.

4.2 Defining the audience

4.2.1 Advertising Campaign

Primary: *Victorian metropolitan and regional residential consumers*

The key opportunity for the advertising campaign is to target those that are already connected (i.e., existing consumers) or in a position to connect (i.e., new consumers) to the gas network in metropolitan and regional parts of Victoria.

For the purposes of media targeting, these target consumers have been re-categorised into Reach and Tactical audiences:

Reach (awareness and education) target:

In advertising, a reach target represents the target audience that is the largest potential audience with which the campaign objectives of awareness and education can be achieved. In this case the reach target has been defined as:

- People 18+ who currently live within DNSPs' regions

This audience will be targeted via mass awareness channels such as TV or out of home (OOH). We will also consider flighting the media appropriately for newly connected regions part of the Energy for the regions to deliver timely messaging.

Tactical target:

This audience represents a smaller group of people in the subset which we want to focus on in order to achieve campaign objective of conversion, as they are closer to entering the pointier stage of the purchase funnel. In this case, the tactical target is defined as:

- People 18+ who currently live within DNSPs' regions AND
- Planning to purchase a new gas appliance in the next 12 months, OR
- Planning to purchase or build new house or property

4.2.2 Industry Representation

Primary: Plumbers, gas fitters, builders, developers and appliance retailers working in metropolitan and regional areas.

While the advertising efforts focus on residential consumers, a second campaign will be run concurrently targeting industry stakeholders involved in the sale and installation of gas appliances. Supporting this group will likely have a considerable impact as they have the greatest impact on influencing residential consumers' decisions at the time of purchase.

For the purposes of media targeting we have defined our stakeholder target as:

- People employed and working in the Victorian gas industry as gas fitters, plumbers builder and appliance retailers

- Residential property developers building and installing gas in Victoria (note: this does not include real estate agents)

4.3 Communicating with the audiences

4.3.1 Insights and proposed solutions for residential audience

Both AusNet Services and AGN have recently conducted considerable customer research to better understand their customers' perception and attitude of the gas network. These key insights/challenges identified in these research efforts along with ways that the proposed marketing efforts could provide a solution are presented in the table below.

Insight/Challenge	*Solution*
Some believe that electric appliances will save them more money	Showcase rebate offer to reduce price point for consumers for new appliance
There is the perception that gas bills are going up and not sure why	*Support retailers to better profile the costs around gas**
Many closely monitor gas consumption to track bill spend	*Support retailers to better profile the costs around gas**
Many believe that there are better alternative energy solutions	Educate on the benefit of gas
The cost of switching to gas is prohibitive	Showcase rebate offer to reduce price point for consumers
Gas is not an essential service, rather a choice	Demonstrate the long term advantages and positively reinforce their decision
There is the general belief that consumers are likely to use less gas and more alternative energy solutions in the future	Showcase rebate offer to reduce price point for consumers and demonstrate the long term advantages

**Outside of scope for the advertising campaign*

4.3.2 Insights and proposed solutions for industry audience

The research conducted by AusNet Services and AGN also included a range of professional stakeholders, including Plumbers and Gas fitters, and Appliance retailers. The key insights/challenges identified as a part of this research and the potential solutions are presented in the table below.

Insight/Challenge	*Solution*
Many believe that electric appliances are an easier sell to consumers because of cost.	Showcase rebate offer to reduce price point for consumers for new appliance
Many believe that electric appliances are an easier sell to consumers because of the ease of installation.	Showcase long term investment advantages
Some Appliance retailers do not believe it is financial advantageous for their business to promote gas.	Promote financial incentives
Some may struggle to articulate the advantages of natural gas.	Educate on the benefit of natural gas

5 Marketing effectiveness

To deliver an effective and cost efficient marketing program, it is vitally important to understand:

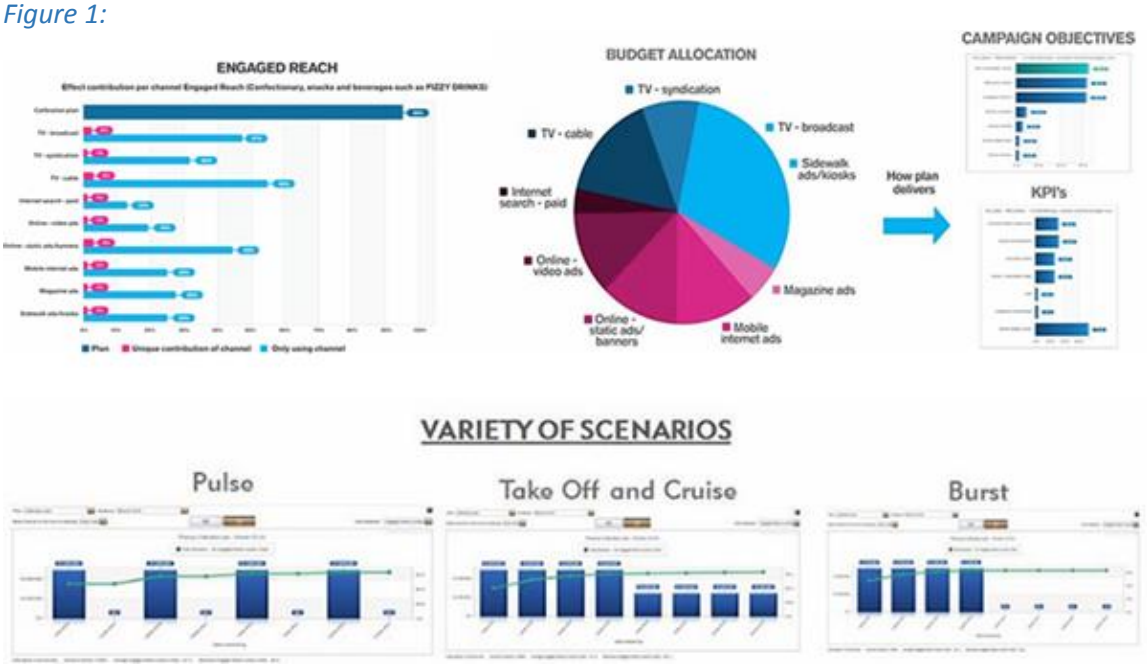
1. The optimal budget for media required to deliver against set KPIs;
2. The optimal media channel mix to deliver against set KPIs;
3. The optimal media flighting to deliver against set KPIs.

In order to understand measurable KPIs for media; in this case top of mind awareness, we will need to establish baseline top of mind awareness level for DNSPs amongst intended target audience.

We can then use a combination of:

1. The DAN's proprietary planning and optimisation tool (refer to appendix B) to:
    - Evaluate and prioritise media channels to deliver against agreed KPIs
    - Set budget required by channel to deliver against agreed KPIs
    - Understand scenarios that impact campaign awareness via media flighting models (see Figure 1. below)
2. Market mix modelling and ongoing optimisation to:
    - Identify impact of market, competitive, other business factors, to effectiveness of the marketing activity
    - Identify correlation between in-market media and response time, to understand how best to optimise media to best leverage this
    - Understand effectiveness of each marketing channel plays in driving DNSPs' objectives.

Figure 1:

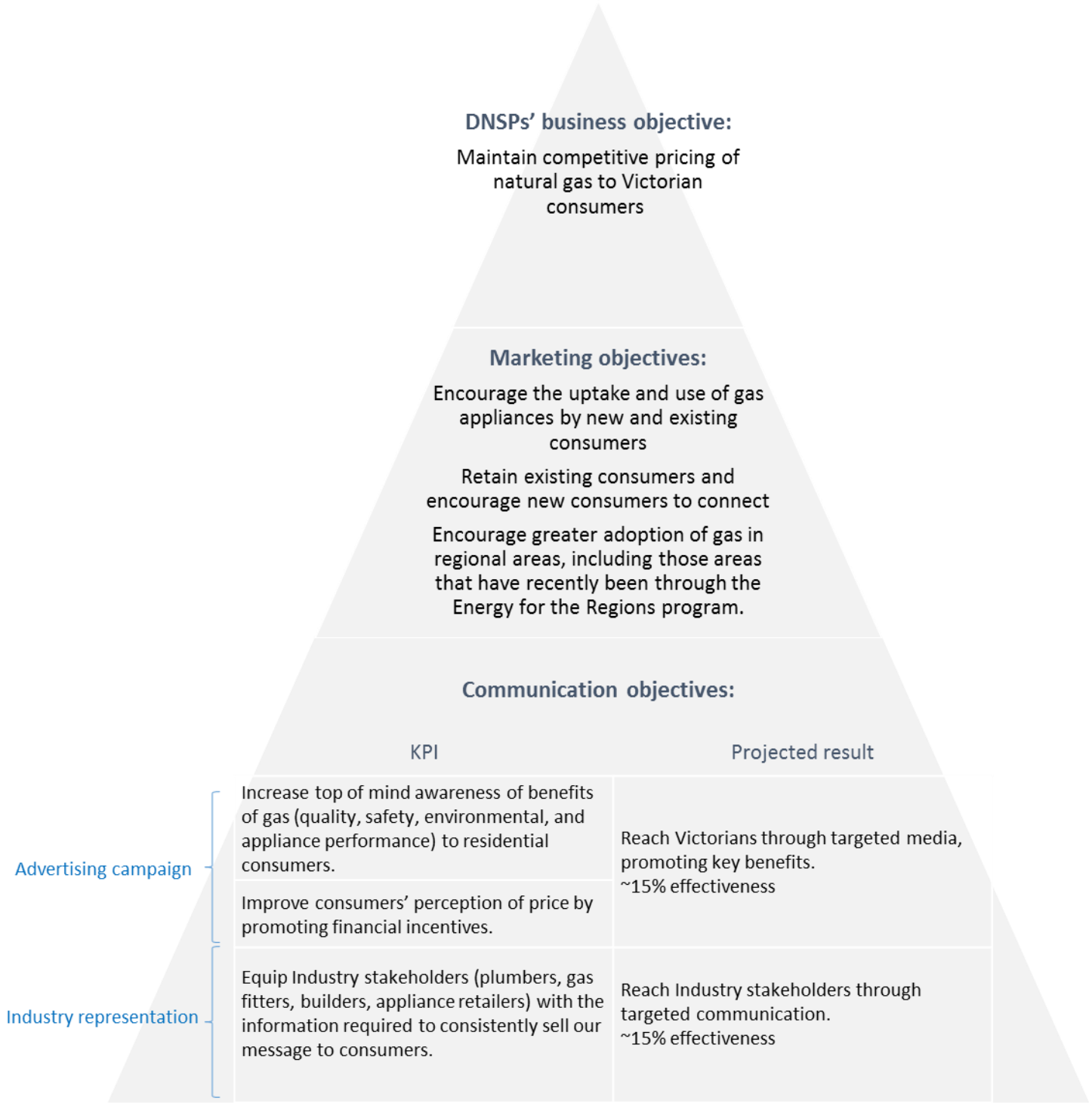


Based on numerous case studies across a broad section of industries, media investment has demonstrated ability to impact short-term KPIs (i.e. sales, enquiries, etc.) by approximately 15%. That is, around 15% of short-term impacts to KPIs (i.e. sales, enquiries, etc.) can be attributed to paid media. However, longer term contributions relevant to our campaign, such as awareness, will see a

higher impact dependent on investment and channel mix. Thus the need to establish baseline to understand achievable targets.

6 Summary of our marketing program objectives

Figure 2: Marketing program objectives



7 Advertising Campaign - approach & activities

7.1 Approach

To deliver on the campaign objectives a series of projects will be executed to achieve success across a 5 year period. The advertising campaign will involve:

- Creating and optimising content that effectively communicates the desired messages across channels
- Ongoing media strategy and paid support to reach the right audience
- Conduct regular research to ensure targeted messaging based on the key needs and challenges of the audiences

Projects in Year one focus on building a solid campaign base. In Year two onwards, will focus on optimising the campaign messaging and assets based on data and user feedback. Year on year, the messages will be reinvigorated to ensure optimal performance, whilst also continuing to build saliency.

Due to fast changing nature of media landscape partly caused by audience fragmentation, recommendation for Year two-five will vary slightly and be dependent on defined business and media objectives for future timing. Ongoing planning and campaign effectiveness review will determine media recommendation for this period.

7.2 Campaign activities

Below is a list of the activities required to produce and deliver across the advertising campaign:

Campaign strategy

A campaign strategy will be developed, aligning with key objectives defined in Figure 5. An overall category campaign will be developed with quarterly content produced based on seasonal demand differences. To do this, we will map the path to connection for end users, and tailor the message across media channels to best address pain points and communicate benefits.

Outcome: Defined campaign architecture and roll out plan

Campaign asset production

Key campaign collateral will be produced to reflect the overall strategy and appropriate for the media placements defined.

Some likely media executions include:

- Television commercial (TVC)
- Online video
- Out of home advertising (OOH)
- Print
- Dynamic display

Outcome: Advertising content

Campaign landing page

Supporting the media placements, consumers and stakeholders will be directed to a campaign landing page to provide them with further information. The Dentsu Aegis Network (DAN) will design the page to seamlessly link to the appropriate distributors to optimize their experience whilst maintaining campaign consistency.

Outcome: Consolidated campaign website

Campaign effectiveness reporting

To understand the impact of our communications efforts on lifting Top of Mind Awareness (TOMA) ongoing, we will utilise brand tracking research. This will also assist us to identify key channels that are delivering success through econometric modelling which will feed into our on-going planning process. The brand tracking study will include quarterly research dips and insights through approx. 10min survey interviewing a large, robust sample size of household members responsible for purchasing gas appliances, paying gas bills or making key decisions relating to usage of gas (please refer to Appendix A for case study)

Outcome: Quantifiable measure of campaign effectiveness and identify optimal channel mix to deliver against KPIs

Above the line media

To target our Awareness and Education target audience we will utilise above the line media such as TV and OOH billboards. An optimised media schedule will be developed, with continuous flighting of media across mass awareness channels to drive top of mind awareness with all Victorian end users.

Outcome: Increase awareness and educate consumers across regional and metropolitan Victoria

Geo-targeted media

To target our tactical audience group, we will utilise an insights tool to understand the number, location and scale of current residential developments across Victoria, to effectively geo-target via

combination of local newspaper adverts, out-of-home billboards and geo-targeted mobile and social advertising around relevant communities.
Outcome: Effectively geo-target tactical audience group

Contextual digital targeting
To engage consumers that are closer to making a decision about their fuel of choice, we will utilise always-on digital media activity across contextually relevant websites targeting consumers who are looking to purchase either a new home, land estate or major gas appliances.
Outcome: Targeted messaging online, tailored to consumers' interest in gas

Owned assets website re-targeting
To re-engage residential consumers who have visited the campaign landing page or DNSPs' website for information, we will communicate with relevant digital display media to reinforce message through website retargeting strategy.
Outcome: Re-engagement of consumers that have already interacted with the campaign or DNSPs online

Media performance reporting
Ongoing media performance report, measuring key campaign results.
Outcome: Quantified campaign performance

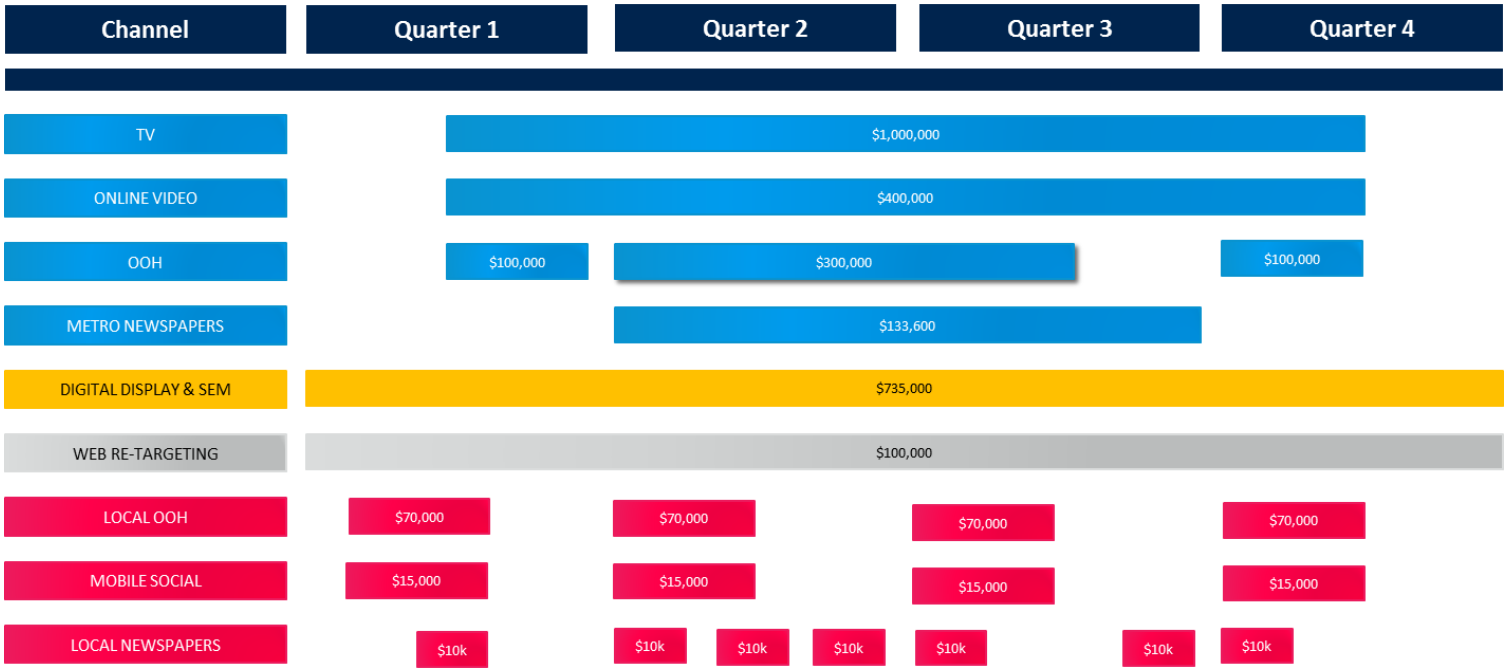
Digital communication testing
It is key that we monitor how all digital assets are functioning relative to key KPI's, allowing us to monitor and tweak as needed. The key advantage of this digital approach is the ability to measure performance and optimise in real time.
Outcome: Optimised campaign messaging and user experience

7.3 Year one summary
The activities defined in Year one will setup a consolidated category brand, incorporating the DNSPs, to meet the needs of the defined audiences. Year one is about setting up the foundation, to build upon in the following years.

7.3.1 Summary of activities for Year one
- Campaign strategy
- Campaign asset creation
- Campaign landing page
- Above the line media
- Geo-targeted media
- Contextual digital targeting
- Owned assets website re-targeting
- Media performance reporting
- Digital communication testing

7.3.2 Media plan for Year one
Based on the defined audiences in section 6.2, Figure 3 outlines a high level media plan for year one activity. Recommendations for years 2-5 will vary slightly to adapt to fast changing nature of media landscape due to fragmentation and emerging channels.

Figure 3: Advertising campaign media plan



7.4 Year two-five summary

Projects in Year one focus on building a solid campaign base. In Year two onwards, we will focus on optimising the campaign messaging and assets based on data and user feedback. Year on year, we will invigorate the messaging to ensure optimal performance, whilst continuing to build salience.

7.4.1 Summary of activities for Year two-five

- Refined campaign strategy
- Campaign asset creation
- Campaign effectiveness reporting
- Re-engagement media strategy
- Refined media targeting
- Media performance reporting
- Digital communication testing

8 Industry representation – approach & activities

8.1 Approach

To deliver on our campaign objectives we will run a series of targeted messaging to Industry Representation to further promote residents' willingness to connect to gas. To do this we will:

- Create and optimise content that effectively communicates the desired messages across channels
- Ongoing media strategy to reach the right audience

8.2 Representation activities

Below is a list of the activities required to produce for the Industry representation to support the advertising campaign:

Campaign strategy

A campaign strategy will be developed, aligning with key objectives defined in Figure 5. Consistent with the advertising. To do this we map the path to connection for end users, and tailor the message across media channels to best address pain points and communicate benefits.

Outcome: Defined campaign architecture and roll out plan

Asset creation

Leveraging the assets created in the advertising campaign, assets will be developed specific for Industry stakeholders. These assets will be used to distribute via email communication and website re-targeting.

Outcome: Industry specific assets

Industry media and publications

Through channel planning we will set a program that reaches the broadest possible audience through B2B media. Through this we will increase awareness within context of their profession, and align all communication with the consumer advertising campaign.

Outcome: Increase B2B awareness across regional and metropolitan Victoria

Direct email communication with Industry stakeholders

Given the nature of the business operations, email is a necessary channel to help the distributors build a direct relationship with intermediaries and other key stakeholders, ensuring that the information they receive is factual and up to date.

Outcomes: Targeted communication tailored to their support their service offering

Owned assets website re-targeting

To re-engage stakeholders who have visited the stakeholder content on the campaign landing page or DNSPs' websites, we will communicate with relevant digital display media to reinforce message through website retargeting strategy.

Outcome: Re-engagement of stakeholders that have already interacted with the campaign or DNSPs online

Industry activations and events

Targeting key trade shows and events, we will host activations to engage directly with our Industry stakeholders.

Outcome: Increase B2B awareness across regional and metropolitan Victoria

8.3 Year one-five summary

Aligning with the roll out with the advertising campaign, strategy and media will be implemented, whilst optimising to ensure engagement.

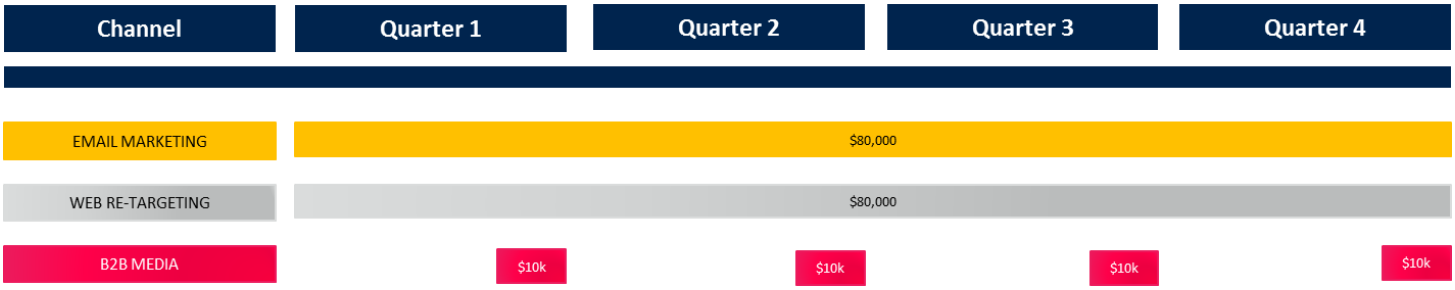
8.3.1 Summary of activities for Years one-five

- Campaign strategy
- Asset creation
- Industry media
- Direct email communication
- Owned assets website re-targeting
- Industry activations and events

8.3.2 Industry representation - Media plan for Years one-five

Below is a breakdown of the media distribution across the five year period for the Industry representation:

Figure 4: Stakeholder representation media plan



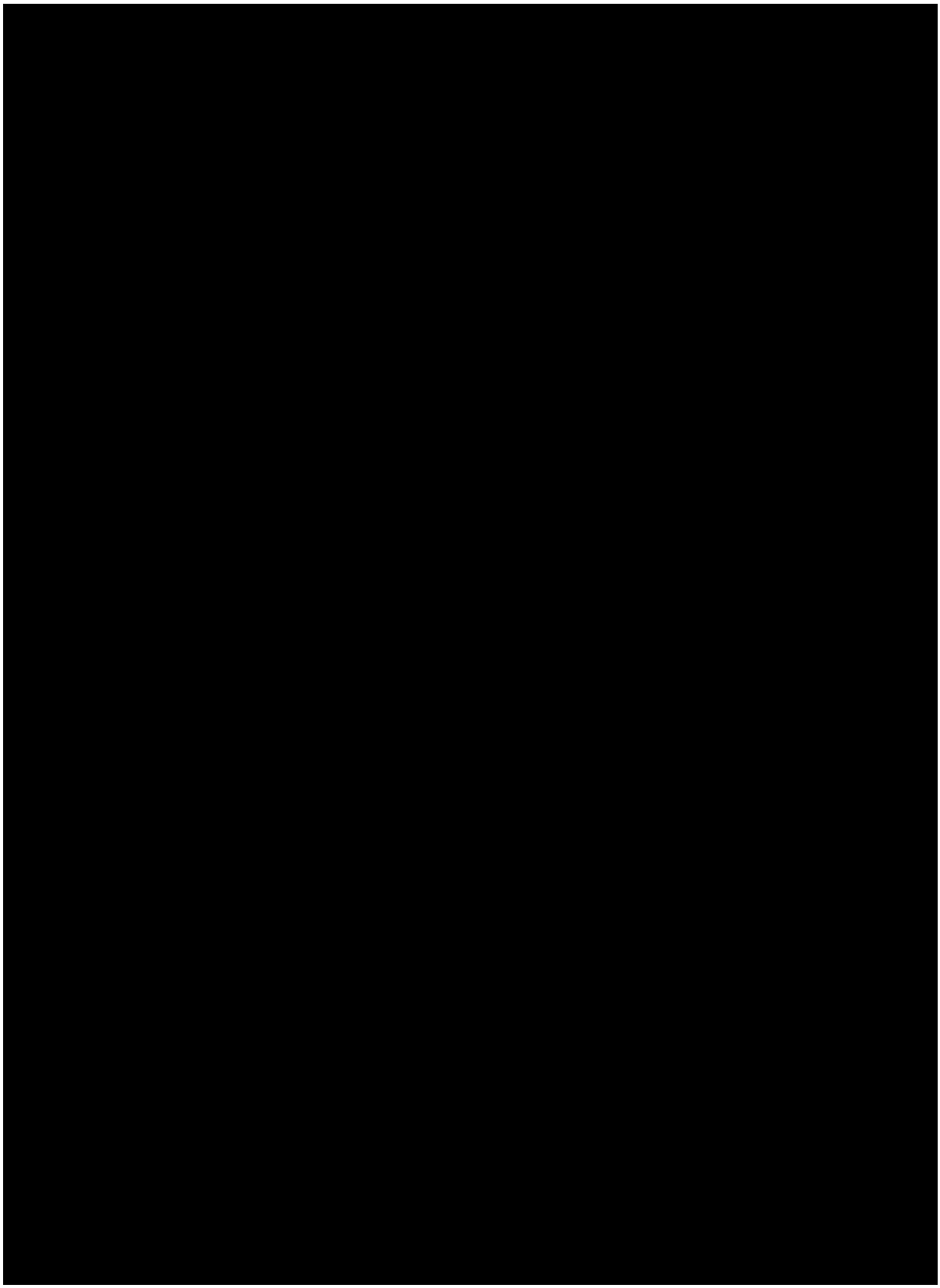
8.4 Project Assumptions

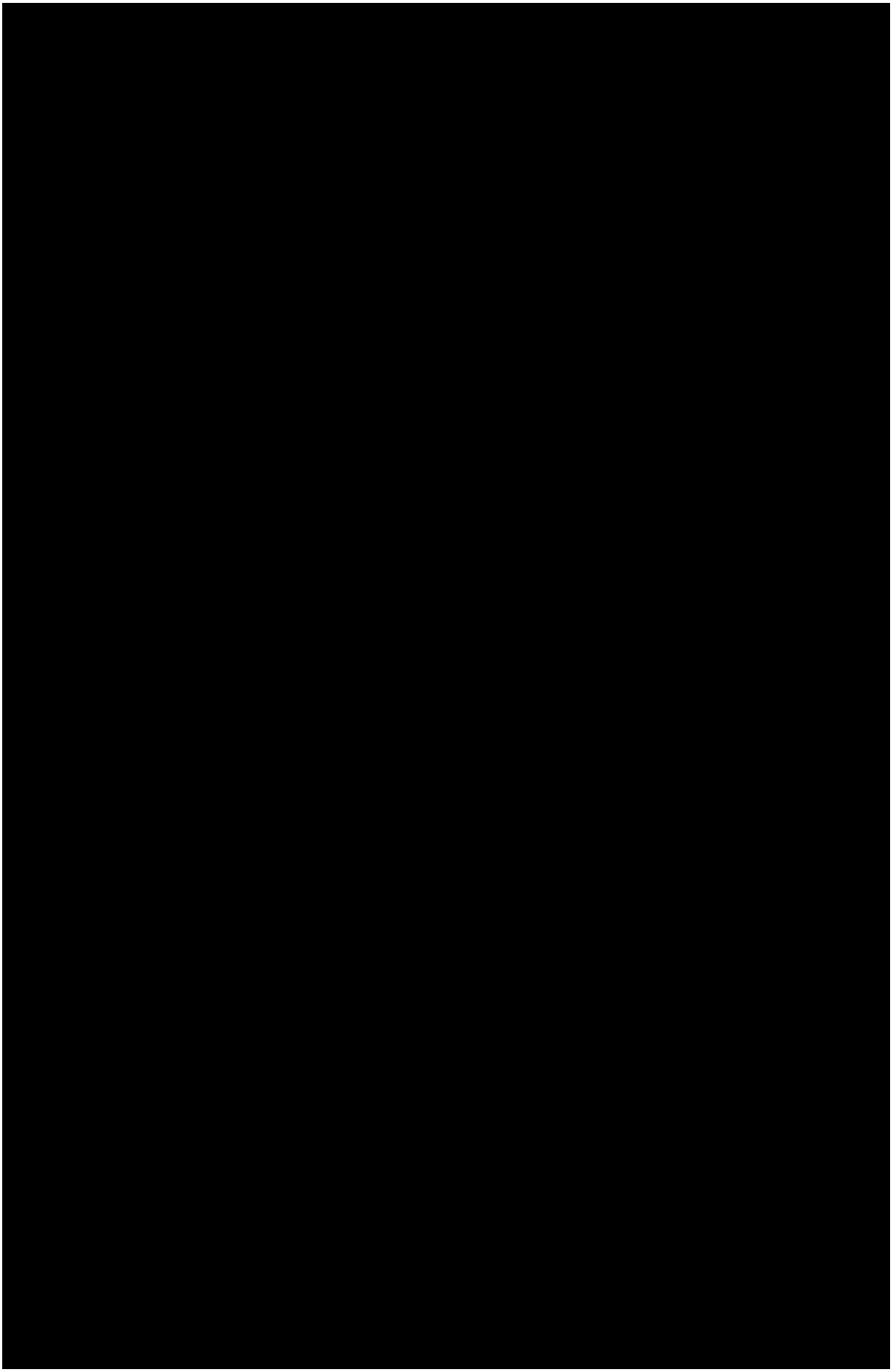
The following assumptions have been taken into consideration as part of this activity:

- The scope of the proposed phases for some of this work may need to change as the business requirements or strategy changes.
- There is a lot of industry and government advertising promoting different energy types. Within the next one-two years a lot can change and this will impact our messaging and the tactics we utilise.

9 Budget summary

The following budget is required to deliver the in scope items and deliverables of this project. All figures are in $AUD and are exclusive of GST.





Appendix A: Effectiveness case study

D2D MARKET MIX MODELLING CASE STUDY

Data 2 Decisions is the global business effectiveness brand for Dentsu Aegis Network. With a national presence in Australia it leverages the knowledge, experience and resources of the global D2D network.

Their approach to data is simple.

Use consumer data (ie. Survey responses, focus group discussions etc) to explore and test scenarios and campaigns for clients as well as understand the market landscape, profile target markets and frame market sizes and potentials.

Use non consumer led data (i.e. media data, pricing, distribution, product development, economic climate etc) to identify and measure the impact drivers of key performance metrics and to help construct predictive models. Models that can be used by clients to help forecast future trends and optimise business planning and strategy.

Client case study:

OBJECTIVE

In the 1st year the Client was the 9th most successful car brand in Australia. **The Client wished to become 5th most successful car brand in Australia within 3 years**.

The Client wished to support a **continual measure of brand performance** amongst their core target audiences for their masterbrand and model products. The Client also wished to **measure the effectiveness** of their model-specific and masterbrand **communications**.

SOLUTION

- Online self-complete questionnaire sent out each month to 750 respondents aged 18+ years
- National spread
- Sample dynamic: New car intenders in the next 2 years
- Brand and ad tracking survey covers the Clients brands
- Ingestion of other data points ie. competitive advertising activity and brand health

RESULTS

The Client's advertising and messaging was adjusted to incorporate the learnings from the brand and ad tracking study. This resulted in:

- The Client's **top of mind brand awareness was 48% in Year 3**, from 43% in Year 1 **(+5%)**
- Purchase intent (consideration) was 29% in Year 1, and 44% in Year 3 **(+15%)**
- The Client ranked 9th best car brand in Year 1, and 4th best in Year 3 **(+5 places)**

Appendix B: The DAN's proprietary tools

CONSUMER CONNECTION SYSTEM (CCS)

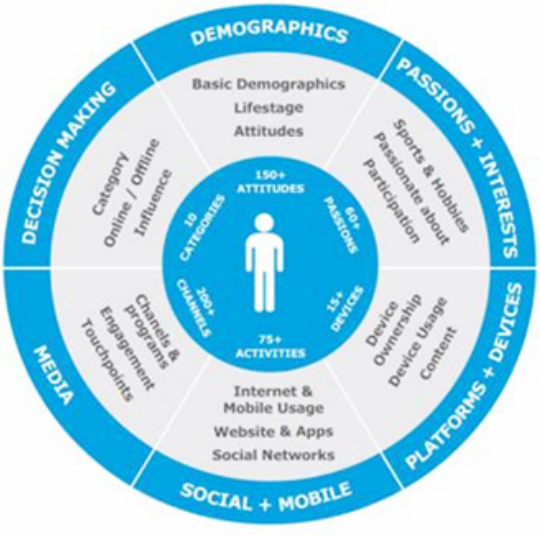
CCS

CCS (Consumer Connection System) is Dentsu's proprietary consumer insight study that was created to respond to the increasingly fragmented communications landscape. CCS is a system of research, data, analytics and technology platforms available to all of our employees in over 60 countries. CCS is designed to make insights actionable in communications. It incorporates client data as well as using a large survey as a hub to connect media currency, individual and customer datasets.

The CCS Benchmark study is conducted annually with over 13,000 Australians. CCS provides a single source measurement of consumers' interaction and engagement with a broad range of touchpoints. Through continuous evolution, CCS ensures the latest digital touchpoints are measured, including social media, mobile phones and tablet activities, along with the interaction across devices.

CCS allows for robust consumer brand segmentation based on over 250 attitudinal and behaviour statements and measures over 62 different bought, owned and earned channel touchpoints. It will allow us to create consumer segments for the DNSP's for smarter planning and investment based not only on media exposure but, more importantly, media receptivity.

Critical to all media and communication activities is the ability to connect real-world business outcomes with people, what they believe and how they act. CCS has enabled Dentsu to fundamentally change how planning and buying occurs in the Australian marketplace. Not only does CCS inform our strategic and tactical planning decisions, it is also directly linked to key buying audience data to ensure connectivity throughout the planning and buying chain.



BESPOKE CLIENT STUDIES

As a proprietary system, we have the ability to re-contact the survey database within CCS for the specific needs of our clients.

These custom surveys are designed to dive deeper into categories and brand relationships with segmentations the most common approach.

We have extensive experience in this area on clients such as Disney, Freedom Furniture, Holden and Woolworths. We then take segmentations further than they typically go by fusing this via Axciom into Facebook and AMNET so we can target our custom segments in the real world.

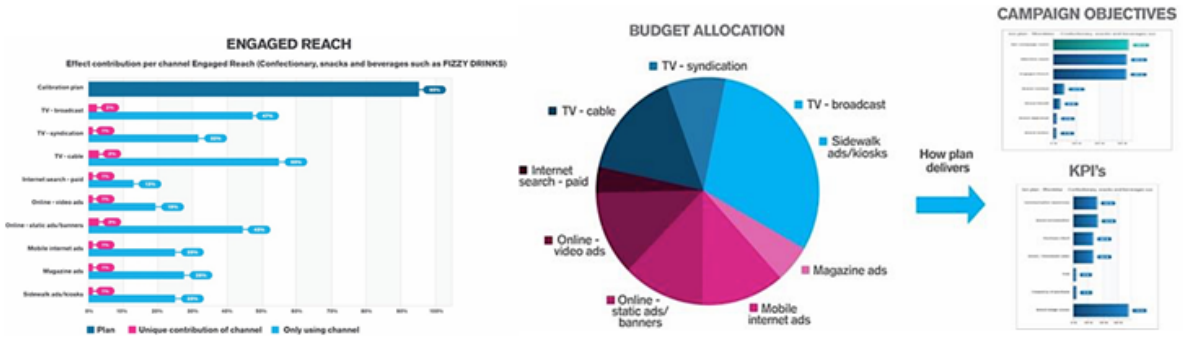
CCS PLANNER

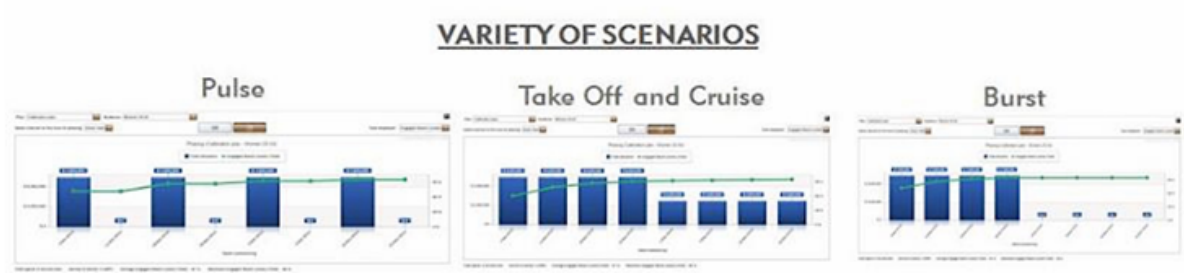
CCS Planner is a media planning and optimisation system fuelled by the CCS benchmark study data. It acts as an aid to judgement, enabling planners to set communication objectives specific to the target audience and marketing brief. The system displays the performance of each medium against these objectives and delivers scenario planning capability by comparing the performance of different media mixes to optimize the media mix and achieve business objectives.

The tool allows our planners to take into account the different abilities of channels, their costs and reach, campaign objectives and practical factors that may be relevant for the choice of formats. CCS Planner uses these inputs as well as the planners' input on the brand to recommend objectives, rank channels and generate budget allocations. It also allows us to compare alternative plans in terms of communications tasks.

The benefit of CCS Planner for the DNSP's is the robust consumer data which fuels it, combined with the depth of planning inputs that all planners use to aid decisions. It is the ideal mix of data and judgment, leading to optimised multimedia planning choices and costs across Owned, Earned & Bought, for achieving specific objectives.

Below you will find examples of evaluating channels against metrics that matter, how we understand the total contribution of the plan to KPIs and how flighting scenarios impact awareness:





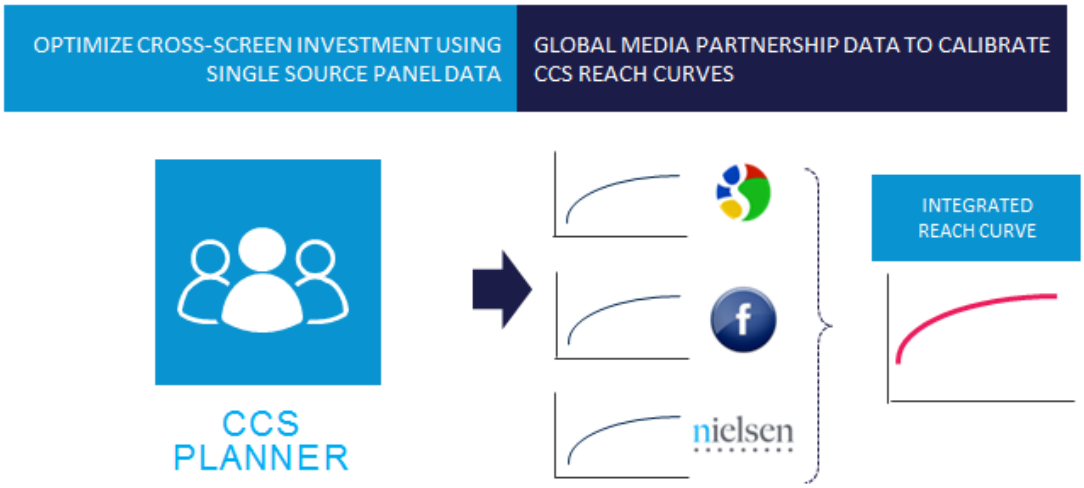
SCREEN STACK

To address and respond to the changing landscape available to consumers for video content consumption, we have developed a holistic video solution, delivered through a proprietary multi-screen planning and activation tool called the 'Screen Stack'.

The tool enables us to optimize client investment across television and online video, and thus provide a future facing advantage to our clients, with insight, improved ROI and optimized efficiencies.

We worked closely with Facebook to integrate their video reach data into our proprietary tool CCS Planner, something we have also worked with Google on via their YouTube platform. This tool and partner data sets have been at the core of creating our video planning approach and together we have brought to life digital audience first planning and buying.

In short it allows us to understand and deploy the most effective mix of "video" between broadcast TV and digital video based via and audience first approach.



And it delivers results. Here in Australia, we activated the tool with our Big W client and by doing effectiveness modelling with D2D, our marketing effectiveness offering within the group, we recorded a 56% lift in ROI of screens when using the Screen Stack methodology.