ACIL ALLEN CONSULTING

REPORT TO
ENERGY CONSUMERS AUSTRALIA
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SUPPORTING HOUSEHOLDS FRAMEWORK

A STRATEGIC FRAMEWORK

ACIL ALLEN CONSULTING PTY LTD
ABN 68 102 652 148

LEVEL NINE
60 COLLINS STREET
MELBOURNE VIC 3000
AUSTRALIA
T+61 3 8650 6000
F+61 3 9654 6363

LEVEL ONE
50 PITT STREET
SYDNEY NSW 2000
AUSTRALIA
T+61 2 8272 5100
F+61 2 9247 2455

LEVEL FIFTEEN
127 CREEK STREET
BRISBANE QLD 4000
AUSTRALIA
T+61 7 3009 8700
F+61 7 3009 8799

LEVEL ONE
15 LONDON CIRCUIT
CANBERRA ACT 2600
AUSTRALIA
T+61 2 6103 8200
F+61 2 6103 8233

LEVEL TWELVE, BGC CENTRE
28 THE ESPLANADE
PERTH WA 6000
AUSTRALIA
T+61 8 9449 9600
F+61 8 9322 3955

167 FLINDERS STREET
ADELAIDE SA 5000
AUSTRALIA
T +61 8 8122 4965

ACILALLEN.COM.AU

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FOREWORD

This report is published at a time when people are telling Energy Consumers Australia that energy costs are a critical concern – households and businesses have seen their prices almost double over the last decade.

Our Energy Consumer Sentiment Survey reveals that consumers are responding to high prices – they are taking steps to manage their energy bills, by switching off lights and appliances. They are investing in solar panels, with a significant number considering battery storage as well. And customers have indicated their willingness to reduce or shift their usage when asked.

In our most recent survey, there is worrying evidence that households and small businesses are not confident they can make good decisions. They are struggling to find effective assistance, seeking better support from energy companies, as well as information and tools to help them manage their energy.

New energy technologies and services, offered by different players, offer customers new ways to manage their use and their bills. But two issues loom.

Firstly, while this innovation is welcome, it is critical that it doesn't just add complexity, but instead simplifies the experience for consumers.

And secondly, there is a very real risk that some - low-income households, the elderly, rural and regional customers, or tenants for example – will be left behind; struggling with high prices, because they cannot afford or access these new services.

These challenges go to the heart of the transformation of the energy market, and why we are working towards a vision of affordable, individualised and optimised energy services for all consumers.

The research we have undertaken through Power Shift has made it clear that a sophisticated approach is needed, responding to consumers' diverse needs and preferences.

There is no 'one size fits all' solution – to be effective, assistance and information must be delivered in a format and channel that suits the way consumers live.

This Strategic Framework will help decision-makers – in government, regulatory bodies and industry – understand what will work:

- It identifies the range of actions that households can take to manage their energy bills
- It details where households have similar needs and constraints, and groups them according to how they receive and act on information and assistance measures
- And it recommends initiatives and tools that will be of most value to those consumers, and alerting decision-makers to where there is work underway.

The framework complements the other research that Energy Consumers Australia has developed through its Power Shift project, to help policy-makers and energy providers design, develop and target information and energy management tools and information. Those include:

— Multiple Impacts of Energy Efficiency: An Assessment Framework which helps managers and designers of energy management programs define and capture the full suite of benefits from more efficient energy use.

— Driving Change: building on the rich evidence base of the Low Income Energy Efficiency Program, the report identifies the initiatives and communication channels that were most effective in assisting low-income households.

Australian consumers tell us they want comfortable homes and competitive businesses. This Framework will contribute to that goal.

Rosemary Sinclair AM
Chief Executive Officer
Energy Consumers Australia

What this report is about

This report outlines a strategic framework developed to assist policy-makers to:

— understand the range of choices available to households to manage their energy bills

— identify the different types of Australian households and their diverse motivations, abilities and opportunities to manage their energy bills

— identify the range of tools and services that could support different types of Australian households to choose to manage their energy bills

— identify the tools and services that are available at May 2018 to support Australian households manage their energy bills, the gaps in this assistance, and areas of opportunity/priority for policy makers

— guide the design of tools and services to support Australian households manage their energy bills.

What this report is not about

This report does not:

— assess the relative size of each of the different types of Australian households

— assess the effectiveness of the tools and services in place at May 2018 to support households manage their energy bill.

These have been identified as areas of further research beyond the scope of this project.

How to find out more

Additional information about the suite of research studies as part of the Power Shift Project can be found on the Energy Consumers Australia's website (http://energyconsumersaustralia.com.au).

The appendices in this report provide additional information about consumer segmentation models found in the literature and about the initiatives, tools and services currently available in Australia to support households to manage their energy bills (including any eligibility requirements).

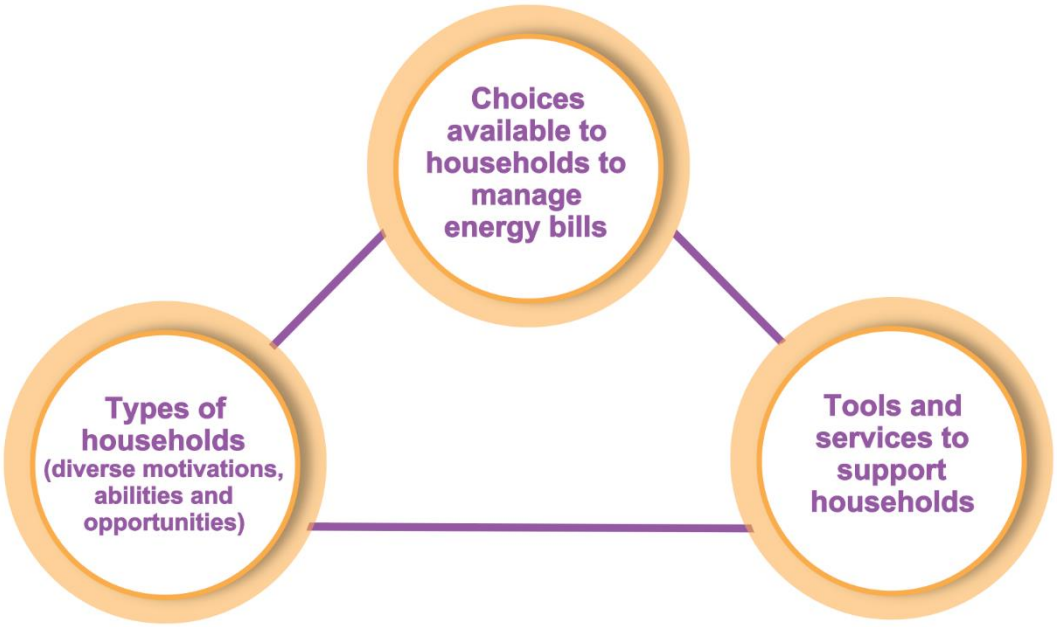
EXECUTIVE SUMMARY

ACIL Allen Consulting (ACIL Allen) has been engaged by the Energy Consumers Australia to develop a strategic framework to support policy-makers to consider the range of tools and services needed by different Australian households to effectively manage their energy bills.

The strategic framework comprises three elements, as illustrated in Figure ES 1:

- the range of choices available to households to manage their energy bills
- the different types of Australian households and their diverse motivations, abilities and opportunities to manage their energy bills
- the range of tools and services that could support different types of Australian households to make different choices to manage their energy bills.

FIGURE ES 1 ELEMENTS OF THE STRATEGIC FRAMEWORK TO SUPPORT HOUSEHOLDS MANAGE THEIR ENERGY BILLS

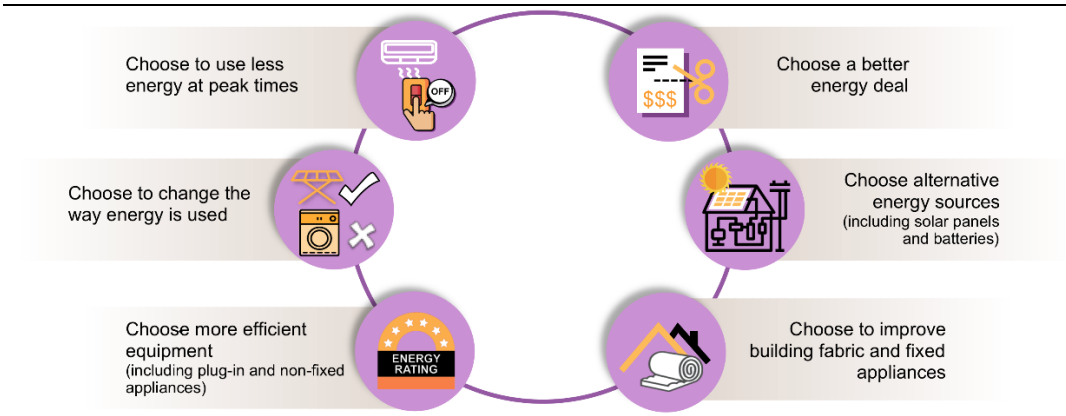


SOURCE: ACIL ALLEN CONSULTING.

Choices available to households to manage their energy bills

There are six types of choices available to households to manage their energy bills, as illustrated in Figure ES 2.

FIGURE ES 2 CHOICES AVAILABLE TO HOUSEHOLDS TO MANAGE THEIR ENERGY BILLS



SOURCE: ACIL ALLEN CONSULTING.

Choose a better energy deal

The retail energy market is now competitive in most Australian jurisdictions. In those jurisdictions, there are a range of energy deals on offer by retailers. Households may be able to better manage their energy bill by choosing a better energy deal. The energy deal may have lower rates, a different structure or different payment arrangements.

Choose alternative energy sources

Households are increasingly moving away from buying all their energy through their retailer, to generating their own energy through, for example, solar panels on their rooftop and using batteries to store that energy for later use. While the upfront costs are relatively significant, the ongoing costs are relatively low, and the household is able to lower their energy bill from the retailer.

Choose to improve the building fabric and fixed appliances

Households can reduce the amount of energy that is needed to heat their home in winter and cool their home in summer by improving the building fabric and fixed appliances. Alternatively, households can improve their level of comfort, and their health and wellbeing, by making these improvements and using the same amount of energy.

Choose more efficient plug in appliances

Similarly, households can replace their plug in appliances with more energy efficient models and reduce the amount of energy that is needed. Alternatively, they can improve their level of comfort, and their health and wellbeing, by making these changes and using the same amount of energy.

Choose to change the way energy is used

Households can manage their energy bills by changing the way they use energy. For example, they may choose to hang up wet clothes to dry rather than use a clothes dryer, to put on warmer clothes and turn down space heating or use window coverings to keep the home cooler rather than turn on an air conditioner.

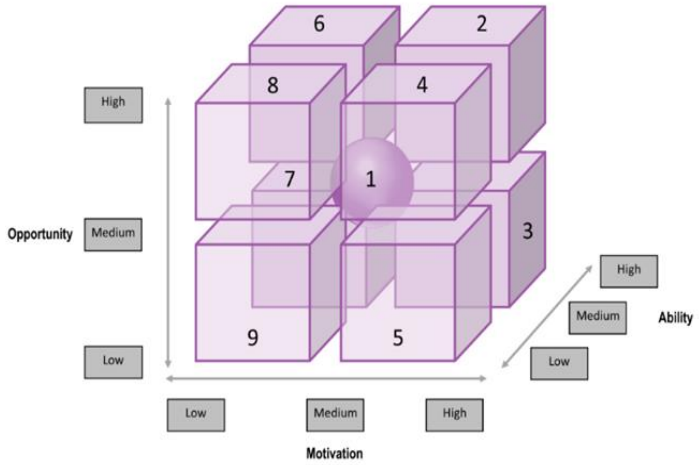
Choose to use less energy at peak times

If the household is on a retail energy deal where the cost of electricity is higher at certain times of day or has a separate component for the maximum amount of electricity used during peak times, the household can manage their energy bills by using less energy at those times of day. For example, the household could run the dishwasher or washing machine overnight, run only one of the dishwasher, washing machine and air conditioner at the same time in the middle of the day, or set the air conditioner at a higher temperature.

Different types of Australian households

We have categorised households based on three dimensions – their motivation, ability and opportunity to manage their energy bills – to identify nine different types of Australian households, as illustrated in Figure ES 3.

FIGURE ES 3 DIFFERENT TYPES OF AUSTRALIAN HOUSEHOLDS



Note: 1 = Middle Australia; 2 = Enthusiasts; 3 = Completers; 4 = Dependent; 5 = Stuck; 6 = Complacent; 7 = Competent; 8 = Cautious; 9 = Hard to help

SOURCE: ACIL ALLEN ASSESSMENT.

The full list of factors that influence a household's motivation, ability and opportunity to manage their energy bills is provided in section 5.1 in Chapter 5. These factors are summarised in Table ES 1. The factors that are relevant vary by the type of choice that can be made. For example, whether a household lives in rental accommodation is relevant to improving the building fabric but not to changing to the best energy deal.

TABLE ES 1 SUMMARY OF FACTORS THAT INFLUENCE A HOUSEHOLD'S MOTIVATION, ABILITY AND OPPORTUNITY

Motivation	Ability	Opportunity
Attitude towards the behaviour, for example, the perceived costs and benefits, the importance of energy, and cultural considerations	Literacy, numeracy, problem solving and research skills	Type of housing
Alignment with choices made within the household's circle of influence	Language barriers	Home ownership status
Likelihood of success	Ability to self-advocate, negotiate	Scope to manage the energy bill – for example, to choose a better energy deal, to improve the building fabric, to install more energy efficient appliances, to change the way energy is used
Unwillingness to create disharmony/conflict	Belief in the ability to succeed	Access to liquid funds
	Trust in others	
	Ability to influence behaviour of all household members	
	General interest in, and capability using, technology	

SOURCE: ACIL ALLEN CONSULTING

The factors that influence a particular household's motivation and opportunity to manage their energy bills will vary for each of the six choices that are available. For example, a particular household may be motivated to choose a better energy deal but may not be motivated to choose to improve the building fabric of their home because of the perceived cost. A household may have the opportunity to choose more energy efficient equipment but may not have the opportunity to choose alternative energy sources because they rent their home.

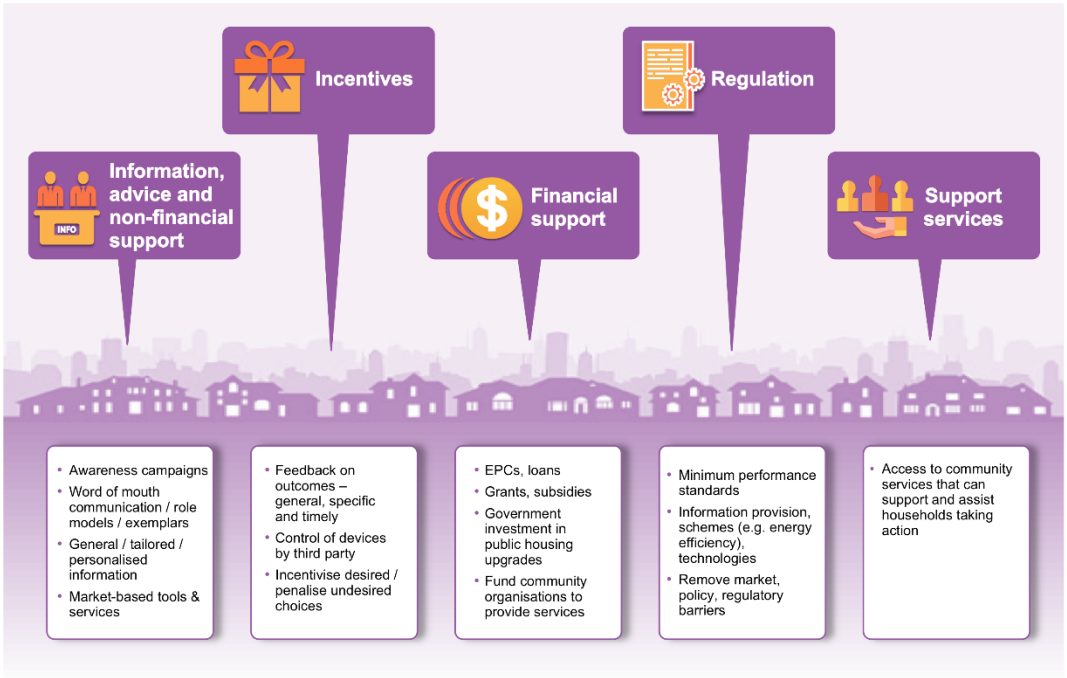
The factors that influence a household's motivation and opportunity to manage their energy bills will also vary over time. For example, a household may have the opportunity to choose a better energy deal, but once they have chosen the best energy deal, they will not have the opportunity to choose a better energy deal, at least in the short term. A household may not be motivated to turn off the air conditioner while teenage children are living at home, to maintain family harmony, but they may be motivated to do so when the children leave home.

The factors that influence a household's ability to manage their energy bills is less likely to vary over time.

Tools and services to help households to manage their energy bills

There are a range of tools and services that can help households to manage their energy bills. These can be categorised broadly as information, advice and non-financial support; incentives; financial support; regulation; and support services. Examples of the types of initiatives in each of these categories are illustrated in Figure ES 4.

FIGURE ES 4 TOOLS AND SERVICES TO HELP HOUSEHOLDS MANAGE THEIR ENERGY BILLS



Note: EPC = energy performance contract

SOURCE: ACIL ALLEN CONSULTING.

Initiatives that are the most appropriate for the different types of households

The tools and services that could support households manage their energy bills vary in terms of their efficiency and effectiveness.

Some tools and services are low cost, such as awareness campaigns, while others are high cost, such as providing personalised information to households through a trusted source. However, while awareness campaigns may be effective for some households (those with high levels of ability and motivation), they may be ineffective for other households (those with low levels of ability and motivation). Providing personalised information to households may be highly effective for all households but would not be an efficient approach because not all households will need this level of support.

The tools and services that could help households to manage their energy bills also vary based on the actual choice to be made. For example, while Government investment in public housing upgrades is a relevant support for improving the building fabric, it is not a relevant support for choosing the best energy deal.

The types of tools and services that are appropriate for each household segment have been identified for each type of choice that can be made to manage energy bills. These are set out in detail in Table 7.1 to Table 7.6 in Chapter 7. An extract from one of the tables is provided as Figure ES 5.

FIGURE ES 5 EXAMPLE OF THE APPROPRIATE INITIATIVES BY CONSUMER SEGMENT FOR ONE OF THE SIX TYPES OF CHOICES

Initiative type	Consumer segment								
	Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Information, advice and non-financial support									
Awareness campaign	✔	✔	✔						
General information		✔	✔						
Word of mouth communication / role models through technology-based media	✔	✔	✔			✔	✔		
Word of mouth communication / role models through traditional media	✔			✔	✔			✔	✔
Exemplars e.g. open houses, demonstration projects, etc.									
Proactively provide tailored information to the specific household	✔			✔	✔	✔	✔		
Proactively provide simple personalised information through a trusted source								✔	✔
Market-based tools and services to assist households to take action (comparator or investment tools / websites / apps, benchmarking tools / websites, smart meters, energy management systems/devices)	✔	✔	✔			✔	✔		
Provide easy access to information and support and education for trusted sources/organisations that provide support to households				✔	✔			✔	✔
Incentives									
Feedback on outcomes (e.g. energy use and cost)		✔	✔						
Feedback on outcomes that is specific and timely	✔			✔	✔	✔	✔	✔	✔
Control of devices by third party									
Initiatives to incentivise desired outcomes (through indirect financial benefits)		✔	✔			✔	✔		
Penalise undesirable outcomes									
Financial support									
EPCs, loans, etc.		✔	✔			✔	✔		
Grants, subsidies, etc. that provide direct financial benefits to households					✔				✔

Note: A tick indicates that the tool or service is considered to be appropriate for that type of household

SOURCE: ACIL ALLEN ASSESSMENT

A stocktake of the tools and services provided by the Commonwealth and State Governments as at May 2018 was undertaken. Full details of the stocktake are provided as Appendix D, and a summary of that stocktake is provided as Chapter 8. The stocktake indicates, for each type of choice, which tools and services were widely available, which were available in some jurisdictions and which were not available, at May 2018.

The strategic framework

As discussed above, the strategic framework comprises three elements:

— the six different types of choices that households have to manage their energy bills

— the nine different types of Australian households and their diverse motivations, abilities and opportunities to manage their energy bills

— the range of tools and services that are appropriate to support each of the nine different types of Australian households to make each of the six different choices to manage their energy bills.

The motivations, abilities and opportunities of a household will vary by choice type and over time.

Figure ES 6 provides an example of a household with two young children which illustrates the way in which the characterisation of the household varies by the type of choice that could be made to manage their energy bill. Figure ES 6 also identifies the types of tools and services that are appropriate to support this household in making each type of choice. Additional examples of household profiles are provided in section 7.2 in Chapter 7.

Using the strategic framework

The strategic framework has been developed to inform policy-makers on:

— the tools and services that could support a particular type of choice that could be made by households to manage their energy bills

— a particular type of tool or service that could be considered to support households to choose to manage their energy bills

— the tools and services that support a particular group of households to manage their energy bills.

Tools and services to support a particular type of choice

A policy maker may need to consider the tools and services that are appropriate to support households to make a particular type of choice to manage their energy bills, which tools and services are currently available, and which could be introduced to support households to make that choice.

The tools and services that are appropriate, in terms of efficiency and effectiveness, to support each type of household to manage their energy bills by choosing:

— a better energy deal, are set out in Table 7.1

— alternative energy sources, are set out in Table 7.2

— to improve their building fabric and fixed appliances, are set out in Table 7.3

— more energy efficient equipment and plug-in appliances, are set out in Table 7.4

— to change the way energy is used, are set out in Table 7.5

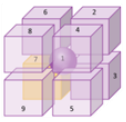
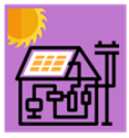
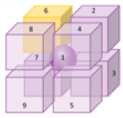
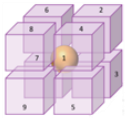
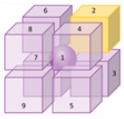
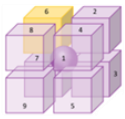
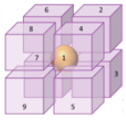
— to use less energy at peak times, are set out in Table 7.6.

The factors that influence a household's motivation, ability and opportunity are summarised in Table ES 1. The factors that are relevant to a household's choice will vary by the type of choice that is made.

FIGURE ES 6 EXAMPLE OF A HOUSEHOLD – CHARACTERISATION FOR THE SIX TYPES OF CHOICES THAT COULD BE MADE TO MANAGE THEIR ENERGY BILLS AND THE APPROPRIATE TOOLS AND SERVICES TO SUPPORT THOSE CHOICES

Family with two young children

The Smith household has four members – John Smith (38) works full-time for the local council, Anne Smith (36) works part-time as a nurse, and they have two children – Harry (6) and Laura (4). They own their own home.
Ability = Medium (high side of medium)

		Segment identification		Initiatives this household could respond to:
Choose a better energy deal		The Smith household's contract with their energy retailer has expired. With all the media coverage of the discounts currently available on retail offers, they used a website tool to research the best offer available to them, and have already signed up to that offer. As a result, their motivation to look further at other energy deals is low. **Motivation = Low, Opportunity = Low, Segment = Competent**		• Feedback on the impacts that changing to a different energy deal has had on their energy bill • Reminders to frequently review their energy deal delivered through technology-based media
Choose alternative energy sources		The Smith household do not have an alternative source of energy supply. They have the roof space to be able to install solar panels if they chose, but are not interested in doing so. They like the convenience of just flicking a switch without having to think about solar panels on their roof. **Motivation = Low, Opportunity = High, Segment = Complacent**		• Information on the benefits of using alternative energy sources provided through technology-based media • Exemplars (e.g. open houses, demonstration projects) • Investment tools that provide estimates of the cost and potential returns of installing alternative sources of energy in their home
Choose to improve building fabric & fixed appliances		The Smith household is considering renovating their house sometime in the future when the children get older and finances allow. The building fabric is of a reasonable standard but they would like to further improve the building fabric when they renovate so that the home is warmer in winter and cooler in summer. **Motivation = Medium, Opportunity = Medium, Segment = Middle Australia**		• Awareness campaigns on the benefits of different upgrades • Comparator tools that provide estimates of the potential benefits of making improvements to their home's fabric and fixed appliances • Regulate minimum performance standards for appliances and building fabric
Choose more efficient equipment		The Smith household has an old fridge that is getting to the end of its life. They also have a washing machine that was a good size as a couple but is too small for a family of four. They have been researching fridges and washing machines, and plan to purchase them soon. **Motivation = High, Opportunity = High, Segment = Enthusiasts**		• Information on efficient appliances in the market provided through technology-based media • Comparator tools that provide estimates of the potential benefits of changing to more efficient equipment • Specific and timely feedback on the impact of their choice of appliances (e.g. through personalised bill benchmarks comparing their energy bill to others)
Choose to change the way energy is used		The Smith household currently dry their clothes in a clothes dryer. They could manage their energy bills better by hanging the clothes on the clothes line. However they could not be bothered taking the time to walk outside and hang out the clothes – they would prefer to spend as much time as possible with their children. **Motivation = Low, Opportunity = High, Segment = Complacent**		• Information on ways to manage their energy with their current home and appliances provided through technology-based media • Exemplars (e.g. open houses, demonstration projects) showing how they can manage their energy use better with their current home and appliances • Tools that provide estimates of the potential benefits of changing the way energy is used around the house
Choose to use less energy at peak times		Anne often runs the washing machine, dishwasher and air conditioner at the same time on her days off, and could readily shift some of the usage to another time. They have made some efforts to limit the number of appliances on at any one time, but as they are not on a demand tariff have not made a bigger effort. **Motivation = Medium, Opportunity = Medium, Segment = Middle Australia**		• Information on ways to flatten their load provided through technology-based media • Information on the benefits of moving to a demand-based tariff through technology-based media • Control of devices by third party

SOURCE: ACIL ALLEN CONSULTING.

As an example, the strategic framework could be used by policy-makers to identify the tools and services that could support households to choose a better energy deal. The factors that are the most relevant for a household to make this type of choice include:

- Motivation – whether the household perceives that the cost savings associated with a better energy deal justify the perceived effort and complexity associated with changing to that deal.
- Ability – whether the household has the literacy, numeracy, research and problem solving skills to research and identify a better energy deal.
- Opportunity – whether the household is already on the best energy deal available at that time.

The tools and services that are the most appropriate, in terms of efficiency and effectiveness, to support a household to choose a better energy deal are set out in Table 7.1. The availability of those tools and services, as at May 2018, is set out in Chapter 8.

Table ES 2 brings together the characteristics of each type of household that are most relevant to choosing a better energy deal, and examples of the tools and services that are appropriate, in terms of efficiency and effectiveness, to support that type of household to choose a better energy deal. The tools and services are colour coded to indicate their availability as at May 2018. Those in red are not currently available, those in orange are available in some jurisdictions and those in green are widely available.

This same type of table can be developed, based on the information in the report, for each type of choice and by considering the full range of potential tools and services that is appropriate for that type of choice.[1] A refresh of the stocktake of tools and services available would need to be undertaken at the time the strategic framework is used by a policy maker so that the colour coding of tools and services is up to date.

TABLE ES 2 CHOOSING A BETTER ENERGY DEAL – THE RELEVANT CHARACTERISTICS OF HOUSEHOLDS AND THE AVAILABILITY OF APPROPRIATE TOOLS AND SERVICES

Motivation

Low ⟷ High

Ability = High - medium

Opportunity: High ↕ Low

Complacent

Key relevant characteristics

- Have good literacy, numeracy, problem solving and research skills to look at alternative energy deals
- Perceived cost savings don't justify the perceived effort
- Not currently on the best energy deal

Examples of appropriate tools and services:

- Comparator tools
- Feedback on outcomes that is specific and timely
- Regulate information provided to customers

Enthusiasts

Key relevant characteristics

- Have good literacy, numeracy, problem solving and research skills to look at alternative energy deals
- Perceived cost savings justify the perceived effort
- Not currently on the best energy deal

Examples of appropriate tools and services:

- Awareness campaign
- Comparator tools
- Feedback on outcomes

Competent

Key relevant characteristics

- Have good literacy, numeracy, problem solving and research skills to look at alternative energy deals
- Perceived cost savings don't justify the perceived effort
- Already on the best energy deal

Examples of appropriate tools and services:

- Tailored information specific to household
- Comparator tools
- Feedback on outcomes that is specific and timely
- Regulate information provided to customers

Completers

Key relevant characteristics

- Have good literacy, numeracy, problem solving and research skills to look at alternative energy deals
- Perceived cost savings justify the perceived effort
- Not currently on the best energy deal

Examples of appropriate tools and services:

- Awareness campaign
- Tailored information specific to household
- Comparator tools
- Feedback on outcomes

[1] Given the complexity of the information presented in Table ES 2, and the need for this to be replicated multiple times to provide a comprehensive view of all tools and services available for all types of households for all the types of choices that could be made by those households to manage their energy bills, a practicable way to access this information is through a digital application.

	Motivation: Low	Motivation: High
Ability = Medium		
Opportunity: Medium	**Middle Australia** Key relevant characteristics – Have reasonable literacy, numeracy, problem solving and research skills so able to look at alternative energy deals, as long as the process is not too complex – Prepared to put in some time and effort to realise cost savings, but not too much – Have chosen a better energy deal, but is not the best available Examples of appropriate tools and services: – Awareness campaign – Tailored information specific to household – Feedback on outcomes that is specific and timely – Regulate information provided to customers	
Ability = Low - medium		
Opportunity: High	**Cautious** Key relevant characteristics – Don't have the literacy, numeracy, problem solving and research skills to look at alternative energy deals – Perceived cost savings don't justify the perceived effort and complexity – Already on the best energy deal Examples of appropriate tools and services: – Tailored information specific to household – Feedback on outcomes that is specific and timely	**Dependent** Key relevant characteristics – Don't have the literacy, numeracy, problem solving and research skills to look at alternative energy deals – Perceived cost savings justify the perceived effort and complexity – Not currently on the best energy deal Examples of appropriate tools and services: – Tailored information specific to household – Feedback on outcomes that is specific and timely – Regulate information provided to customers
Opportunity: Low	**Hard to help** Key relevant characteristics – Don't have the literacy, numeracy, problem solving and research skills to look at alternative energy deals – Perceived cost savings don't justify the perceived effort and complexity – Already on the best energy deal Examples of appropriate tools and services: – Simple personalised information through a trusted source – Feedback on outcomes that is specific and timely – Grants and subsidies	**Stuck** Key relevant characteristics – Don't have the literacy, numeracy, problem solving and research skills to look at alternative energy deals – Perceived cost savings justify the perceived effort and complexity – Not currently on the best energy deal Examples of appropriate tools and services: – Simple personalised information through a trusted source – Feedback on outcomes that is specific and timely – Grants and subsidies – Regulate information provided to customers

Note: Red = Not available; Orange = Available in some jurisdictions; Green = Widely available

SOURCE: ACIL ALLEN CONSULTING.

A particular type of tool or service to support households to make a choice

A policy maker may be considering a particular tool or service that could support households to choose to manage their energy bills. The policy maker may be interested to understand for which household types that tool or service is appropriate and what other tools and services are already available to that particular household.

As an example, the strategic framework could be used by policy-makers to assess the appropriateness of introducing an awareness campaign to assist households to choose a better energy deal.

Table ES 2 indicates that awareness campaigns are only appropriate for households that are categorised as Enthusiasts and Completers and Middle Australia (they have medium-high ability and medium-high motivation). Awareness campaigns will be less effective for Completers than for Enthusiasts and Middle Australia as the opportunity for them to choose a better energy deal is low. An awareness campaign is unlikely to be effective for other types of households. Table ES 2 also indicates that awareness campaigns were widely available at May 2018.

Alternatively, a policy maker could use the strategic framework to assess the appropriateness of being able to proactively provide personalised information to the specific household.

Table ES 2 indicates that proactively providing personalised information to specific households is only appropriate for households that are defined as Cautious and Hard to Help (they have low-medium ability and low-medium motivation). Providing personalised information to Hard to help households will be less effective than providing it to Cautious households as their opportunity for them to choose a better energy deal is low.

While proactively providing personalised information to specific households would be effective for all households, it would not be an efficient approach as it would be expensive and not all households need this level of support. Table ES 2 indicates that personalised information was not provided to specific households as at May 2018.

Table ES 2 also indicates that, as at May 2018, grants and subsidies (in the form of concessions) were available to some Hard to Help households, and tailored information specific to the household was available to some Cautious households, to support their choice to change to a better energy deal.

Tools and services that support a particular group of households

A policy maker may be considering the tools and services that could support a particular type of household to choose to manage their energy bills. The policy maker may be interested to understand which tools or services are appropriate for a particular type of household and whether those tools and services are already available to that particular household.

As an example, the strategic framework could be used by a policy maker to identify the tools and services that could support Hard to Help households to manage their energy bills by choosing a better energy deal. Table ES 2 identifies that the tools and services that are appropriate to support Hard to Help households to choose a better energy deal include:

- simple personalised information through a trusted source
- feedback on outcomes that is specific and timely
- grants and subsidies.

Table ES 2 also identifies that simple personalised information through a trusted source and feedback on outcomes that is specific and timely were not available for Hard to Help households as at May 2018, and that grants and subsidies were available to some Hard to Help households as at May 2018.

More detailed information on the strategic framework

The strategic framework is described in more detail in the main body of the report. Chapter 2 provides more detail on the choices that households have to manage their energy bills, chapter 5 provides more detail on the different types of households, chapter 6 provides more detail on the tools and services that help households manage their energy bills, and chapter 7 provides more detail on the strategic framework that draws together the appropriate tools and services for each different type of household.

1 INTRODUCTION

Energy Consumers Australia (ECA) received a three-year grant from the Commonwealth Government to undertake the Power Shift Project. Power Shift entails undertaking an independent review of the Low-income Energy Efficiency Program (LIEEP) findings, as well as complementary research to achieve the following outcomes:

- improve the evidence-based understanding of what really works in supporting vulnerable consumers to manage their energy bills (the *research* outcome)
- identify opportunities for market-led solutions and other initiatives to support consumers to manage their energy bills (the *empowering consumers* outcome).

The Power Shift research aims to provide policy-makers, industry and other critical stakeholders with a clear understanding of existing evidence on what works (as well as what does not) to help energy consumers manage energy bills, and why. It is expected that this improved evidence base will help industry and government deliver better products, tools and programs to help households manage their energy consumption and costs.

An illustration of the Power Shift research projects that have been undertaken to date and how they fit together to drive the outcomes set out above is provided in Figure 1.1. In addition to these initiatives, ECA has also incorporated other relevant research, such as research by RMIT on home energy management systems, and a report by CitySmart (Russell-Bennett et.al. 2017b) which focused on consumer attitudes to technology, and the role that it could play in empowering consumers to take up and respond to new electricity retail pricing offers. Both provided new and instructive insights into the lived experience of consumers.

Based on the research undertaken to date, ECA has chosen to use the term 'energy management' rather than 'energy efficiency', as the former is a more accurate description of consumers' wish to have greater control over their energy use. It also avoids connotations of frugality and self-sacrifice.

As part of the Power Shift research program, the ECA has engaged ACIL Allen Consulting (ACIL Allen) to:

… develop a comprehensive strategic framework to inform the development of better tools and services to help diverse household consumers manage their energy bills.

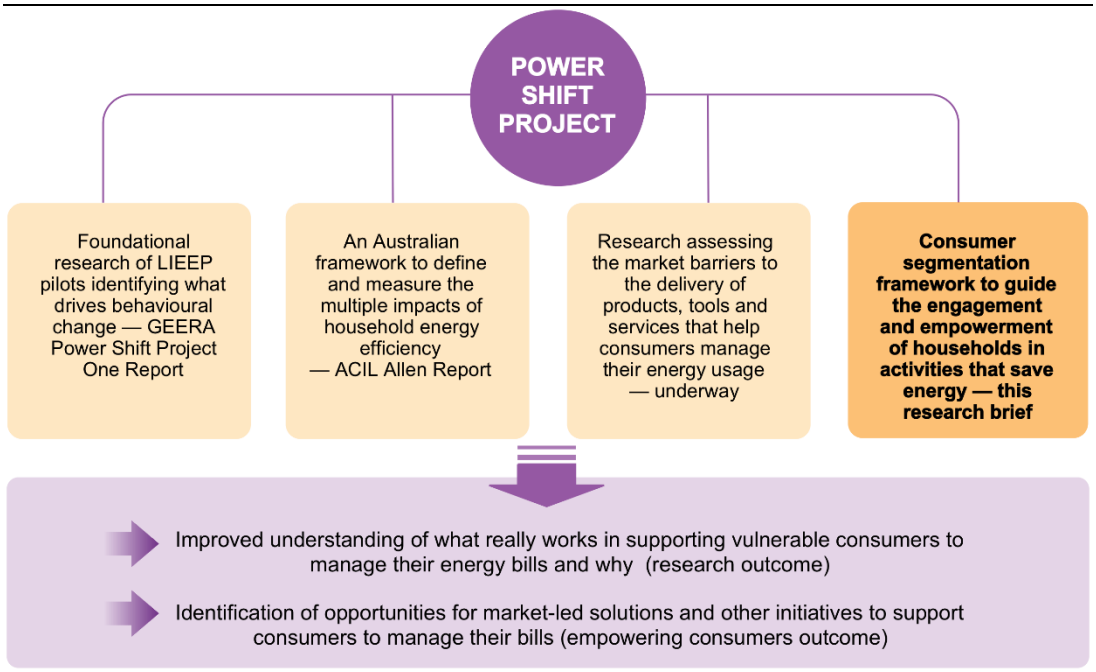
1.1 Objective of this project

The objective of the project is to develop a consumer segmentation framework that can be applied by policy makers to:

- identify consumer segments that are impacted by market and / or regulatory failures
- identify policy options based on the consumer segments impacted by market and / or regulatory failures

— identify the gaps in the existing sources of assistance to consumers
— guide the design of services and tools to help consumers manage their energy bills.

FIGURE 1.1 POWER SHIFT RESEARCH AND OUTCOMES

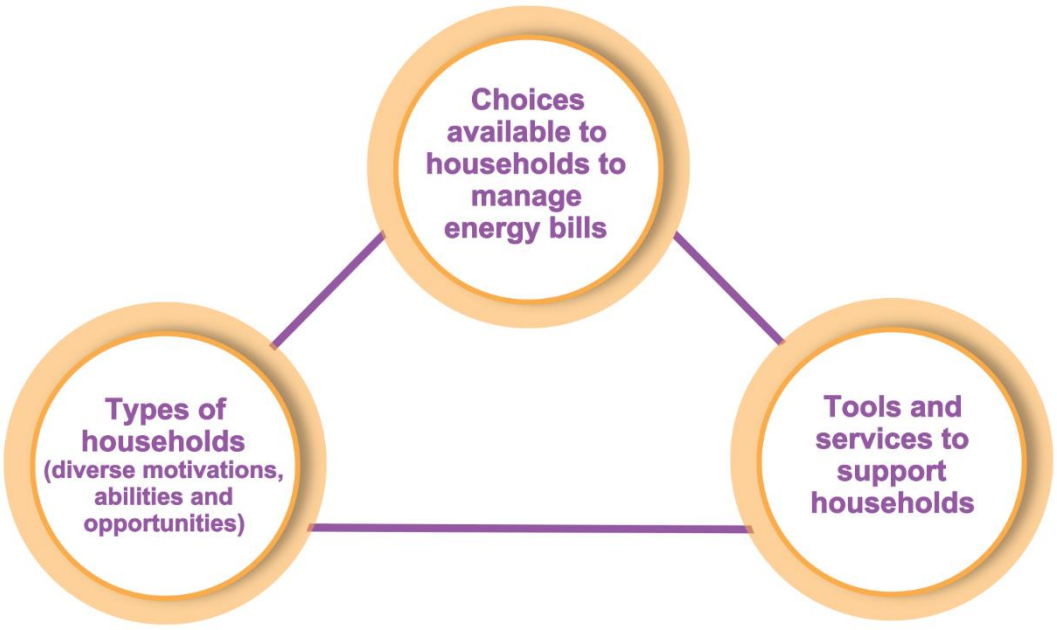


SOURCE: ACIL ALLEN CONSULTING.

To meet the project objectives, it was necessary to (see Figure 1.2):

— understand the range of choices that households have to manage their energy bills
— identify the different types of Australian households and their diverse motivations, abilities and opportunities to manage their energy bills
— identify the range of tools and services that could support different types of Australian households to make different types of choices to manage their energy bills.

FIGURE 1.2 EMPOWERING HOUSEHOLDS TO MANAGE ENERGY BILLS



SOURCE: ACIL ALLEN CONSULTING.

1.2 Methodology for this project

The project was undertaken in five phases (see Figure 1.3).

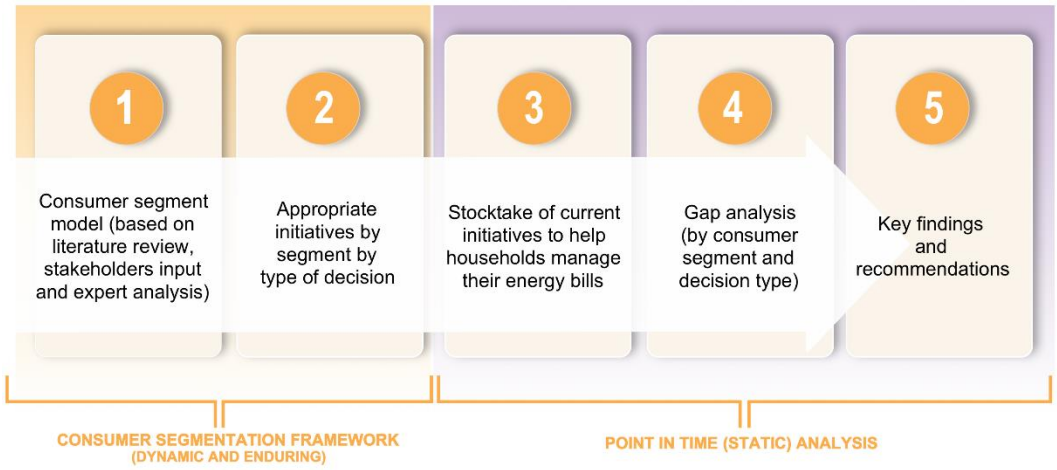
- The first phase involved identifying the different types of households by developing a consumer segmentation model based on a review of literature, stakeholder consultations and expert analysis.
- The second phase of the project entailed the identification of initiatives (tools and services) that are appropriate for each type of household to manage their energy bills.
- The third phase of the project involved undertaking a stocktake of existing sources of assistance for households to manage their energy bills and mapping this assistance to the different types of households.
- The fourth phase of the project entailed mapping using the initiatives that are appropriate for each type of household for each type of choice and the stocktake of current assistance in a mapping process, to identify gaps in the current sources of assistance provided to households.
- Based on the gaps identified in the previous phase, the fifth phase involved developing recommendations on actions that policy-makers can undertake to empower consumers to manage their energy bills.

Taken together, the first and second phases of the project represent a consumer segmentation framework that is *enduring and dynamic* and can be used to inform policy makers on:

- the tools and services that could support a particular type of choice that could be made by households to manage their energy bills
- a particular type of tool or service that could be considered to support households to choose to manage their energy bills
- the tools and services that support a particular group of households to manage their energy bills.

In contrast, the other elements of the project (the stocktake of current initiatives and corresponding gap analysis and recommendations) are by nature *static* as they are based on analysis at a point in time.

FIGURE 1.3 PROJECT PHASES



SOURCE: ACIL ALLEN CONSULTING.

1.3 Structure of this report

The rest of this report is structured as follows.

— Chapter 2 provides background information as context for the development of the consumer segmentation framework, including identifying the types of choices that households may make to manage their energy bills.

— Chapter 3 identifies the design criteria that were developed to guide the selection (or 'filtering') of plausible consumer segmentation models that were identified through a literature search, and the development of the consumer segmentation framework itself.

— Chapter 4 provides a high-level overview of consumer segmentation models identified through the literature search and an assessment of those models against the design criteria.

— A consumer segmentation model for households managing energy bills is developed and assessed against the design criteria in Chapter5.

— Potential types of initiatives to support households to manage household bills are identified in Chapter 6, and the appropriate types of initiatives for each consumer segment are mapped.

— The consumer segmentation framework, which combines the consumer segmentation model and the appropriate types of initiatives by segment, is brought together in Chapter 7.

— Chapter 8 provides a stocktake of the initiatives, tools and services currently available in Australia to help households manage their energy bills.

— Chapter 9 maps the existing initiatives, tools and services to each consumer segment.

— Chapter 10 describes how the consumer segmentation framework can be used by policy makers.

— Chapter 11 provides our recommendations about priority opportunities for policy-makers and areas for future research.

— Appendix A summarises the literature reviewed through the desktop research.

— Appendix B assesses the segmentation models found in the literature against the design principles outlined in Chapter 3.

— Appendix C provides details of the attendees to the stakeholder consultations conducted for this research. ACIL Allen thanks all participants for their input into this project.

— Appendix D provides additional information about the initiatives, tools and services currently available in Australia to help households to manage their energy bills.

2 BACKGROUND

This chapter provides background information as context for the development of the consumer segmentation framework. Section 2.1 considers the types of choices that households may make to manage their energy bills and section 2.2 describes what is meant by "segmentation".

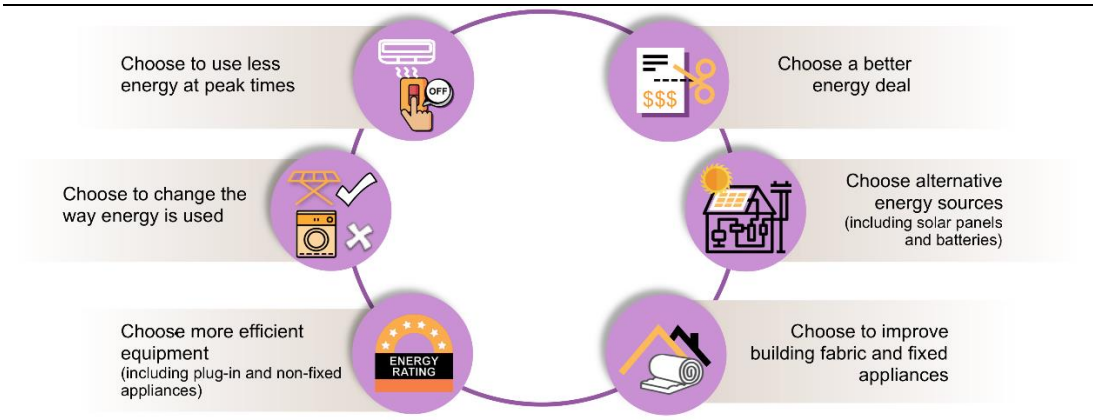
2.1 Managing household energy bills

There are a range of choices that households may make that have an effect on their energy bills. Household consumers can choose (see Figure 2.1):

- a better energy deal
- alternative energy sources (e.g. solar panels and batteries)
- to improve building fabric and fixed appliances
- more energy efficient equipment and plug in appliances
- to change the way energy is used
- to use less energy at peak times.

These choices are discussed in more detail in the sections below.

FIGURE 2.1 CHOICES AVAILABLE TO HOUSEHOLDS TO MANAGE THEIR ENERGY BILLS



SOURCE: ACIL ALLEN CONSULTING.

2.1.1 Choose a better energy deal

Household consumers can manage their energy bills by choosing a better energy deal.

The retail energy market is now open to competition in most Australian jurisdictions. In those jurisdictions, there are a range of energy deals on offer by retailers. Households may be able to better manage their energy bill by choosing a better energy deal. The energy deal may have lower rates, a different structure or different payment arrangements.

Retailers generally have a range of energy retail pricing offers available to consumers. The retailers' market offers are generally priced significantly below their default or standing offer. Household consumers can therefore reduce their energy bill by switching from a default or standing offer to a market offer. However, despite these savings, some consumers remain on a default or standing offer.

Smart electricity meters have been rolled out in Victoria and in some parts of Western Australia. Consumers in other jurisdictions can choose to have a smart electricity meter installed.[2] Once a smart electricity meter has been installed, consumers are able to access a broader range of electricity retail pricing offers that cannot be offered without the data from a smart meter.[3]

Many consumers, particularly those with a "flat" load[4], should be able to reduce their energy bill if they switched to an electricity retail pricing offer that included a demand component. This type of retail pricing offer is commonly referred to as a more "cost reflective tariff". However, to date, a very small proportion of consumers have switched to these types of tariffs in Australia.[5]

A household's energy bill may also be reduced by lowering the effective retail tariff through a government concession, or more manageable by moving to a payment plan or an offer that allows the bill to be smoothed.

A household is most likely to choose to move to a better energy deal:

- after receiving an energy bill, particularly if it is higher than expected
- at the end of their existing energy contract
- in response to an offer made by a retailer
- when there is a change in financial circumstances, for example, if a member of the household loses their job
- when there is a change in personal circumstances, for example, a member of the household becomes ill and is entitled to apply for a medical concession
- when they are moving home.

2.1.2 Choose alternative energy sources

Consumers can choose to manage their energy bills by switching to alternative sources of energy, for example, by installing solar panels and/or batteries.

Households are increasingly moving away from buying all their energy through their retailer, to generating their own energy through, for example, solar panels on their rooftop and using batteries to store that energy for later use. While the upfront costs are relatively significant, the ongoing costs are relatively low and the household is able to lower their energy bill from the retailer.

A household is most likely to choose to install an alternative source of energy:[6]

- after receiving an energy bill, particularly if it is higher than expected
- when they are renovating their home

[2] For instance, while smart meters are not mandatory in South Australia, with the commencement of competition in metering rule changes in 2017, a smart meter will be installed where there is the need for a new or replacement meter.
[3] Such as time of use tariffs and demand tariffs.
[4] A flat load is one that is relatively consistent across the day. By way of comparison, a peaky load is one which varies significantly across the day. This may occur when a home is unoccupied for much of the day with large appliances turned on for relatively short periods of time. A household with a flat load has a lower demand and higher energy consumption than a household with a peaky load.
[5] Approximately 92 per cent of customers in the National Electricity Market are still assigned to volume tariffs (ENA, 2017).
[6] Additional insights about the motivators consumers have for investing in new technology like solar and battery storage can be found in a research piece commissioned by ECA on Usage of solar electricity in the national energy market (http://energyconsumersaustralia.com.au/wp-content/uploads/UMR-Usage-of-solar-electricity-in-the-national-energy-market.pdf).

- when they are moving home
- when they are building a new home
- in response to environmental concerns about the energy supplied through the network
- in response to a loss of supply
- to take up a new technology
- when there is a change in financial circumstances as a means of paying an amount upfront to reduce energy bills on an ongoing basis
- in response to becoming eligible for a scheme that subsidises the installation of an alternative source of energy
- in response to an offer to install an alternative source of energy.

There have been a number of initiatives to encourage the installation of solar panels, including rebates and regulated minimum feed-in tariffs. The installation of batteries by households is a relatively new phenomenon.

2.1.3 Choose to improve building fabric and fixed appliances

Households can reduce the amount of energy that is needed to heat their home in winter and cool their home in summer by improving the building fabric and fixed appliances. Alternatively, households can improve their level of comfort, and their health and wellbeing, by making these improvements and using the same amount of energy.

A building's fabric refers to the ceiling, walls, windows, floors and doors of a building and it plays a leading role in the energy efficiency of a structure.

Fixed appliances refer to those appliances that are installed at a specific location and that once installed, they become permanent or are not easily moved from place to place in normal use. Examples of fixed appliances are hot-water heaters and central air-conditioning units.

In contrast to households who own the property they live in, in the private rental market, tenants, landlords and property managers all have a part to play in the choice to improve the building fabric and install energy efficient fixed appliances. The mismatch in incentives between landlords that invest in energy saving devices and tenants that benefit from them (known as split incentives) is a key barrier in the uptake of energy saving measures related to building fabric and fixed appliances.

A household is most likely to choose to improve their house's fabric and/or fixed appliances:

- when they are building a home
- when they are moving into a new home
- when they are renovating their home
- in response to becoming eligible for a scheme that subsidises the improvement to the building fabric or more energy efficient fixed appliances
- as their existing fixed appliances are due for replacement or fail.

2.1.4 Choose more efficient plug in appliances

Similarly, households can replace their plug in appliances with more energy efficient models and reduce the amount of energy that is needed. Alternatively, they can improve their level of comfort, and their health and wellbeing, by making these changes and using the same amount of energy.

More energy efficient plug in appliances includes TVs and fridges.

Over the last few decades there has been a proliferation of programs designed and implemented to assist consumers to take up energy efficiency initiatives. The types of programs have included:

- grants and rebates
- white certificate schemes
- retailer obligations
- communications campaigns

- labelling
- advice and information
- energy audits, either in home or by phone
- regulating minimum standards (both for buildings and appliances).

Some of these programs have been funded by governments (such as grants and rebates), while others have been funded by consumers (such as white certificate schemes and retailer obligations). Some programs have been highly targeted (such as energy audits for specific cohorts) while others have not been targeted (such as some white certificate schemes).

Traditionally, energy efficiency initiatives have been justified based on the energy savings alone. We recently developed a framework for the ECA to enable the multiple impacts of household energy efficiency to be assessed (ACIL Allen, 2017). Energy efficiency initiatives may, for example, improve the health and wellbeing of household consumers, particularly if the energy efficiency initiatives are targeted towards those who sacrifice physical comfort to reduce energy bills. These other benefits may exceed the benefits associated with energy savings, and thus justify more energy efficiency initiatives than have been undertaken historically. However, resources are limited, and so these initiatives need to be delivered efficiently and effectively.

A household is most likely to choose to install more energy efficient equipment:

- as their existing equipment and appliances are due for replacement or fail
- when they are renovating their home
- when they are moving home
- in response to becoming eligible for a scheme that subsidises the more energy efficient equipment and appliances.

2.1.5 Choose to change the way energy is used

Households can manage their energy bills by changing the way they use energy. For example, they may choose to hang up wet clothes to dry rather than use a clothes dryer, to put on warmer clothes and turn down space heating or use window coverings to keep the home cooler rather than turn on an air conditioner.

A household may choose to change the way they use energy any time. However, such a choice is more likely to occur:

- after receiving an energy bill, particularly if it is higher than expected
- when there is a change in personal or financial circumstances, for example, if a member of the household loses their job or becomes ill
- after experiencing a loss of supply if the household chooses to sustain a reduction in energy usage that may have been forced upon them by circumstances.

2.1.6 Choose to use less energy at peak times

If the household is on a retail energy deal where the cost of electricity is higher at certain times of day or has a separate component for the maximum amount of electricity used during peak times, the household can manage their energy bills by using less energy at those times of day. For example, the household could run the dishwasher or washing machine overnight, run only one of the dishwasher, washing machine and air conditioner at the same time in the middle of the day, or set the air conditioner at a higher temperature.

Some initiatives that use less energy at certain times of day overlap with energy efficiency initiatives. For example, a more energy efficient refrigerator may also contribute to a reduction in the energy use when the cost of electricity is higher.

However, other initiatives to manage energy use at certain times of the day are quite distinct. For example, the household may choose to have a device to automatically reduce their load should it exceed a certain level, or this may be done for the household by a third party.

A household is most likely to choose to use less energy at peak times:

- if they are on a tariff with a higher rate at certain times of day or if they pay a separate component for the highest amount of electricity used during peak times:
  - after receiving an energy bill, particularly if it is higher than expected
  - when there is a change in financial circumstances, for example, if a member of the household loses their job
- in response to concerns about the ability of the electricity system to meet the peak demand for that day
- in response to a loss of supply due to a supply shortage or insufficient capacity in the local network
- in response to offers by third parties to manage their peak demand.

As only a very small proportion of households in Australia have switched to tariffs that charge more at peak times or include a separate component for the highest amount of electricity used during peak times, there are commensurately fewer initiatives specifically directed to residential consumers to use less energy at peak times.[7]

2.2 Segmenting households

As discussed in the previous section, governments and industry may introduce initiatives to assist residential households to manage their energy bills by:

- changing to a better energy deal
- installing alternative energy sources
- improving building fabric and fixed appliances
- installing more energy efficient equipment and plug in appliances
- changing the way energy is used
- using less energy at peak times.

Any initiatives may be broad based or may be targeted to a particular type of household. If the initiatives are to be targeted to a particular type of household, that type of household will need to be defined.

Consumer segmentation divides households into more manageable segments on the basis of commonality. The objective is to define a small number of segments so that:

- all members of a distinct segment are as similar to each other as possible (homogeneous)
- each group is as different to each other as possible (heterogeneous) (Russell-Bennett et al. 2017a, p. 25).

A review of the literature (refer Appendix A), reveals that households have most commonly been segmented on the basis of a variety of attributes including demographic or geographic attributes, values, attitudes and preferences. Segmentation is commonly undertaken through statistical analysis of the results from surveys. The different approaches to segmentation are discussed further in Chapter 4.

[7] Please refer to Chapter 8 for a stocktake of initiatives currently available to help households to manage their energy bills.

3 DESIGN CRITERIA

A literature search has been undertaken to identify consumer segmentation models that could be used to inform policy makers in the development of better tools and services to help diverse household consumers manage their energy bills. However, not all types of segmentation models in the literature would be suitable for use by policy-makers. Some may be too complex or require a significant amount of work to be applied for program design and/or implementation.

A set of design criteria has been developed that can guide:

- the selection (or 'filtering') of plausible segmentation models that can be used as a basis to develop a segmentation framework for the targeted users of the framework (primarily policy-makers)
- the development of the consumer segmentation framework itself.

The development of the design criteria has been informed through a literature search and consultation with stakeholders.

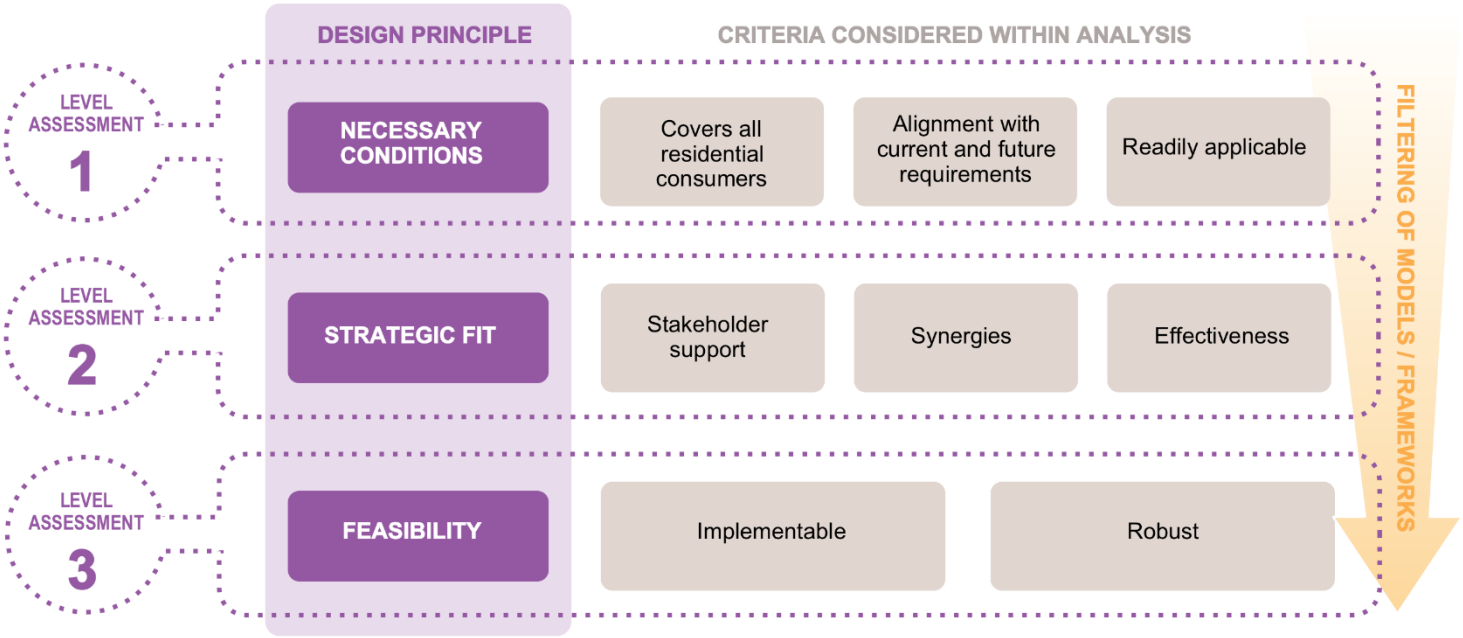
The design criteria comprise three high level principles—necessary conditions, strategic fit and feasibility, as illustrated in Figure 3.1.

Necessary conditions

The first level of assessment involves defining the necessary conditions that the framework will need to meet. The criteria under this design principle are that the framework:

- covers all residential energy consumers—that is, it can be used to develop policies for different consumer segments, not just for vulnerable or low-income consumers
- aligns with current and future requirements—this refers to the framework being able to:
  - meet stakeholders' current requirements (that is, it is able to guide its users—primarily, policy-makers—in the development of new tools and services for residential energy consumers that can be appropriately targeted)
  - be enduring (that is, it can readily adapt to the ongoing transformation of the energy market and other innovations, including how new types of services and technologies are changing the ways in which consumers are using energy and are engaged with their energy use, and changing communications channels)
  - be flexible enough to be refined in the future and adaptable to accommodate consumers' changing circumstances
- is readily applicable—that is, the framework is relevant, pragmatic, describes segments based on readily identifiable characteristics, and provides insights that can be readily used by policy-makers and other users to guide the development of better tools and policies to help households manage their energy bills.

FIGURE 3.1 PROPOSED DESIGN CRITERIA



SOURCE: ACIL ALLEN CONSULTING.

Strategic fit

The second level of assessment involves criteria to ensure the framework's strategic fit. These criteria include:

- stakeholder support—this criterion refers to the framework being supported by those stakeholders who are most likely to use it, in particular policy-makers, retailers and support agencies
- synergies—that is, the framework accounts for any relevant complementarities or synergies with existing segmentation models
- effectiveness—this refers to the framework's ability to identify a manageable number of segments that are sufficiently heterogeneous, and each contain consumers that are sufficiently homogeneous to minimise the risk of unintended consequences for some consumers within a segment when the framework is applied.

Feasibility

The final level of assessment involves criteria to ensure the feasibility of the framework developed. These criteria aim to ensure that the developed framework is:

- implementable — this refers to the framework being based on data that is already available to support its application (that is, it relates to the practical hurdles faced when implementing the framework)
- robust — that is, users of the framework can be confident that the data that is available to support the application of the framework is robust.

4 CONSUMER SEGMENTATION MODELS IDENTIFIED

This chapter provides a high-level overview of the consumer segmentation models that have been identified through a literature search (section 4.1) and an assessment of these models against the design criteria (section 4.2).

4.1 High level overview of consumer segmentation models identified

A literature search has identified a range of consumer segmentation models, which are summarised in Appendix A. These models differ with respect to:

- the approach to segmenting consumers, which is discussed in section 4.1.1
- the types of attributes that are used to segment consumers, which are discussed in section 4.1.2
- the number of dimensions in the consumer segmentation model, which is discussed in section 4.1.3.

While some consumer segmentation models identified the types of initiatives that are relevant to different types of consumers, many did not. The types of initiatives that are identified are discussed in section 4.1.4.

4.1.1 Approach to segmentation

The literature search has identified three broad approaches to segmentation—statistical analysis of survey data, sectoral segmentation, and the development of conceptual models.

Consumer segmentation models that are developed by analysing survey data are generally very specific to the research question. The literature has identified consumer segmentation models that relate to energy use, energy efficiency, demand management, tariff reform and environmental initiatives. For instance, CitySmart (Russell-Bennett et.al. 2017b) focused on consumer attitudes to technology, and the role that could play in empowering consumers to take up and respond to new electricity retail pricing offers. None of the consumer segmentation models reviewed considered the management of energy bills more broadly.

Consumer segmentation models that are developed by analysing survey data are constrained by the sample that has been surveyed. Generally, in the conduct of the survey, efforts are expended to recruit a representative sample, but inevitably surveys will rarely capture the most disengaged and disadvantaged households.

A consumer segmentation model that was developed by the Group of Energy Efficiency Researchers Australia (GEERA) by assessing information from the Commonwealth Government's Low Income Energy Efficiency Program was the study most likely to include these consumers as it was focused on low income consumers, but it only captured those that were "Ready to Engage" (Russell-Bennett et.al. 2017a). The Australian Energy Market Commission's (AEMC's) 2016 annual review of retail competition in the National Energy Market (NEM) also undertook a segmentation analysis of

vulnerable consumers to understand the broad extent and nature of vulnerability in the energy market, and to, in turn, help identify ways to better meet the needs of the most vulnerable consumers (AEMC 2016).

Survey data are also subject to a range of biases. Participants may respond in what they perceive to be a socially desirable way, and report perceptions rather than actual behaviour. The survey instrument may be biased if it leads participants in the way to respond.

Some segmentation models were developed by segmenting sectors. For example, Southern California Edison Company segments their markets by sectors (e.g. residential and non-residential) and sub-sectors (e.g. multi-family, affordable housing, manufactured housing, etc.) (Moss and Cubed 2008). Similarly, the Pacific Gas and Electric Company in California segments their market by sectors (e.g. agriculture, residential, commercial, etc.), then by mass (e.g. small and large commercial) and finally by targeted markets (e.g. medical facilities, schools or universities) (Moss and Cubed 2008). While these models capture all households, they are described more by market characteristics than by the characteristics of the specific consumer.

Some of the consumer segmentation models reviewed were conceptual models. Zhang et al. (2012) developed a conceptual model through a review of existing literature, in particular, a survey-based framework for pro-environmental behaviours developed by the UK Department for Environment, Food and Rural Affairs (DEFRA). In the Electricity Network Transformation Roadmap, CSIRO and the Energy Networks Association (ENA) explored a range of plausible representative residential customer segments along a market adoption curve to provide a basis for analysing electricity solutions that different customer types are likely to value in the future (CSIRO and ENA 2015). While these conceptual models identified consumer segments, they did not identify the size of each of the segments.

In a review of models of decision making, Wilson and Dowlatabaldi (2007) discussed a technology adoption and attitude-based decision model that can be used to segment the population targeted for an initiative. This segmentation is done based on the different stages in the decision-making process — knowledge, persuasion, decision, implementation and confirmation. Ohnmacht et al. (2017) similarly develop a model based on four phases of behaviour change—predecision, preaction, action and postaction.

4.1.2 Attributes

The literature search identified a range of attributes that have been used to segment consumers. These can be broadly classified as:

— demographic variables, which include age, gender, income, ethnicity, nationality, marital status, education, occupation, household size, etc.

— geographic variables, which include city, state, postcode, region, metropolitan or rural location, population density, climate, population growth rate, etc.

— psychographic variables, which include attitudes, values, opinions, interests, lifestyle, hobbies, risk aversion, personality traits, leadership traits, magazines read, television programs watched, etc.

— behavioural variables include: brand loyalty, usage level, benefits sought, distribution channels used, reaction to marketing factors, etc.

While some of these variables rely on data that is readily available, for example demographic and geographic variables, others rely on data that can only be obtained through surveys, for example, psychographic and behavioural variables. However, segmentation on the basis of demographic and geographic variables alone is highly unlikely to result in consumer segments that are sufficiently similar (homogeneous).

4.1.3 Number of dimensions

The number of dimensions identified by the consumer segmentation models varies. For example:

— One dimension – the NSW Office of the Environment and Heritage (OEH – previously the Department of Energy and Conservation, DEC) has developed a one-dimensional model with four segments. The dimension modelled is the degree of environmental interest, knowledge and behaviours (NSW

DEC 2006). Accenture (2011) identified six consumer segments based on their characteristics about adoption of in-home technologies, electricity management programs and related products and services. CitySmart (Russell-Bennett et.al. 2017b) identified six segments based on the ways that household goals were set, and then profiled each of these segments based on attitudes and preferences for using technology, and attitude and preferences to gathering information.

— Two dimensions – DEFRA has developed a two-dimensional model with seven segments. The dimensions modelled are the willingness to act and the ability to act or potential to do more (DEFRA 2008). IBM Global Business Services (2007) segmented residential and small commercial electric power customers based on two dimensions: personal initiative (their willingness to make decisions and take action based on specific goals) and disposable income.

— Three dimensions – Zhang et al. (2012) developed a three dimensional model with eight segments. The dimensions modelled are the property energy efficiency level, greenness of behaviour and the duration of daytime occupancy. GEERA (Russell-Bennett et.al. 2017a) identified three segments based on geographic, demographic, psychographic and behavioural attributes and then characterised each of these segments using three dimensions – motivation, opportunity and ability to act.

Many studies use a range of attributes to identify a manageable number of segments based on statistical analysis of survey results, which are then presented as a one dimensional model. For example, McKinsey (2013) identified five segments of consumers based on specific combinations of three attributes (energy saving behaviour, environmental consciousness and interest in new technologies). If segments had been identified using a three dimensional model, there would have been at least eight segments rather than five.

4.1.4 Identification of initiatives by segment

A few of the consumer segmentation models in the literature identified types of initiatives by segment. Additionally, a couple of studies identified initiatives appropriate at different stages of the decision-making process or the phases of behaviour change.

Three of the consumer segmentation models identified generic types of initiatives (DEFRA, GEERA and CitySmart). For example, DEFRA (2008) identified that for those that are willing and able, initiatives should enable and engage; for those that are less willing but able, initiatives should enable, encourage and, in particular, exemplify; and for those that are less willing and less able, initiatives should enable and encourage.

Initiatives that enable include removing barriers, giving information, providing facilities, providing viable alternatives, educating/training/providing skills, and providing capacity. Initiatives that engage include community action, co-production, deliberative fora, personal contacts / enthusiasts, media campaign / opinion formers, and using networks. Initiatives that exemplify include leading by example, and achieving consistency in policies, and initiatives that encourage include the tax system, expenditure—grants, reward schemes, recognition / social pressure—league tables, penalties, fines and enforcement action (DEFRA 2008).

GEERA identified three types of initiatives (Russell-Bennett et.al. 2017a):

— Education (Tell Me) (e.g. awareness campaigns, communication and outreach sessions)—these are relevant when consumers are motivated to be energy efficient, have the affordability and ability to engage in energy efficient behaviours and just need the information to get going. The application of education is to 'tell' consumers about a behaviour and assumes that social change is the result of closing the information-gap.

— Regulation (Make Me) (via new policy)—this is a tool to use when consumers have the opportunity and ability to be energy efficient, but are not motivated and when urgent change is necessary. The application of legal requirements is to 'make' consumers perform a behaviour and assumes that social change will not occur in the desired timeframe voluntarily.

— Social marketing (Help Me) (behaviour change programs)—this is a tool to use when consumers are motivated but lack either the ability or opportunity to be energy efficient. The application of social marketing is to 'help' consumers perform a behaviour and assumes that social change is the result of goods and services that provide more customer value than the competition at the right social price, using the right distribution channels and service delivery with the right communication.

These three types of initiatives were also identified in the CitySmart study (Russell-Bennett et.al. 2017b). The CitySmart study indicated that a combination of education, regulation and social marketing is often required to be effective. Using policy alone may create resistance and resentment.

Conversely, Zhang et al. (2012) identified very specific energy efficient initiatives for each segment, categorised by technological (e.g. smart meters), social-technological (e.g. lower or higher council tax rates) and behavioural change by end-users (e.g. encouraging community spirit). The specific initiatives for each of the eight segments identified by the authors are set out in Box 4.1.

BOX 4.1 EXAMPLE OF ENERGY EFFICIENCY INITIATIVES BY CONSUMER SEGMENT

1. ***Pioneer greens*** (efficient, green, short daytime occupancy) – smart meters and domestic microgeneration; set a lower council tax rate for the high energy efficiency of properties; Give Green Awards for consuming less energy, give more tips about how to save energy at home, encourage them to sign up to variable tariffs
2. ***Follower greens*** (not efficient, green, short daytime occupancy) – insulation to improve property energy efficiency, smart meters, set a higher council tax rate for the low energy efficiency of properties, offer government sponsored property energy efficiency checks, work with estate agents or private landlords to promote Energy Performance Contracts (EPCs)[8], encourage them to sign up to variable tariffs
3. ***Concerned greens*** (not efficient, green, long daytime occupancy) – insulation to improve property energy efficiency, smart meters, set a higher council tax rate for the low energy efficiency of properties, offer government sponsored property energy efficiency checks, work with estate agents or private landlords to promote EPCs, encourage them to sign up to variable tariffs (as above)
4. ***Home-stayers*** (efficient, green, long daytime occupancy) – smart meters and domestic microgeneration, set a lower council tax rate for the high energy efficiency of properties; give more tips about how to save energy at home, encourage them to sign up to variable tariffs
5. ***Unconscientious wasters*** (efficient, not green, short daytime occupancy) – enhance their energy awareness by providing educational programmes, loan energy readers, energy audits – quantitative league tables, use of social networking to highlight energy issues and opportunities, encourage community spirit, signing up to commitments/charters
6. ***Regular wasters*** (not efficient, not green, short daytime occupancy) – insulation to improve property energy efficiency, set a higher council tax rate for the low energy efficiency of properties, offer government sponsored property energy efficiency checks, enhance their energy awareness by providing educational programmes, energy audits – quantitative league tables, use of social networking to highlight energy issues and opportunities, encourage community spirit
7. ***Daytime wasters*** (efficient, not green, long daytime occupancy) – enhance their energy awareness by providing educational programmes, loan energy readers, work with property management companies to introduce incentives to encourage energy saving, energy audits – quantitative league tables, use of social networking to highlight energy issues and opportunities, encourage community spirit, signing up to commitments/charters
8. ***Disengaged wasters*** (not efficient, not green, long daytime occupancy) – mandate insulation to improve property energy efficiency, set a higher council tax rate for the low energy efficiency of properties, offer government sponsored property energy efficiency checks, mandate the requirement of EPCs, energy audits – quantitative league tables, use of social networking to highlight energy issues and opportunities, encourage community spirit, signing up to commitments/charters.

SOURCE: ZHANG, T., SIEBERS P.O AND AICKELIN U. 2012.

Ohnmacht et al. (2017) identified initiatives that were appropriate at each of the four phases of behaviour change. These are set out in Table 4.1.

[8] Energy Performance Contracting is when an energy service company is engaged to improve the energy efficiency of a facility, with the guaranteed savings paying for the capital investment required to implement improvements.

TABLE 4.1 EXAMPLE OF INITIATIVES BY PHASES OF BEHAVIOUR CHANGE PROCESS

Stage in the decision-making process	Initiatives
Predecison	– Normative persuasion and communication with arguments concerning social norms and values e.g. social events – Role models / opinion leaders – Positive / negative emotional persuasion e.g. mass media campaigns – Declarative knowledge about personal responsibility and to enhance problem awareness – Government regulatory instruments e.g. laws and policies – Command and control instruments e.g. labels, product standards – Effectiveness knowledge
Preaction	– Declarative knowledge – Knowledge of effectiveness – Services, infrastructures, design, technology – Economic instruments e.g. subsidies
Action	– Diffusion of procedural knowledge – Goal setting, private commitment, social commitment, contracts
Postaction	– Requests – Reminders and feedback – Community –based strategies, e.g. positive social reinforcement

SOURCE: OHNMACHT, T., SCHAFFNER, D., WEIBEL, C., SCHAD, H.. 2017.

Some segmentation models developed by / for utilities also provide information about programs that can be offered to different consumer segments. For instance, IBM Global Business Services (2007) identified very specific strategies and offerings that utilities could use for each segment, categorised by technology leveraged, service packages and communication. The specific initiatives for each of the four segments identified by the authors are set out in Table 4.2.

TABLE 4.2 STRATEGIES AND OFFERINGS THAT UTILITIES COULD USE FOR DIFFERENT CONSUMER SEGMENTS

	Consumer segment		
	Passive Ratepayers/ Energy Epicures	Frugal Goal Seekers	Energy Stalwarts
Technology leveraged	– Traditional generation – Traditional distribution networks	– Utility-owned renewables – Low-cost (to consumer) intelligent network capabilities [a]	– Self-generation – Utility-owned renewables – Full-spectrum intelligent network capabilities [a]
Service packages	– Traditional utility service – Remote notification (Energy Epicures)	– Time-of-use program – Efficiency incentives – Subsidized programs	– Green power packages – Grid power with backup power system – Time-of-use program – Remote notification

	Consumer segment		
	Passive Ratepayers/ Energy Epicures	Frugal Goal Seekers	Energy Stalwarts
Communication	– Targeted bill inserts (best candidates from customer analysis) – Public education/mass media outreach	– Public education/mass media outreach – Association/interest group messaging – Financial incentives/assistance – Product tie-ins – Corporate social responsibility publicity	– Direct marketing – Special interest media (magazines, Web sites) – Association/interest group messaging – Product tie-ins

[a] Intelligent network capabilities include smart meters as well as network automation and analytics.

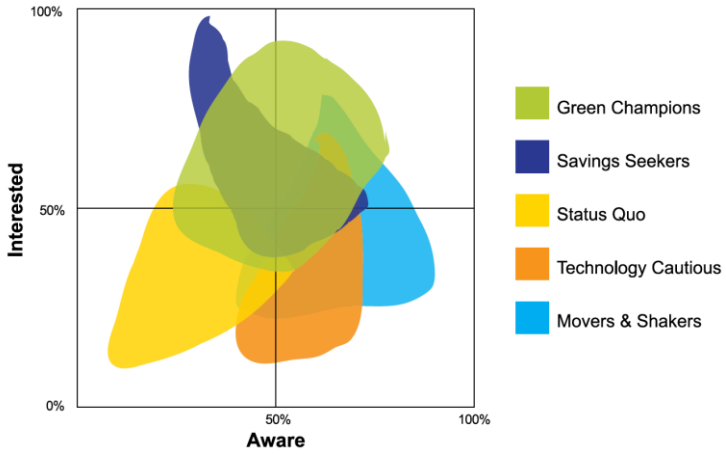
Note: Passive Ratepayers are consumers who are relatively uninvolved with decisions related to energy usage and uninterested in taking (or unable to take) responsibility for these decisions. Frugal Goal Seekers are consumers who are willing to take modest action to address specific goals or needs related to energy usage, but are constrained in what they are able to do because disposable income is limited. Energy Epicures are high-usage consumers who have little or no desire for conservation or active involvement in energy control. Energy Stalwarts are consumers who have specific goals or needs related to energy usage and have both the income and desire to act on those goals.

SOURCE: IBM GLOBAL BUSINESS SERVICES, 2007.

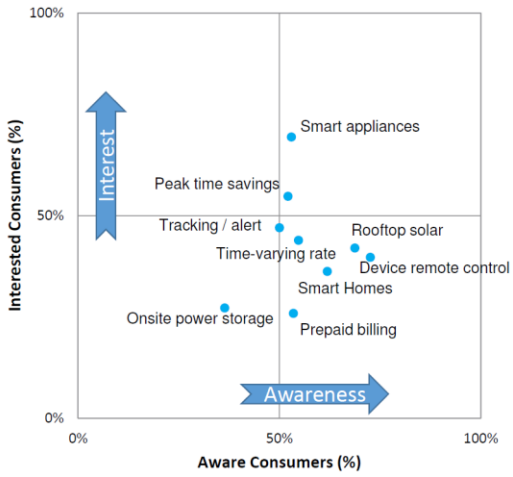
The Smart Grid Consumer Collaborative (SGCC, 2017) identified six consumer segments to increase consumer engagement with Smart Grid-enabled programs and technologies. An assessment of the impact of these consumer segments on the interest in, and awareness of, various smart grid offerings was undertaken and offerings by level of awareness and interest were provided (see Figure 4.1).

FIGURE 4.1 SGCC CONSUMER SEGMENTS AND POTENTIAL OFFERINGS

Consumer segments by level of awareness and interest



Potential offerings to consumers based on level of awareness and interest



SOURCE: SGCC, 2017.

4.2 Assessment of consumer segmentation models

The consumer segmentation models identified during the literature search were assessed against the design criteria discussed in Chapter 3. An overview of the assessment is provided below. A more detailed assessment is provided in Appendix B.

4.2.1 Covers all residential consumers

The only consumer segmentation models that covered all residential customers were those that were, in effect, market segmentation models rather than consumer segmentation models, and the three-dimensional conceptual model developed by Zhang et al. (2012).

Most consumer segmentation models were developed based on surveys and therefore only covered the types of consumers that respond to surveys. The consumers covered by the models were further limited in a number of studies, for example, GEERA (Russell-Bennett et.al. 2017a) and AEMC (2016) considered low income/vulnerable households only, the CitySmart model (Russell-Bennett et.al. 2017b) only considered household segments that are reachable by digital methods, and studies by Kleinschafer and Morrison (2016) considered only households in rural NSW.

The consumer segmentation framework that is being developed for this project will be a conceptual model. Accordingly, it will cover all residential customers. However, care will need to be taken to ensure that the types of consumers that will not respond to surveys are represented in the model.

4.2.2 Alignment with current and future requirements

None of the literature identified a consumer segmentation model relating to managing household energy bills. The studies focused on energy use, energy efficiency, demand management, environmental actions, pricing plans, tax compliance, superannuation, banking and mobile phones. The studies reviewed also included several models of decision making and behaviour change.

While some studies identified the tools and services that are applicable to particular consumer segments (as discussed in section 4.1.4), most did not. While some identified generic types of initiatives that enable the framework to be enduring and flexible over time as technologies change, some studies were very specific in the types of initiatives identified and thus may not be flexible to align with future needs of policy-makers.

4.2.3 Readily applicable

None of the consumer segmentation models reviewed in the literature are readily applicable for policy-makers and other users to guide the development of better tools and services to help households manage their energy bills. Notwithstanding, many of the models reviewed provide insights that have been valuable in the development of a consumer segmentation framework for empowering households to manage their energy bills.

Of particular relevance, GEERA characterised three segments of low income households through consideration of motivation, opportunity and ability, where:

- *Motivation is commonly viewed as a force that directs individuals toward specific goals (Leung & Bai, 2013). Motivation represents such constructs as readiness, willingness, interest and desire to engage in information processing (MacInnis et al., 1991) or a particular behaviour (Morel et al., 1997)*
- *Opportunity is the extent to which external circumstances prevent or facilitate engagement in a particular behaviour (Morel et al., 1997)*
- *Ability refers to the extent to which consumers have the skills or capabilities necessary to engage in certain behaviour (Hoyer and MacInnis, 1997; Morel et al., 1997).*

Russell-Bennett et.al. 2017a, p.25.

Motivation

A number of consumer segmentation models considered the motivation of consumers.

The Ontario Power Authority identified four segments (Live4Today, Budget Driven, Pragmatic Conservers and Green Champions) largely based on motivations—the value placed on energy conservation, social responsibility, maintaining lifestyle and comfort, and financial considerations (Collins 2008). Similarly, McKinsey (2013) refers to cost savings, interest in new technologies and environmental considerations, Sütterlin et al. (2011) refer to financial considerations, comfort and convenience, "making a difference" and social pressure, Wilson and Dowlatabaldi (2007) refer to comfort, cleanliness and convenience, Pedersen (2008) refers to moral obligation and CitySmart

(Russell-Bennett et.al. 2017b) refers to harmony. IBM Global Business Services (2007) segmented customers based on their willingness to make decisions and take actions (personal initiative) and income, and SGCC on their interest and awareness of smart grid offerings.

Sarkis (2016) identifies that the theory of planned behaviour is appropriate for considering behaviours with impacts on matters that are closer to the self, such as energy efficiency, as distinct from behaviours that relate to a public good, such as environmental outcomes. The theory of planned behaviour considers There factors that influence an intention to behave:

- attitude towards the behaviour—"this act will (will not) have positive consequences"
- subjective norm—"people who are important to me think that I should do (not do) this"
- perceived behaviour control—"it would be easy (difficult) for me to do this".

Opportunity

A number of consumer segmentation models refer to opportunity. For example, Kleinschefer and Morrison (2016) refer to access to capital, IBM Global Business Services (2007) refers to disposable income, Encinas et al. (2007) refer to types of dwelling, which is an indicator of the scope for improvements in building fabric, and Zhang et al. (2012) refer to the property energy efficiency levels.

Ability

Those models that refer to ability include CSIRO and ENA (2015) which refer to the rate of technology adoption, Ofgem (2016) which refers to knowledge and trust, Wilson and Dowlatabaldi (2007) which refer to awareness/understanding and attitude/perception, and Sütterlin et al. (2011) which refer to perceived self-efficacy and perceived personal efficacy.

Bandura (1990) defines perceived self-efficacy as the individual's perception that his/her effort is efficient and useful to attain a desired goal, and perceived personal efficacy as a person's perception of their ability to control their own actions and control factors that affect their life.

4.2.4 Stakeholder support

Four workshops were held with stakeholders – one to discuss the literature review, one to discuss the draft consumer segmentation model, and two to discuss the draft recommendations.[9]

A range of additional studies were identified during and following the first workshop which expanded the literature review to other sectors, including tax compliance, superannuation, banking and mobile phones, and to models of decision making and behaviour change.

The stakeholders agreed that there was no single consumer segmentation model identified that was directly applicable to segmenting households for the purposes of empowering them to manage their energy bills. The stakeholders also agreed that the models identified provided a range of useful insights.

4.2.5 Synergies

There are synergies between some of the consumer segmentation models identified. While not explicitly referring to the motivation / opportunity / ability framework, many of the models include elements of this framework.

For example, the three-dimensional conceptual model developed by Zhang et al. (2012) extends on the two-dimensional model developed by DEFRA (2008). While the DEFRA model considers the willingness (motivation) and ability to act, Zhang et al. considers the motivation (greenness of household behaviour of using energy), the ability (duration of property daytime occupancy) and the opportunity (property energy efficiency levels).

GEERA also considers motivation, ability and opportunity (Russell-Bennett et al. 2017a).

[9] Details of the attendees to these workshops are provided in Appendix C.

4.2.6 Effectiveness

Most of the consumer segmentation models identified have a manageable number of different (heterogeneous) segments. However, there is, for example, significant overlap in the consumer segments identified by SGCC (2017) and illustrated in Figure 4.1.

There appears to be significant variability (heterogeneity) within the segments in the consumer segmentation models identified. This is generally because the models are either one or two dimensional and so do not consider many attributes and / or do not consider the opportunity and ability to act.

There is a trade-off—the greater the number of segments, the more similar (homogeneous) the consumers within each segment. However, the greater the number of segments, the less manageable will be the framework.

4.2.7 Implementable

The availability of data to support the application of market segmentation models that consider demographic and geographic variables is significantly better than the availability of data to support the application of consumer segmentation models that consider psychographic and behavioural variables. Consumer segmentation models that consider psychographic and behavioural variables rely on data obtained through surveys.

It is evident that there is a clear trade-off between design criteria—consumer segmentation models that rate more highly on criteria such as alignment with current and future requirements, readily applicable and effective, rate low on the implementable criterion.

4.2.8 Robust

As discussed above, data are readily available to support the consumer segmentation models that consider demographic and geographic variables. Furthermore, the data are robust.

5 A CONSUMER SEGMENTATION MODEL FOR EMPOWERING HOUSEHOLDS TO MANAGE ENERGY BILLS

A consumer segmentation model for identifying different types of Australian households is developed in section 5.1 and its application to a number of particular household profiles is illustrated in section 5.2. The segmentation model is then assessed against the design criteria in section 5.3

5.1 Developing a consumer segmentation model

Our assessment of the consumer segmentation models identified in the literature search indicates that a motivation / ability / opportunity framework provides a sound basis for developing a consumer segmentation model to identify different types of Australian households. The motivation dimension is discussed in section 5.1.1, the ability dimension is discussed in section 5.1.2, and the opportunity dimension is discussed in section 5.1.3. The resulting consumer segments are presented in section 5.1.4.

5.1.1 Dimension 1: Motivation

A household that has high motivation is in the action phase or late in the preaction phase of the behaviour change framework as set out by Ohnmacht et al. (2017). A household that has low motivation is in the predecision phase of the decision-making framework.

A household's level of motivation to take action to manage their energy bill is influenced by the balance between the motivation to act and the inertia to not act. They will choose to act when the household's perceived benefits associated with the action are greater than the perceived costs. This will include consideration by the household of factors such as[10]:

- attitude towards the behaviour:
  - the perceived financial outlay – upfront and ongoing
  - the perceived financial payoff – upfront and ongoing
  - the importance of energy use relative to other factors
  - the time to implement the action, including the time to search options
  - perceived complexity
  - desire for new technology
  - environmental consciousness
  - cultural considerations
  - other perceived benefits associated with the behaviour, including:
    - comfort
    - health and wellbeing
    - cleanliness
    - convenience

[10] For further details on the concepts underpinning these factors, please refer to Appendix A.

- service
- autonomy

— subjective norm – "keeping up with the Joneses"

— perceived behavioural control:

– certainty of outcome
– impact on family harmony (for example, behavioural change may be more difficult in households with teenagers).

The consideration of perceived benefits and perceived costs will vary from household to household, from choice to choice, and will change over time. For example, a household may become more focused on health and wellbeing benefits associated with managing their energy bill following the birth of a child. The perceived financial outlay and payoff of a new water heater may change for a household when their existing water heater breaks down.

The segmentation of consumers is based on the net balance of these factors rather than the specifics of each factor. However, the nature of an initiative may vary based on the specifics of each factor. For example, the messaging of any communication campaign will vary depending on whether the key benefit associated with an action for a particular household is, for example, the financial payoff, comfort, health and wellbeing, or environmental consciousness.

5.1.2 Dimension 2: Ability

The ability of a household to take action to manage their energy bills will be influenced by a range of characteristics such as[11]:

— literacy, numeracy, problem solving and research skills

— language barriers

— ability to self-advocate / negotiate

— perceived self-efficacy / perceived personal efficacy

— trust in others (people and organisations)

— ability to influence household behaviour

— a general interest in, and capability using, technology.

A household's literacy, numeracy, problem solving and research skills will impact its ability to take action. In particular, a household with low numeracy and research skills is unlikely to be able to research alternative energy offers and compare the impact of those offers on their energy bills to be able to identify the best energy deal.

A household with low perceived self-efficacy and perceived personal efficacy, and/or who does not trust any information provided by others, is unable to choose to take action to manage their energy bills.

A household's ability to change behaviour or take advantage of tools or services that will help them manage their energy depends upon the behaviour of all household members. The energy account holder may have limited capacity to influence or direct the energy consumption of other habitants. This is particularly the case in shared households in which there is no clear leader in the household, and the perceived benefits of any changes in consumer behaviour are low as the energy bill is shared among the members of the household.

A household with low interest in, and capability of using, technology is unable to manage their energy bills through the use of technologies relative to households that have a high interest and capability of using technology. These households will be late adopters of new technology such as solar PV panels, battery storage, or accessing data from a smart meter via the internet to inform choices on the use of energy.

The ability of a household to manage their energy bills is less likely to change over time than their motivation and opportunity to act. That said, the household composition may change so that, for

[11] For further details on the concepts underpinning these factors, please refer to Appendix A.

example, there is greater influence over household behaviour, and literacy and numeracy skills may be positively impacted by further education or negatively impacted by an accident or illness.

The ability of a household will vary to some extent based on the type of choice that is to be made. A household that may rate low on its ability to make a highly complex decision (such as the choice to move to the best energy deal) may rate more highly on its ability to make a less complex decision (such as the choice to turn down space heating overnight).

5.1.3 Dimension 3: Opportunity

The opportunity for a household to take an action to manage its energy bill depends on a range of factors that influence their physical and behavioural flexibility such as:[12]

- scope to move to a better energy deal
- scope for improvements in building fabric
- whether the household lives in their own home or in rental or public housing
- if the household owns their own home, whether it is part of a multi-dwelling building (such as a flat or apartment)
- access to liquid funds
- scope for further reductions in energy usage, either through more energy efficient equipment or appliances or through changing the way in which energy is used
- scope to shift energy usage to times when the cost of energy is lower or to reduce the maximum amount used during peak times
- the structure of the retail tariff.

While some households may already be on the best energy deal, others may not. A household already on the best energy deal does not have the opportunity to manage their energy bill by moving to a better energy deal. Additionally, some households do not purchase energy in a competitive market and do not have the opportunity to move to a better energy deal, although some may have the opportunity to install an alternative energy source (such as solar panels) to reduce their energy bills.

Other households may have the opportunity to move to a better energy deal by moving to tariff with a lower rate (for example, with a larger discount) or moving to a tariff with a different structure (for example, a tariff with a peak and an off peak tariff). The opportunity for some of these households to move to a better energy deal may be constrained by the availability of the account holder to make the change for the household.

The opportunity to improve the building fabric is determined by the status of home ownership. If a household lives in their own home, they are able to choose to invest in improvements that they make to the building fabric, subject to access to liquid funds and whether the home is part of a multi-dwelling building. Some may have already invested in insulation, for example, while others may not and therefore have greater opportunity to improve the building fabric.

If a household lives in a multi-dwelling building (such as a flat or apartment), the household's opportunity to improve the building fabric is more limited as decisions to improve the building fabric may be subject to agreement by the strata management.

If a household lives in rental accommodation, it is dependent on their landlord to invest in improvements to the building fabric. Similarly, households in public housing are dependent on the Government to invest in building upgrades.

Living in rental accommodation may also place a constraint on the purchase of energy efficient appliances. There may be a reluctance to invest in energy efficient appliances if the tenant is likely to move in the short time and can avoid the costs to move an appliance by not investing in an energy efficient appliance.

Access to liquid funds is required to be able to invest in improvements in the building fabric and to invest in energy efficient appliances. Access to liquid funds is not required to make changes in the way that energy is used. Access to liquid funds is considered to be a better indicator of opportunity (or

[12] For further details on the concepts underpinning these factors, please refer to Appendix A.

lack of opportunity) than income as there are some households on low incomes with access to liquid funds (such as self-funded retirees) and other households on high incomes without access to liquid funds (such as young families).

While some households may be relative guzzlers of energy and have significant opportunities for reducing energy usage, there are other households that may have no further opportunities to reduce their energy usage — they may in fact already be sacrificing comfort by consuming too little energy.

Households may be able to manage their energy bills by shifting their energy usage from times when the cost of energy is high to times when the cost of energy is low, or by reducing the number of appliances that are on at any one time. However, the opportunity to do so, will depend on the structure of their retail tariff.

The opportunity for a household to act will vary over time. For example, a household may move from rental accommodation to live in their own home, in which case the opportunities to manage their energy bills increase. Alternatively, a household could move to the best energy deal and so reduce the scope for moving to a better energy deal.

The opportunity to act will also vary based on the type of choice that is to be made. A household in rental accommodation may rate low on opportunity for choices that relate to the building fabric, but may rate high on opportunity for choices that relate to the energy deal.

5.1.4 Consumer segments (types of households)

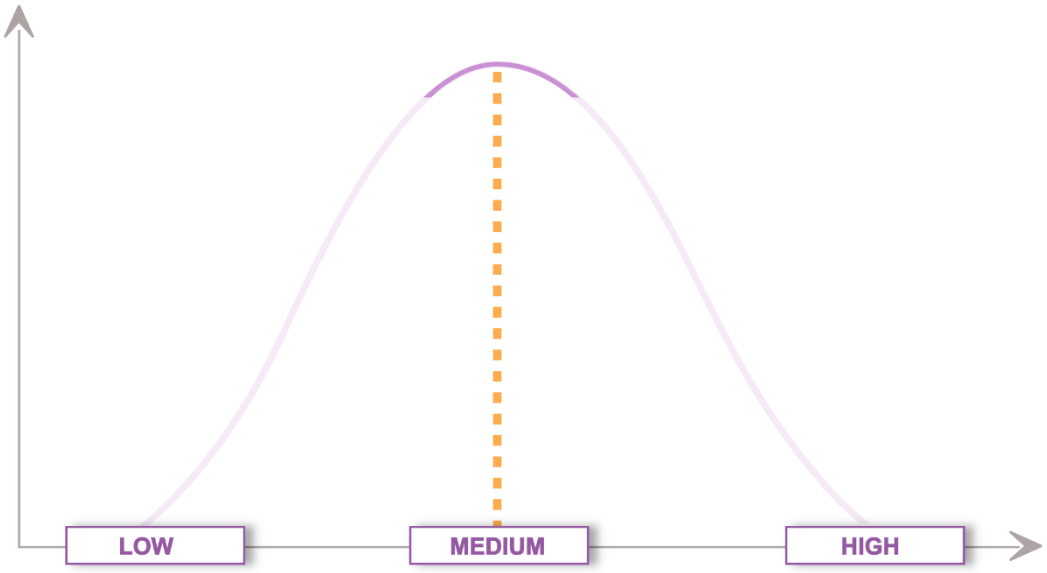
A rating of high-medium or low-medium on the three dimensions of opportunity, ability and opportunity results in the following eight consumer segments (types of households)[13]:

- **Enthusiasts** — households with a high level of ability and are enthusiastic about new ideas and technology. They are highly motivated to take action, particularly as it relates to technology (for example, installing alternative sources of energy, new energy efficient equipment and appliances and improving the building fabric) but may not pursue all opportunities (such as the best energy deal) and so there are further opportunities for taking action to manage energy bills.
- **Completers** — households with a high level of ability and motivation to manage their energy bills and so pursue all opportunities to take action to manage their energy bills as those opportunities arise. Accordingly, there are no further actions that can be taken.
- **Dependent** — households that are motivated to take action to manage their energy bills and have opportunities to do so, but have a low level of ability and therefore depend on others to help them to take action.
- **Stuck** — households that are motivated to take action to manage their energy bills, but are stuck because they have a low level of ability and no opportunities to take action to manage their energy bills.
- **Complacent** — households that have the opportunity to better manage their energy bills and have the ability to take action, but are complacent with no motivation to do so.
- **Competent** — households that have the ability to take action to manage their energy bills (are competent) but have no motivation or opportunity to take action to manage their energy bills.
- **Cautious** — households that have opportunities to better manage their bills, but have low ability to take action to manage their energy bills and so are not motivated to do so (are cautious).
- **Hard to help** — households that have no opportunities to better manage their energy bills. They have a low level of ability to seek out opportunities and are not motivated to do so. Accordingly, they are hard to help.

There will be a distribution of households across each dimension, as illustrated in Figure 5.1. There will be a proportion of households which lie in the centre of the distribution for a dimension, and a smaller proportion of households that lie in the centre of the distribution for all three dimensions. We have identified this as the ninth consumer segment and referred to it as “middle Australia”. The actual number of households that lie within this ninth consumer segment depends on how broadly “medium” is defined for each dimension.

[13] 2 x 2 x 2 = 8

FIGURE 5.1 DISTRIBUTION OF HOUSEHOLDS ACROSS ANY DIMENSION



SOURCE: ACIL ALLEN CONSULTING.

A number of studies have similarly identified a middle group. In particular, the Smart Grid Consumer Collaborative (SGCC, 2017) identified a two dimensional model with all five consumer segments intersecting in the middle (50 per cent interested; 50 per cent aware) as illustrated in Figure 4.1. DEFRA had one of their seven consumer segments at the middle of their willing to act and ability to act axes.

If a household tends towards high or low on any one (or more) dimension(s), that household will fall outside the middle segment – it will lie within one of the eight other segments defined by a high-medium or low-medium rating.

From a practical perspective, the way in which initiatives are targeted towards middle Australia, and the effectiveness of those initiatives, will be different to those in the other eight consumer segments.

For example, those with low-medium access to liquid funds may require grants or subsidies to motivate them to invest in actions to manage their energy bills, while those with medium access to liquid funds may only require loans or other form of incentive to motivate them to invest to manage their energy bills. In contrast, those with high-medium access to liquid funds do not need any additional funding to motivate them to invest in actions to manage their energy bills.

Later in the report, we identify that awareness campaigns are only appropriate to be considered for middle Australia as well as those households with high-medium motivation and ability (enthusiasts and completers). The awareness campaign is likely to be more effective for enthusiast and completers than for middle Australia.

The presence of middle Australia can be illustrated through consideration of energy deals. At the extremes of households are those that are on the best energy deal and those that remain on standing offer tariffs. There are other households that have the motivation, opportunity and ability to move to a better energy deal, but have not had the motivation, opportunity and ability to move to the best energy deal. They are on a market offer (not a standing offer) but are paying more than they would on the best energy deal.

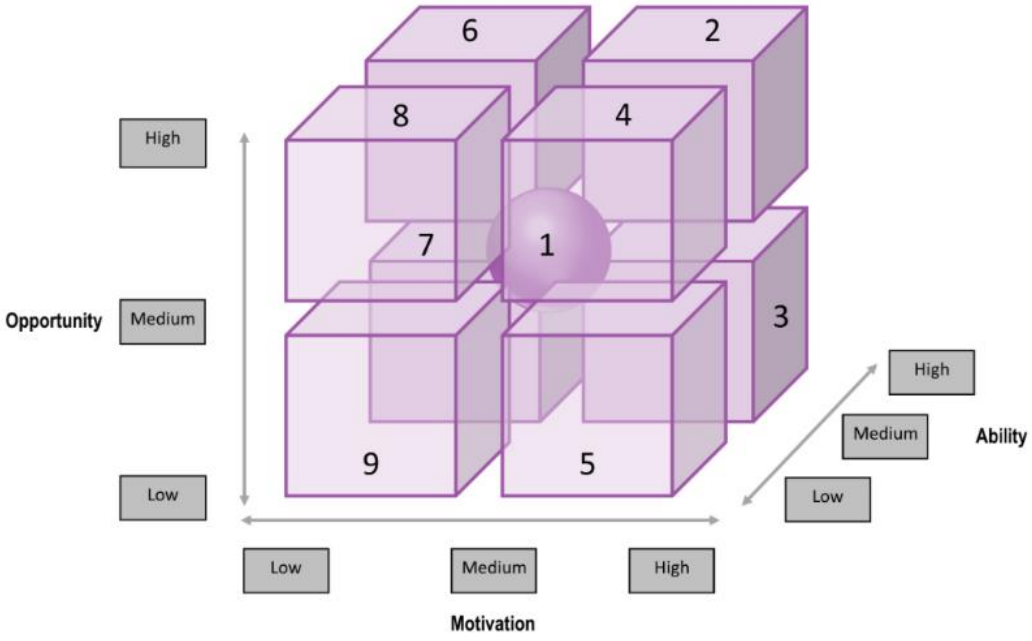
The resulting consumer segmentation model consists of nine segments as set out in Table 5.1 and illustrated in Figure 5.2.

TABLE 5.1 SEGMENTATION MODEL FOR HOUSEHOLDS MANAGING THEIR ENERGY BILLS

Type of household	Motivation	Ability	Opportunity
1. Middle Australia	Medium	Medium	Medium
2. Enthusiasts	High – Medium	High – Medium	High – Medium
3. Completers	High – Medium	High – Medium	Low – Medium
4. Dependent	High – Medium	Low – Medium	High – Medium
5. Stuck	High – Medium	Low – Medium	Low – Medium
6. Complacent	Low – Medium	High – Medium	High – Medium
7. Competent	Low – Medium	High – Medium	Low – Medium
8. Cautious	Low – Medium	Low – Medium	High – Medium
9. Hard to help	Low – Medium	Low – Medium	Low – Medium

SOURCE: ACIL ALLEN ASSESSMENT.

FIGURE 5.2 SEGMENTATION MODEL FOR HOUSEHOLDS MANAGING ENERGY BILLS



Note: 1 = Middle Australia; 2 = Enthusiasts; 3 = Completers; 4 = Dependent; 5 = Stuck; 6 = Complacent; 7 = Competent; 8 = Cautious; 9 = Hard to help

SOURCE: ACIL ALLEN ASSESSMENT.

Consumers will be assigned to different segments depending on the purpose for which the consumer segmentation model is to be applied. For example, while a household living in rental accommodation may rate low on opportunity when initiatives relating to the building fabric and fixed appliances are being considered, that same household may rate high on opportunity when access to a better energy deal is being considered. The household may have scope to reduce their energy bills by changing their energy deal, and this does not depend on their home ownership status.

There are thus six distinct consumer segmentation models, one for each of the types of choices that a household may make to manage their energy bills (as described in detail in Chapter 2):

1. changing to a better energy deal
2. installing alternative energy sources
3. improving building fabric and fixed appliances
4. installing more efficient equipment
5. changing the way energy is used
6. using less energy at peak times.

The factors that influence motivation, ability and opportunity for each of the types of choices that a household will make to manage its energy bill differ. The factors that are relevant to each of the types of choices are summarised in Table 5.2.

The consumer segments for each type of choice are described in more detail, by reference to some of the factors that influence motivation, ability and opportunity, in:

- Box 5.1 – changing to a better energy deal
- Box 5.2 – installing alternative energy sources
- Box 5.3 – improving building fabric and fixed appliances
- Box 5.4 – installing more efficient equipment
- Box 5.5 – changing the way energy is used
- Box 5.6 – using less energy at peak times.

TABLE 5.2 FACTORS THAT ARE RELEVANT TO EACH TYPE OF CHOICE THAT A HOUSEHOLD MAY MAKE TO MANAGE ITS ENERGY BILL

Factor	Type of choice that a household may make					
	Change to a better energy deal	Install alternative energy sources	Improve building fabric and fixed appliances	Install more efficient equipment	Change the way energy is used	Use less energy at peak times
Dimension 1 – Motivation						
Financial outlay		✓	✓	✓		✓
Financial payoff	✓	✓	✓	✓	✓	✓
Importance of energy relative to other factors	✓	✓	✓	✓	✓	✓
Time to implement action	✓	✓	✓	✓	✓	✓
Perceived complexity	✓	✓	✓	✓	✓	✓
Desire for new technology	✓	✓	✓	✓	✓	✓
Environmental consciousness	✓	✓	✓	✓	✓	✓
Cultural considerations	✓	✓	✓	✓	✓	✓
Other perceived benefits such as comfort, health and wellbeing	✓	✓	✓	✓	✓	✓
Subjective norm		✓	✓	✓	✓	✓
Certainty of outcome	✓	✓	✓	✓	✓	✓
Impact on family harmony					✓	✓
Dimension 2 – Ability						
Literacy, numeracy, problem solving and research	✓	✓	✓	✓	✓	✓
Language barriers	✓	✓	✓	✓	✓	✓
Ability to self-advocate/negotiate	✓	✓	✓	✓	✓	✓
Perceived self-efficacy / perceived personal efficacy	✓	✓	✓	✓	✓	✓
Trust in others	✓	✓	✓	✓	✓	✓
Ability to influence household behaviour					✓	✓
General interest in, and capability of using, technology	✓	✓	✓	✓	✓	✓

Factor	Type of choice that a household may make					
	Change to a better energy deal	Install alternative energy sources	Improve building fabric and fixed appliances	Install more efficient equipment	Change the way energy is used	Use less energy at peak times
Dimension 3 – Opportunity						
Lives in own home		✓	✓			
Whether home is a multi-dwelling building		✓	✓			
Scope for improvements in building fabric			✓			
Scope for further reductions in energy usage – equipment &appliances				✓		
Scope for further reductions in energy usage – behaviour change					✓	
Scope to shift energy usage						✓
On a demand tariff						✓
Access to liquid funds		✓	✓	✓		
Scope to move to a lower cost tariff	✓					

SOURCE: ACIL ALLEN CONSULTING.

BOX 5.1 EXAMPLES OF CONSUMER SEGMENTS –CHANGE TO A BETTER ENERGY DEAL

A household is most likely to choose to change to a better energy deal:

- after receiving an energy bill, particularly if it is higher than expected
- at the end of their existing energy contract
- in response to an offer made by a retailer
- when there is a change in financial circumstances, for example, if a member of the household loses their job
- when there is a change in personal circumstances, for example, a member of the household becomes ill and is entitled to apply for a medical concession
- when they are moving home.

1. Middle Australia

The household has previously moved to a better energy deal but was not able to identify the best deal available. It is motivated to change to a better energy deal, as long as the process is not too complex. The household has demonstrated the ability to change to a better energy deal and has the opportunity to change to the best deal available.

2. Enthusiasts

The household is enthusiastic about new technology and explored all the comparative websites to identify the best energy deal. However, that was six months ago and they are no longer on the best energy deal available. Accordingly, they now have the opportunity to move to a better energy deal.

3. Completers

The household is highly motivated to source the best energy deal. They are continually monitoring for the best energy deals available and change as soon as a better energy deal is identified. As they are already on the best energy deal, there is no scope to move to a better energy deal.

4. Dependent

The household is motivated to move to a better energy deal – the recent advertising by retailers indicates they are paying too much. They have been on the same tariff for a number of years and so are not on the best energy deal available. However, they do not have the ability to navigate the comparative websites to identify the best energy deal and they do not trust the retailers to be able to get the best deal by ringing around.

5. Stuck

The household is motivated to move to a better energy deal so they can save some money, but there are no other energy deals available in the area in which they live. However, even if they could, they do not have the ability to navigate the comparative websites to identify the best energy deal and they do not trust the retailers to be able to get the best deal by ringing around.

6. Complacent

The household is not on the best energy deal so has the opportunity to move to a better energy deal, and has the ability to navigate comparative websites to identify the best energy deal. However, the financial payoff is not justified given the magnitude of the energy bill relative to other household expenses and so they are not motivated to do so.

7. Competent

The household has the ability to navigate comparative websites to identify the best energy deal and have already signed up to the best energy deal available. The process to move to the best energy deal was timely and complex and so they are not motivated to look for a better energy deal in the short term.

8. Cautious

The household is not on the best energy deal so has the opportunity to move to a better energy deal, but they do not have the ability to navigate the comparative websites to identify the best energy deal and do not trust the retailers to be able to get the best deal by ringing around. The perceived financial payoff is not justified given the magnitude of the energy bill relative to other household expenses, and the perceived time and complexity associated with changing to a different energy deal.

9. Hard to help

The household lives in an area in which there are no other energy deals available. Even if they could move to a better energy deal, they do not have the ability to navigate the comparative websites to identify the best energy deal and do not trust the retailers to be able to get the best deal by ringing around. The perceived financial payoff is not justified given the perceived time and complexity associated with changing to a different energy deal.

SOURCE: ACIL ALLEN CONSULTING.

BOX 5.2 EXAMPLES OF CONSUMER SEGMENTS – INSTALL ALTERNATIVE ENERGY SOURCES

A household is most likely to choose to install an alternative source of energy:

- after receiving an energy bill, particularly if it is higher than expected
- when they are renovating their home, moving home or building a new home
- in response to environmental concerns about the energy supplied through the network or a loss of supply
- to take up a new technology
- when there is a change in financial circumstances as a means of paying an amount upfront to reduce energy bills on an ongoing basis
- in response to becoming eligible for a scheme that subsidises the installation of an alternative source of energy
- in response to an offer to install an alternative source of energy.

1. Middle Australia

The household has installed solar panel on their roof but has not yet installed battery storage. It is motivated to install battery storage but is waiting to find out more about the technology. The household has demonstrated the ability to install alternative sources of energy but is not an early adopter of new technology.

2. Enthusiasts

The household is enthusiastic about new technology and has already installed a solar panel and battery storage. However, the experience to date with the battery storage indicates the potential to install more solar panels. The household has the funds available to invest in the additional solar panels.

3. Completers

The household is enthusiastic about new technology and would really like to install a solar panel on their rooftop – they have a desire for, and are capable of using, new technology. However, they are currently in rental accommodation and so are not able to do so.

4. Dependent

The household has not previously installed solar panels on their rooftop but would like to do so – all their friends have saved a lot of money by installing solar panels and selling some of the electricity produced. However, the household does not have the ability to negotiate a contract to have the solar panels installed or to operate the solar panels.

5. Stuck

The household has not previously installed solar panels on their rooftop but would like to do so – all their friends have saved a lot of money by installing solar panels and selling some of the electricity produced. However, the household is living in rental accommodation so can't install the solar panels, and even if they could, they do not have the ability to negotiate a contract to have the solar panels installed or to operate the solar panels.

6. Complacent

The household has the ability and opportunity to manage their energy bill by installing an alternative source of energy, but is not motivated to do so. They do not have the desire to install the technology and do not perceive that the perceived financial outlay justifies the perceived cost and inconvenience.

7. Competent

The household has the ability to install solar panels on their roof, but they currently don't have the funds to pay for the solar panels and do not have a particular interest in having the technology installed on their roof. Their energy bills are small relative to other bills, and they would prefer to just keep buying electricity from their retailer.

8. Cautious

The household has not previously installed solar panels on their rooftop. They own their own home and have the liquid funds to purchase the solar panels but choose not to. They do not have the desire to install the technology and do not perceive that the perceived financial outlay justifies the perceived cost and inconvenience. They do not have the ability to negotiate a contract to have the solar panels installed or to operate the solar panels.

9. Hard to help

The household is living in rental accommodation and is therefore not able to install solar panels on their rooftop. Even if they could, they do not have the desire to install the technology and do not perceive that the perceived financial outlay justifies the perceived cost and inconvenience. They do not have the ability to negotiate a contract to have the solar panels installed or to operate the solar panels.

SOURCE: ACIL ALLEN CONSULTING.

BOX 5.3 EXAMPLES OF CONSUMER SEGMENTS – IMPROVE BUILDING FABRIC AND FIXED APPLIANCES

A household is most likely to choose to improve the building fabric and fixed appliances:

- when they are building a home
- when they are moving into a new home
- when they are renovating their home
- in response to becoming eligible for a scheme that subsidises the improvement to the building fabric or more energy efficient fixed appliances
- as their existing fixed appliances are due for replacement or fail.

1. Middle Australia

The building fabric and fixed appliances of the household are not the most energy efficient but are also not too bad. The household has some interest in improving the building fabric but is still investigating their options and has not yet committed to proceeding.

2. Enthusiasts

The household enthusiastically monitors the ways in which the building fabric of their home can be improved. There is a new product that is soon to be released, and as soon as it has been released, they will install it.

3. Completers

The household monitors the ways in which the building fabric of their home can be improved. They have identified that they could further improve the building fabric but currently do not have the funds to make those improvements. As soon as they can access the funds, they will do so.

4. Dependent

The household has the opportunity to manage their energy bill by improving the building fabric of their home or installing more energy efficient fixed appliances and is motivated to do so, but is not able to do so. They may lack the skills to identify how the building fabric could be improved or what fixed appliances could be replaced so as to help them to manage their energy bills and/or the trust that these improvements will enable them to manage their energy bills.

5. Stuck

The household is motivated to manage their bill by improving their home's fabric or installing more efficient fixed appliances but does not have the opportunity or ability to do so. They may lack the skills to identify how the building fabric or the fixed appliances could be improved so as to help them to manage their energy bills and/or the trust that improving the building fabric or their fixed appliances will enable them to manage their energy bills. However, even if they could, the household either rents or does not have the scope or funds to make these improvements.

6. Complacent

The household has the ability and opportunity to manage their energy bill by improving their home's fabric or installing more efficient fixed appliances, but is not motivated to do so. They are comfortable in their home and the perceived financial payoff and reductions in emissions from improving the building fabric or fixed appliances do not justify the perceived financial outlay.

7. Competent

The household has the ability to manage their energy bill by improving the building fabric of their home or installing more efficient fixed appliances, but they have already done everything they can. Accordingly, the household has no motivation to manage their energy bill by further improving their home's fabric or installing more efficient fixed appliances.

8. Cautious

The household has opportunities to manage their energy bill by improving the building fabric of their home or installing more efficient fixed appliances, but the household does not have the motivation or ability to do so. They may lack the skills to identify how the building fabric could be improved or what fixed appliances could be replaced so as to help them to manage their energy bills and/or the trust that these improvements will enable them to manage their energy bills. They are comfortable in their home and the perceived financial payoff and reductions in emissions from these improvements do not justify the perceived financial outlay.

9. Hard to help

The household does not have the motivation, ability or opportunity to manage their energy bill by improving the building fabric of their home or installing more efficient fixed appliances. They may lack the skills to identify how the building fabric could be improved or what fixed appliances could be replaced so as to help them to manage their energy bills and/or the trust that making these improvements will enable them to manage their energy bills. They are comfortable in their home and the perceived financial payoff and reductions in emissions from these improvements do not justify the perceived financial outlay. Notwithstanding, the household either rents or does not have the scope or funds to improve the building fabric or install more efficient fixed appliances.

SOURCE: ACIL ALLEN CONSULTING.

BOX 5.4 EXAMPLES OF CONSUMER SEGMENTS – INSTALL MORE ENERGY EFFICIENT EQUIPMENT

A household is most likely to choose to install more energy efficient equipment:

- as their existing equipment and appliances are due for replacement or fail
- when they are renovating their home
- when they are moving home
- in response to becoming eligible for a scheme that subsidises the more energy efficient equipment.

1. Middle Australia

The household's equipment and appliances are a few years old – they are not the most energy efficient but are not too bad. They are aware of the labelling of equipment and appliances and will use that as a guide when they next need to replace an appliance.

2. Enthusiasts

The household is keen to install the latest most energy efficient equipment and appliances as they are released. They actively research energy efficient equipment and appliances and are aware of a new appliance that can be controlled remotely. As soon as they find a stockist in Australia, they will purchase it.

3. Completers

The household has installed the most energy efficient equipment and appliances in their home to manage their energy bills (and reduce greenhouse gas emissions). They currently don't have a need for any more energy efficient equipment or appliances.

4. Dependent

The household has the opportunity to manage their energy bill by installing more energy efficient equipment and is motivated to do so, but is not able to do so. They may lack the skills to identify more energy efficient equipment that could help them to manage their energy bills and/or the trust that equipment is more energy efficient.

5. Stuck

The household is motivated to manage their energy bill by installing more energy efficient equipment but does not have the opportunity or ability to do so. They may lack the skills to identify more energy efficient equipment that could help them to manage their energy bills and/or the trust that equipment is more energy efficient. However, even if they could, the household does not have the scope or funds to install more energy efficient equipment.

6. Complacent

The household has the ability and opportunity to manage their energy bill by installing more energy efficient equipment, but is not motivated to do so. Their equipment is working well and the perceived financial payoff and reductions in emissions from installing more energy efficient equipment do not justify the perceived financial outlay.

7. Competent

The household has the ability to manage their energy bill by installing more energy efficient equipment, but they do not have the scope or funds to install any more. Accordingly, the household has no motivation to manage their energy bill by installing more energy efficient equipment.

8. Cautious

The household has opportunities to manage their energy bill by installing more energy efficient equipment, but the household does not have the motivation or ability to do so. They may lack the skills to identify more energy efficient equipment that could help them to manage their energy bills and/or the trust that equipment is more energy efficient. Their equipment is working well and the perceived financial payoff and reductions in emissions from installing more energy efficient equipment do not justify the perceived financial outlay.

9. Hard to help

The household does not have the motivation, ability or opportunity to manage their energy bill by installing more energy efficient equipment. They may lack the skills to identify more energy efficient equipment that could help them to manage their energy bills and/or the trust that equipment is more energy efficient. Their equipment is working well and the perceived financial payoff and reductions in emissions from installing more energy efficient equipment do not justify the perceived financial outlay. Notwithstanding, the household does not have the scope or funds to install more energy efficient equipment.

SOURCE: ACIL ALLEN CONSULTING.

BOX 5.5 EXAMPLES OF CONSUMER SEGMENTS – CHANGE THE WAY ENERGY IS USED

A household may choose to change the way energy is used in their home at any time. However, such a choice is more likely to occur:

- after receiving an energy bill, particularly if it is higher than expected
- when there is a change in personal or financial circumstances, for example, if a member of the household loses their job or becomes ill
- after experiencing a loss of supply if the household chooses to sustain a reduction in energy usage that may have been forced upon them by circumstances.

1. Middle Australia

The household is aware that they could better manage their bills by changing the way energy is used in their home. They have made some changes and will make other changes as required in response to media coverage about the need to reduce energy usage on a particular day.

2. Enthusiasts

The household actively investigates ways in which their energy use can be changed to manage their energy bill. They keep the temperature in their home slightly higher than the average household in summer and slightly lower than the average household in winter. They have recently identified a new device that can monitor the level of activity in the home and set the thermostat to optimise energy use and comfort levels, and will purchase it shortly.

3. Completers

The household actively investigates ways in which their energy use can be changed to manage their energy bill. They keep the temperature in their home slightly higher than the average household in summer and slightly lower than the average household in winter. There no further actions that can be taken to manage their energy bill by changing the way they use energy.

4. Dependent

The household has the opportunity to manage their energy bill by changing the way energy is used in their home and is motivated to do so, but is not able to do so. They may lack the skills to identify the changes they could make with their current home and appliances that could help them to manage their energy bills and/or the confidence to make the changes to the way they use energy.

5. Stuck

The household is motivated to manage their energy bill by changing the way energy is used in their home but does not have the opportunity or ability to do so. They may lack the skills to identify the changes they could make with their current home and appliances that could help them to manage their energy bills and/or the confidence to make these changes. However, even if they could, there are no further opportunities for the household to manage their energy bill by changing the way they use energy.

6. Complacent

The household has the ability and opportunity to manage their energy bill by changing the way energy is used in their home, but is not motivated to do so. The perceived financial payoff and reductions in emissions from changing the way they use energy is not justified given the perceived reduction in comfort and the adverse impact of that change on family harmony.

7. Competent

The household has the ability to manage their energy bill by changing the way energy is used in their home, and so have already done so. Accordingly, the household has no motivation to manage their energy bill by making further changes to the way they use energy.

8. Cautious

The household has opportunities to manage their energy bill by changing the way energy is used in their home, but the household does not have the motivation or ability to do so. They may lack the skills to identify the changes they could make with their current home and appliances that could help them to manage their energy bills and/or the confidence to make these changes. The perceived financial payoff and reductions in emissions from changing the way they use energy is not justified given the perceived reduction in comfort and the adverse impact of that change on family harmony.

9. Hard to help

The household does not have the motivation, ability or opportunity to manage their energy bill by changing the way energy is used in their home. They may lack the skills to identify the changes they could make with their current home and appliances that could help them to manage their energy bills and/or the confidence to make these changes. The perceived financial payoff and reductions in emissions from changing the way they use energy is not justified given the perceived reduction in comfort and the adverse impact of that change on family harmony. Notwithstanding, there is no scope to manage their energy bills by changing the way energy is used in their home.

SOURCE: ACIL ALLEN CONSULTING.

BOX 5.6 EXAMPLES OF CONSUMER SEGMENTS – USE LESS ENERGY AT PEAK TIMES

A household is most likely to choose to use less energy at peak times:

- if they are on a demand tariff
- after receiving an energy bill, particularly if it is higher than expected
- when there is a change in financial circumstances, for example, if a member of the household loses their job
- in response to concerns about the ability of the electricity system to meet the peak demand for that day
- in response to a loss of supply due to a supply shortage or insufficient capacity in the local network
- in response to offers by third parties to manage their peak demand.

1. Middle Australia

The household is aware that they could reduce their energy bills by using their washing machine and dishwasher during off peak times rather than during peak times. They do this on some days, but on other days, it is far easier to just use the washing machine and dishwasher during peak times.

2. Enthusiasts

The household makes every effort to use less energy at peak times. The household has recently had a smart meter installed and is currently investigating devices that will limit their energy use during peak times.

3. Completers

The household has a smart meter installed and makes every effort to use less energy at peak times. Their energy use during peak times is minimal and so there is no further scope to reduce energy at peak times.

4. Dependent

The household has the opportunity to manage their energy bill by using less energy at peak times and is motivated to do so, but is not able to do so. They may lack the skills to identify how they could reduce their energy use at peak times to help them to manage their energy bills and/or trust third parties to manage their use of energy at peak times for them.

5. Stuck

The household is motivated to manage their energy bill by using less energy at peak times but does not have the opportunity or ability to do so. They may lack the skills to identify how they could reduce their use of energy at peak times to help them to manage their energy bills and/or trust third parties to manage their energy use at peak times for them. However, even if they could, the household is not on a demand tariff and so is not able to manage their energy bill by reducing their use of energy at peak times.

6. Complacent

The household has the ability and opportunity to manage their energy bill by using less energy at peak times, but is not motivated to do so. The household is not on a demand tariff and so is not able to manage their energy bill by reducing their use of energy at peak times.

7. Competent

The household has the ability to manage their energy bill by using less energy at peak times, but they are not on a demand tariff so are not able to reduce their energy bill by reducing their energy use at peak times. Accordingly, the household has no motivation to manage their energy bill by reducing their use of energy at peak times.

8. Cautious

The household has opportunities to manage their energy bill by using less energy at peak times, but the household does not have the motivation or ability to do so. They may lack the skills to identify how they could reduce their energy use at peak times to help them to manage their energy bills and/or trust third parties to manage their use of energy at peak times for them. The perceived financial payoff from, and inconvenience associated with, reducing their use of energy at peak times is not justified.

9. Hard to help

The household does not have the motivation, ability or opportunity to manage their energy bill by using less energy at peak times. They may lack the skills to identify how they could reduce their energy use at peak times to help them to manage their energy bills and/or trust third parties to manage their energy use at peak times for them. The perceived financial payoff from, and inconvenience associated with, reducing their use of energy at peak times. Notwithstanding, the household is not on a demand tariff and so is not able to manage their energy bill by reducing their use of energy at peak times.

SOURCE: ACIL ALLEN CONSULTING.

5.2 Applying the consumer segmentation model to a sample of households

As discussed in section 5.1.4, households can be assigned to one of the nine consumer segments for each of the six types of choices that a household may make to manage their energy bills (see Table 5.3).

TABLE 5.3 CHOICE TYPES

Icon	Choice type
	1. Change to a better energy deal
	2. Install alternative energy sources
	3. Improve building fabric and fixed appliances
	4. Install more efficient equipment (including plug-in and non-fixed appliances)
	5. Change the way energy is used
	6. Use less energy at peak times

SOURCE: ACIL ALLEN CONSULTING.

Figure 5.3 illustrates the different consumer segments that a particular household can be assigned to for each of the six choices to manage energy bills. This has been illustrated for six different types of households:

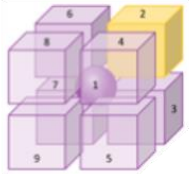
- a professional couple
- a shared household
- a family with two young children
- a retired couple
- a single mum with two teenagers
- battler Bob.

FIGURE 5.3 HOUSEHOLD PROFILES – ALLOCATION OF HOUSEHOLDS TO CONSUMER SEGMENTS FOR SIX TYPES OF CHOICES

Professional couple

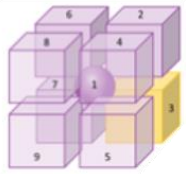
Paul (44) and Mary (45) are a professional couple, each on a high income. They both have a strong interest in technology and are environmentally conscious. They are early adopters of technology and have all the latest gadgets. They built a new 8 star house a couple of years ago and fitted it out with all the latest, most energy efficient appliances and equipment.
Ability = High

Paul and Mary consume a lot of energy with all their new gadgets. However, they are environmentally conscious and so are constantly looking at new ways to change their behaviour so that they can shift their consumption to new uses.



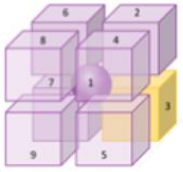
Motivation =High, Opportunity = High, Segment = Enthusiasts

Paul and Mary invested in an 8 star house. They are highly motivated to monitor trends to identify whether any further improvements to the building fabric can be made, but opportunities are limited.



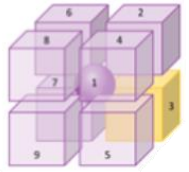
Motivation = High, Opportunity = Low, Segment = Completers

Paul and Mary already have energy efficient equipment and appliances. As soon as a more energy efficient model is released, they will upgrade.



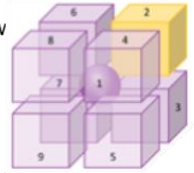
Motivation = High, Opportunity = Low, Segment = Completers

Paul and Mary extensively research the best retail tariff offer each year. As a result, they are already on the best offer that is available.



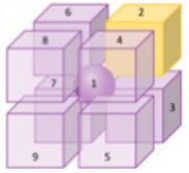
Motivation = High, Opportunity = Low, Segment = Completers

Paul and Mary recently switched to a demand tariff and w be installing battery storage shortly. They are currently analysing exactly how they can use their battery storage and shift demand so they can increase the amount of energy consumed without paying any more.



Motivation = High, Opportunity = High, Segment = Enthusiasts

Paul and Mary have already installed a bank of solar panels on their roof top. They have been investigating battery storage and are about to enter into a contract for it to be installed.



Motivation = High, Opportunity = High, Segment = Enthusiasts

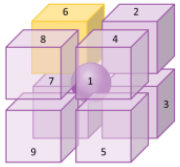
Shared household

Jack (26), Liam (25), Sarah (27), Stephanie (24) and Emily (25) all went to university together. Soon after graduating, they all moved into professional roles and a rental house together. They are all enjoying their independence and new found freedom associated with earning a professional salary.

Ability = High

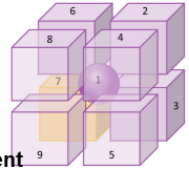
The energy bills are shared between the five in the household and so the amount that each pays is small. They do not have any interest in changing their behaviour to better manage their energy bill, and even if they did, harmony within the household is more important than saving a small amount of money.

Motivation = Low, Opportunity = High, Segment = Complacent



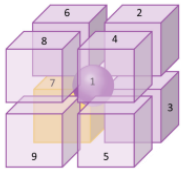
The group are living in a rental house and so are not able to improve the building fabric. They spend most of their time at work and so do not notice whether the building fabric needs to be improved or not.

Motivation = Low, Opportunity = Low, Segment = Competent



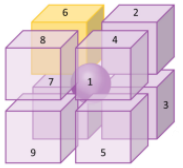
They have all pooled their resources to get all new, shiny appliances for the house. They have pur chased appliances that are energy efficient and so there is no further opportunity to manage their energy bills by installing more energy efficient appliances.

Motivation = Low, Opportunity = Low, Segment = Competent



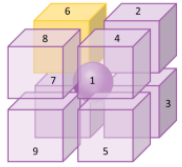
The group signed on to the first energy deal they came across just before moving into the house. The retail tariff has a very low discount relative to other offers available. However, when the bill is split five ways, it is a small amount to pay and so they are not concerned whether or not there is a better deal available.

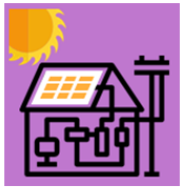
Motivation =Low , Opportunity = High, Segment = Complacent



They are all at work during the day so energy usage is low during the weekdays. However, energy usage increases significantly in the evenings and on weekends, resulting in a "peaky" load. They are not on a demand tariff and have no incentive to use the features on their new appliances so that they turn on during the day and "flatten" the load.

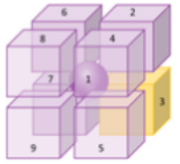
Motivation = Low, Opportunity = High, Segment = Complacent





Jack and Sarah are very tech savvy and environmentally conscious, and so would like to install solar panels and battery storage so that they feel less guilty about the amount of energy that is being consumed by the household. However, they are living in a rental house and so are not able to do that.

Motivation = High, Opportunity = Low, Segment = Completers

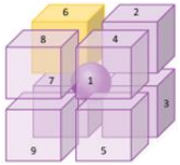


Family with two young children

The Smith household has four members – John Smith (38) works full-time for the local council, Anne Smith (36) works part-time as a nurse, and they have two children – Harry (6) and Laura (4). They own their own home.

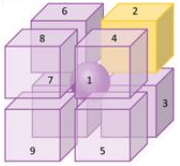
Ability = Medium (high side of medium)

The Smith household currently dry their clothes in a clothes dryer. They could manage their energy bills better by hanging the clothes on the clothes line. However they could not be bothered taking the time to walk outside and hang out the clothes – they would prefer to spend as much time as possible with their children.



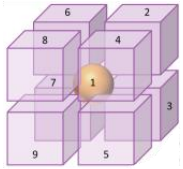
Motivation = Low, Opportunity = High, Segment = Complacent

The Smith household has an old fridge that is getting to the end of its life. They also have a washing machine that was a good size as a couple but is too small for a family of four. They have been researching fridges and washing machines, and plan to purchase them soon.



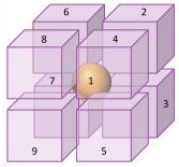
Motivation = High, Opportunity = High, Segment = Enthusiasts

Anne often runs the washing machine, dishwasher and air conditioner at the same time on her days off, and could readily shift some of the usage to another time. They have made some efforts to limit the number of appliances on at any one time, but as they are not on a demand tariff have not made a bigger effort.



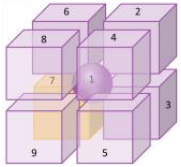
Motivation = Medium, Opportunity = Medium, Segment = Middle Australia

The Smith household is considering renovating their house sometime in the future when the children get older and finances allow. The building fabric is of a reasonable standard but they would like to further improve the building fabric when they renovate so that the home is warmer in winter and cooler in summer.



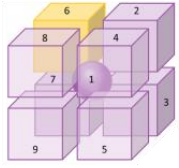
Motivation = Medium, Opportunity = Medium, Segment = Middle Australia

The Smith household's contract with their energy retailer has expired. With all the media coverage of the discounts currently available on retail offers, they used a website tool to research the best offer available to them, and have already signed up to that offer, and so their motivation to make further changes of providers is low.



Motivation = Low, Opportunity = Low, Segment = Competent

The Smith household do not have an alternative source of energy supply. They have the roof space to be able to install solar panels if they chose, but are not interested in doing so. They like the convenience of just flicking a switch without having to think about solar panels on their roof.



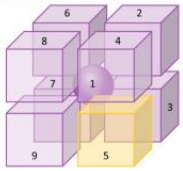
Motivation = Low, Opportunity = High, Segment = Complacent

Retired couple

John (73) and Margaret (69) are both retired and on a pension. They worked hard all their lives to buy their own home outright, but have very little saved for a rainy day.
Ability = Medium (low side of medium)

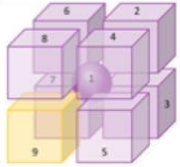
As money is tight, John and Margaret have made every effort to minimise the amount of energy they use. They are not aware of anything more that they can do now to reduce their energy usage further but are constantly talking with others to identify whether there is more that could be done.

Motivation = High, Opportunity = Low, Segment = Stuck



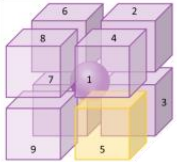
Although John and Margaret own their own home and so could improve the building fabric, they do not have the money to do so. The perceived benefits of improving the building fabric do not justify the perceived costs.

Motivation = Low, Opportunity = Low, Segment = Hard to help



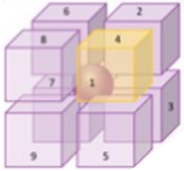
John and Margaret recognise that they could save more money by replacing some of the appliances with new more energy efficient ones. However, money is tight so they will not be able to prioritise replacing the appliances until they break down.

Motivation = High, Opportunity = Low, Segment = Stuck



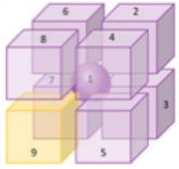
John and Margaret are highly motivated to save money by being on the lowest cost retail tariff. They have changed their retail tariff, but have not been able to get the best deal available to them. Further savings are possible.

Motivation = High, Opportunity = High, Segment =Dependent



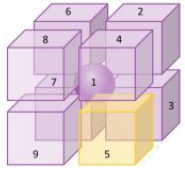
John and Margaret are at home most of the day so their demand is already "flat". There is nothing more that they can do to smooth out their load without sacrificing comfort and convenience. Because they do not want to sacrifice comfort or convenience, their motivation to make further changes is low.

Motivation = Low, Opportunity = Low, Segment = Hard to help



John and Margaret would love to install solar panels on their roof. Many of their friends have done it and have been able to reduce their electricity bills to close to zero. However, they cannot afford the capital outlay to do so.

Motivation = High, Opportunity = Low, Segment = Stuck



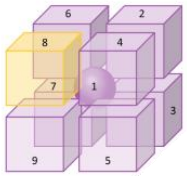
Single mum with two teenagers

The Brown household has three members – Mary Brown (35) is a single mum who works full-time in the local supermarket and she has two teenage sons – Ethan (15) and Luke (13). They rent a unit.

Ability = Low

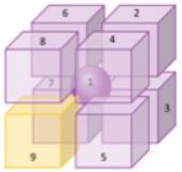
Ethan and Luke will wander from room to room, leaving lights, the television and their gaming consoles on. They stare into the fridge for ages working out what to eat, and regularly have 30 minute showers. Mary could reduce the household's energy bills by changing her sons' behaviour, but would prefer to maintain harmony as much as possible rather than have another argument with them.

Motivation = Low, Opportunity = High, Segment = Cautious



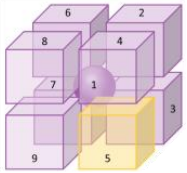
The Brown household lives in a very draughty unit, which is cold in winter and warm in summer. However, as renters, there is nothing that the Brown household can do to make improvements to the building fabric, so their motivation is low. They are dependent on the landlord investing in an upgrade.

Motivation = Low, Opportunity = Low, Segment = Hard to help



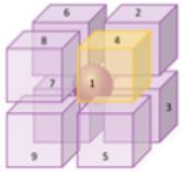
The Brown household has a number of old appliances – the fridge, washing machine and television have seen better days. Mary would love to replace them as they use a lot of energy but she does not have the money to do so. She will persevere until they break down and need replacing.

Motivation = High, Opportunity = Low, Segment = Stuck



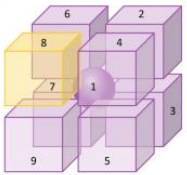
The Brown household has heard about the large discounts that are on offer by changing to a different energy retailer. They would love to move to a different retail tariff as the savings are better in their pockets than the retailers, but they do not trust any of the retailers and do not know how to go about changing to a better offer.

Motivation = High, Opportunity = High, Segment =Dependent



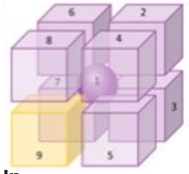
The Brown household is out of the house during the day, either at work or school. When they return home, all the appliances are turned on, and as a result they have a "peaky" load. They are not on a demand tariff and do not have any motivation to reduce their demand.

Motivation = Low, Opportunity = High, Segment = Cautious



As they live in rental accommodation, the Brown household is not able to install solar panels on their roof. As a result, they have no motivation to do so.

Motivation = Low, Opportunity = Low, Segment = Hard to help

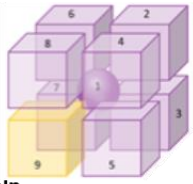


Battler Bob

Bob (62) has been a battler his whole life. He has struggled to hold down jobs for any extended period of time and has moved in and out of different accommodation. He has now secured public housing accommodation and is on a pension.
Ability = Low

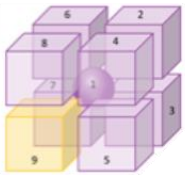
Bob does not understand his energy bill and does not know how and why his energy bill may change from one bill to the next. He is naturally very tight with his money and so uses very little energy in any case. There is no opportunity to change behaviour to help manage his energy bills.

Motivation = Low, Opportunity = Low, Segment = Hard to help



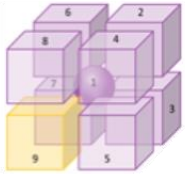
As Bob is in public housing, he has no opportunity to improve the building fabric. He is just pleased to have a roof over his head, and so does not see any reason why the building fabric should be improved. The flat may be a bit cold at times, but it is better than the alternative.

Motivation = Low, Opportunity = Low, Segment = Hard to help



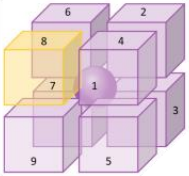
Bob has very few appliances, and the ones he does have do the job. He has no intention of replacing them unless they fail, and will buy the cheapest available.

Motivation = Low, Opportunity = Low, Segment = Hard to help



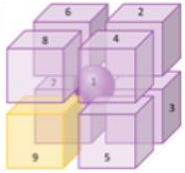
Energy bills are too complex. Bob accepted the offer provided to him by the only retailer that he trusted. He may be paying too much, but he does not have any interest in trying to get onto another tariff which may not be any better in any case.

Motivation = Low, Opportunity = High, Segment = Cautious



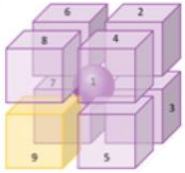
Bob uses very little energy. His load is "flat" as he is home most of the time and does not have any appliances that use a lot of energy. He does not have any concept of "demand" or how it can be reduced – it is all too hard.

Motivation = Low, Opportunity = Low, Segment = Hard to help



As Bob lives in public housing he is not able to install an alternative energy source that could help him to manage his energy bill. Even if he could, he does not have the interest or technical know how to consider installing an alternative energy source.

Motivation = Low, Opportunity = Low, Segment = Hard to help



SOURCE: ACIL ALLEN ASSESSMENT

5.3 Assessment of the proposed consumer segmentation model

This section assesses the consumer segmentation model proposed in section 5.1 against the design criteria described in Chapter 3.

5.3.1 Covers all residential consumers

The proposed consumer segmentation model is conceptual and therefore covers all residential consumers.

5.3.2 Alignment with current and future requirements

The proposed consumer segmentation model aligns with current and future requirements. Households are able to move from one segment to another as their circumstances change. In addition, the model can be applied to a wide range of choices that households have to manage their energy bills, with the assignment of households to segments dependent on the type of choice under consideration. As a result, the model is enduring and flexible.

5.3.3 Readily applicable

The proposed consumer segmentation model is readily applicable – it describes segments based on readily identifiable characteristics and provides insights that can be readily used by policy-makers. While each element that contributes to the motivation dimension cannot be readily identifiable at an individual level, the motivation can be identified in aggregate by the actions taken by households.

The proposed consumer segmentation tool provides insights that can be readily applied by policy-makers, which is the objective of this project, but cannot be used to identify individual households that would be assigned to each segment.

5.3.4 Stakeholder support

The consumer segmentation model was refined based on feedback received from stakeholders. The following key issues were raised by stakeholders during consultations.

— Description of segment characteristics — some stakeholders suggested that households in each segment should be characterised by reference to income and life stage. These characteristics were not used to describe the segments as the evidence reviewed for this project suggests that these types of characteristics result in segments that are not similar (homogeneous).

— Complexity of the model — stakeholders raised concerns about the complexity of the model. Throughout the consultations it was noted that there are clear trade-offs between design criteria. For instance, the greater the number of segments, the more similar (homogeneous) the consumers within each segment will be. However, the greater the number of segments, the less manageable the framework is.

  We considered a 2x2x2 model with eight segments and a 3x3x3 model with 27 segments. The 2x2x2 model has a more manageable number of segments, but they are less similar (homogeneous). A 3x3x3 model increases the similarity (homogeneity) of households within each segment but increases the model complexity.

  We developed a compromise – a 2x2x2 model with a ninth segment to represent middle Australia. We were of the view that the 3x3x3 model with 27 segments was too complex, but the 2x2x2 segments overlooks those households that are genuinely "in the middle" on each of the three dimensions (motivation, ability and opportunity).

— Inclusion of middle Australia in the model — some concerns were raised about the value of including middle Australia as the ninth segment in the framework. As noted previously in this report, when considering the distribution of households across each of the dimensions of the model, there will always be some proportion of households which lie in the centre of the distribution for all three dimensions, with the actual number of households that lie within this segment depending on how broadly "medium" is defined for each dimension. From a policy perspective, the need for governments to intervene to support these households to manage their energy bills is less than for those

households with low motivation, ability or opportunity. If these households are "forced" into the same segment as households with lower motivation, ability or opportunity, then it will be more difficult to target initiatives to those households that are in greater need of those initiatives.

These issues were discussed extensively with stakeholders and addressed in the final segmentation model to the extent possible given the scope of this project. After this, there was general, but not unanimous, support for the resulting consumer segmentation model.

5.3.5 Synergies

The proposed consumer segmentation model has synergies with several of the consumer segmentation models identified through the literature search.

The proposed consumer segmentation model is a conceptual three-dimensional model similar to that proposed by Zhang et al. (2012), and is based on GEERA's three dimensions of motivation, opportunity and ability (Russell-Bennett et al. 2017a).

The definitions of the motivation, opportunity and ability dimensions proposed in the segmentation model draw on many elements identified in the literature.

The literature identified the following factors related to motivation – the value placed on energy conservation, social responsibility, maintaining lifestyle and comfort, financial considerations, interest in new technologies, environmental considerations, comfort, convenience, "making a difference", social pressure, cleanliness, moral obligation and harmony. The definition of the motivation dimension is framed around the theory of planned behaviour.[14]

The literature identified the following factors related to opportunity – access to capital, types of dwelling as an indicator of the scope for improvements in building fabric, and property energy efficiency levels.

The literature identified the following factors related to ability – rate of technology adoption, trust, perceived self-efficacy and perceived personal efficacy (Sarkis 2016).

5.3.6 Effectiveness

The proposed consumer segmentation model has a manageable number of segments (nine) which are relatively different (heterogeneous) from each other segment. When the consumer segmentation model is applied to a particular type of choice, for example, moving to the best energy deal, the households in each segment for that choice are relatively similar (homogeneous).

If the consumer segmentation model is applied to a different type of choice, for example, changing the efficiency of the building fabric rather than energy deals, households may be assigned to different segments. When viewed through the lens of efficiency of the building fabric, the households in each segment are relatively similar (homogeneous) again, but different to the households that were in that same segment when viewed through the lens of the best energy deal.

5.3.7 Implementable

The proposed consumer segmentation model is implementable at a conceptual level, but the data are not available to identify which households are assigned to which segment and to quantify the number of households in each segment.

5.3.8 Robust

The proposed consumer segmentation model does not meet the robustness criterion as there are not robust data to support its implementation.

[14] More information about the Theory of Planned Behaviour is provided in Appendix A. See for instance Wilson 2014 and Litvine and Wüstenhagen 2011.

5.3.9 Overview

An overview of our assessment of the proposed consumer segmentation model against the design criteria is provided in Table 5.4.

TABLE 5.4 ASSESSMENT OF THE PROPOSED CONSUMER SEGMENTATION MODEL AGAINST THE DESIGN CRITERIA

Design principle	Design criteria	Rating
Necessary conditions		
	Covers all residential customers	●
	Alignment with current and future requirements	●
	Readily applicable	●
Strategic fit		
	Stakeholder support	◕
	Synergies	◕
	Effectiveness	●
Feasibility		
	Implementable	◔
	Robust	○

○ = Does not meet design criterion ◑ = Partly meets design criterion ● = Meets design criterion
◔ = Meets the design criterion to some degree ◕ = Largely meets design criterion

SOURCE: ACIL ALLEN ASSESSMENT

6 IDENTIFYING APPROPRIATE INITIATIVES BY SEGMENT

This chapter identifies the most appropriate initiatives, by consumer segment, for households to manage their energy bills. The types of initiatives that could be considered are identified in Section 6.1 and the initiatives that are appropriate for each consumer segment are discussed in Section 6.2.

6.1 Types of initiatives

As discussed in Section 4.1.4, a number of studies identified through the literature search considered the types of initiatives that are most appropriate for different types of consumers. Some of these initiatives are generic such as initiatives that engage, enable, encourage and exemplify (DEFRA 2008), while others were very specific, for example, Zhang et al. (2012) identified mandatory insulation for some consumer segments.

To ensure that the consumer segmentation framework meets the design criterion to align with current and future requirements, the initiatives that are identified as appropriate for each segment are generic in nature.

The types of initiatives have been categorised broadly under the following categories:

- information, advice and non-financial support advice
- incentives
- financial support
- regulation
- support services for households.

Table 6.1 identifies the types of initiatives by broad category of initiative.

TABLE 6.1 TYPES OF INITIATIVES TO MANAGE ENERGY BILLS

Broad category of initiative	Types of initiatives
Information, advice and non-financial support	– Awareness campaigns – General information – Word of mouth communication / role models through technology-based media – Word of mouth communication / role models through traditional media – Exemplars e.g. open houses, demonstration projects, etc. – Proactively provide tailored information to the specific household (e.g. annual bills on different tariffs, energy efficiency advice that is specific to household) – Proactively provide simple personalised information through a trusted source such as support agencies (e.g. in home audit, specific advice on lowest cost tariff) – Market-based tools and services to assist households to take action (comparator or investment tools / websites / apps, benchmarking tools / websites, smart meters, energy management systems/devices) – Provide easy access to information and support and education for trusted sources/organisations that provide support to households
Incentives	– Feedback on outcomes (e.g. energy use and cost) – Feedback on outcomes that is specific and timely (e.g. data provided via smart meter) – Control of devices by third party (e.g. direct load control) – Initiatives to incentivise desired outcomes (through indirect financial benefits) – Penalise undesirable outcomes
Financial support	– EPCs, loans, etc. – Grants, subsidies, etc. (includes equipment replacement) that provide direct financial benefits to households – Government investment in public housing upgrades – Fund community organisations to provide services
Regulation	– Regulate minimum performance standards for appliances and building fabric, and labelling – Regulate information provided to households – Regulate schemes that incentivise households to manage their energy bills – Regulate technologies that enable households to manage their energy bills – Regulate retail energy deals / payment supports e.g. bill smoothing, shorter billing period, payment plans – Remove market, policy and regulatory barriers to enable households to access lower cost energy deals – Remove market, policy and regulatory barriers for new products and services that enable households to manage their energy bills
Support services	– Provide access to community organisations that can support and assist households taking action

SOURCE: ACIL ALLEN ASSESSMENT.

6.2 Initiatives by consumer segment

This section broadly considers which of the types of initiatives identified above would be appropriate to enable different households to manage their energy bills. We have assessed the appropriateness of initiatives through consideration of their efficiency (value for money) and effectiveness.

Some tools and services are low cost, such as awareness campaigns, while others are high cost, such as providing personalised information to households through a trusted source. However, while awareness campaigns may be effective for some households (those with high levels of ability and motivation), they may be ineffective for other households (those with low levels of ability and motivation). Providing personalised information to households may be highly effective for all households but would not be an efficient approach – some households will be able to make choices without this level of support, while others will be reliant on this level of support to choose.

The tools and services that could help households to choose to manage their energy bills also vary based on the actual choice to be made. For example, while Government investment in public housing upgrades is a relevant support for improving the building fabric, it is not a relevant support for choosing the best energy deal.

The initiatives recommended for each consumer segment for each type of choice are presented in tabular form in Chapter 7.

6.2.1 Information, advice and non-financial support

These types of initiatives include the provision of:

- general information
- advice (i.e. more specific information)
- market-based tools and services to assist households to take action
- information, support and education for trusted sources/organisations that provide support to households.

Each of these types of initiatives is discussed in the sections below.

General information

General information initiatives include:

- awareness campaigns
- the provision of general information
- word of mouth communication / role models through technology-based media
- word of mouth communication / role models through traditional media
- exemplars (for instance, open houses and demonstration projects).

Information can be used to engage with households to increase their level of motivation to make a choice. That is, to move them from a low or medium level of motivation to a high level of motivation.

Awareness campaigns are generally a low cost means of communicating a simple message to a large number of households. However, the message from an awareness campaign is most likely to resonate with households that already have a high level of motivation (Enthusiasts and Completers) and may assist those with a medium level of motivation (Middle Australia) to increase their level of motivation.

General information on managing energy bills is currently available.[15] It includes websites that provide tips on how to save energy. However, many of these tools and services are only accessible to those households with a high level of literacy, numeracy, problem-solving and research skills and a high level of trust, that is, to those with a high level of ability, and to those households that already have a high level of motivation and therefore will seek out the information (Enthusiasts and Completers).

[15] A stocktake of current initiatives around Australia, including information tools, is provided in Chapter 8.

All other types of households require more specific information (which we have identified as tailored information or simple personalised information and considered under the category of advice). These forms of communication are discussed in the next section.

The management of energy bills can be exemplified through word of mouth communication and/or role models, and exemplars such as open houses.

The word of mouth communication and use of role models can be communicated through technology-based media, such as social media, for those households that have a high level of interest in and are capable of working with technology, that is, have a high ability level (Enthusiasts, Completers, Complacent and Competent). More traditional forms of media are required for those households that have a low level of interest in and capability of working with technology (Dependent, Stuck, Cautious and Hard to help).

Middle Australia may include households that have strong literacy and numeracy skills but no interest in technology (for example, older Australians) and households with weaker literacy and numeracy skills but a strong interest in technology. Accordingly, word of mouth communication and the use of role models should be communicated to middle Australia through both technology-based and traditional media.

Households most likely to increase their level of motivation from attending open houses or similar events are those with a high ability level but a low level of motivation (Complacent and Competent) and those with a high level of motivation but a low ability level (Dependent and Stuck), as well as middle Australia.

Those households with a high ability level and a high level of motivation have sufficient tools and services to act with the provision of general information (Enthusiasts and Completers). They may attend open houses but will not need to attend to trigger action.

Those households with a low ability level and a low level of motivation (Cautious and Hard to help) are unlikely to have the motivation to attend open houses and if they do, have the trust and self-efficacy to act based on the learnings from an open house.

Advice

We have identified two types of advice/non- financial support:

— simple personalised information
— tailored information.

The provision of simple personalised information through a trusted source is required by those households with a low ability level and a low level of motivation (Cautious and Hard to help). The trusted source is required to communicate the information because these households have a low level of trust and skills. Simple personalised information is required because these households have low literacy and numeracy skills. Unless the information is provided proactively in this way, these households will not seek out the information and increase their level of motivation to make a choice.

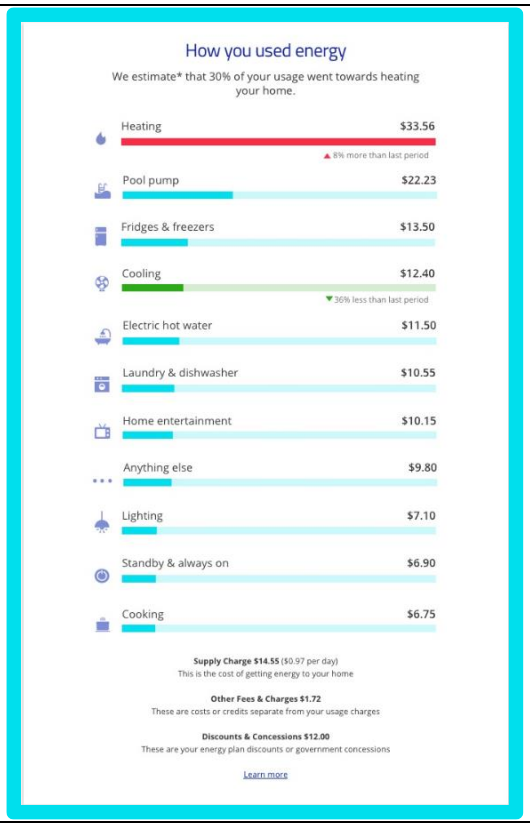
Tailored information is required by those households that have a high ability level but a low level of motivation (Complacent and Competent), and high level of motivation but a low ability level (Dependent and Stuck), as well as middle Australia. These households either do not have the motivation to seek out the information but have the skills to understand the information, or have the motivation to seek out the information but will not necessarily understand the information and so they are not able to act upon that information. The tailored information needs to be proactively provided to these households who may not otherwise seek the information.

At ECA's 2018 Foresighting Forum, AGL provided an example of tailored information that has been provided to a sample of their customers through their Energy Insights pilot.[16] A household's electricity

[16] AGL's Energy Insights trial gave 3,000 customers with digital electricity meters in Victoria, New South Wales, Queensland and South Australia greater insight into how energy was being used in their homes by providing them with customers data-led, personalised estimates about how much energy was used by each appliance category, what the approximate cost was and how it contributed to their overall bill. Using these data, AGL sent Energy Insights reports to customers both mid-bill cycle and with their bills. According to AGL, more than 60 per cent of customers who provided feedback said they planned to or had already taken action based on the insights from the trial. (AGL, 2018)

bill is broken down into categories such as heating, cooling, fridges and freezers, etc., as illustrated in Figure 6.1.

FIGURE 6.1 EXAMPLE OF TAILORED INFORMATION PROVIDED TO A SAMPLE OF CUSTOMERS BY AGL



SOURCE: AGL PRESENTATION TO ECA'S 2018 FORESIGHTING FORUM

Market-based tools and services

There are a range of tools and calculators that can help households to manage their energy bills. [17] These include:

- comparator tools / websites that, for example, compare a household's energy bill with different retail deals
- benchmarking tools / websites that, for example, compare the energy usage of households
- investment tools / websites that, for example, set out the costs and benefits of installing solar panels or battery storage
- other market-based tools and services to assist households to take action to manage their energy bills (e.g. smart meters and energy management systems/devices).

Households that have a high ability level (Enthusiasts, Completers, Complacent and Competent) will have the trust and the literacy, numeracy, problem-solving and research skills to access the various tools and calculators and other market-based tools and services. However, they are only likely to do so, if they are motivated to do so (Enthusiasts and Completers).

Information, support and education for trusted sources

Households that have a low ability level may need assistance from others to be able to manage their energy bills.

[17] A stocktake of current initiatives around Australia, including existing tools and calculators, is provided in Chapter 8.

As discussed before, simple personalised information through a trusted source is required by those households with a low ability level and a low level of motivation (Cautious and Hard to help). To enable trusted sources to provide simple personalised information to households in the Cautious and Hard to Help segments, they need to have ready access to the information required. This may be as simple as, for example, the annual bills that would have been paid under different energy deals being displayed on a consumer's energy bill. Trusted sources may also need support and education to help them provide relevant information to households in need.

Households that have a high ability level (Enthusiasts, Completers, Complacent and Competent) will have the trust and the literacy, numeracy, problem-solving and research skills to access market-based tools and services.

Those households with a low ability level may not have the trust and the literacy, numeracy, problem-solving and research skills to access market-based tools and services. They will need additional support. Those households with a high level of motivation (Dependent and Stuck) may have more trust in community groups than market-based services to provide them with the support and assistance to manage their energy bills. Those households with a low level of motivation (Cautious and Hard to help) may need to access tools and services through community organisations referred to them by a trusted source.

6.2.2 Incentives

The types of initiatives included in this category include:

- the provision of feedback on outcomes
- the provision of feedback on outcomes that is specific and timely
- control of devices by third party (direct load control)
- initiatives to incentivise desired outcomes (through indirect financial benefits)
- initiatives to penalise undesirable outcomes.

These types of initiatives are discussed in the sections below.

Feedback on outcomes

Once a household has taken action to manage their energy bill, feedback is required to reinforce the benefits of the actions that have been taken to avoid setbacks (Ohnmacht et al. 2017). Positive feedback on the benefits of taking action provides an incentive to the household to continue to take action to manage their energy bill.

Initiatives in this category include providing feedback on outcomes (for instance, energy use and cost through energy bills) and providing this feedback to households in a specific and timely manner (for instance through data provided via smart meters).

For some households, such as those with a high ability level and high level of motivation (Enthusiasts and Completers), feedback through a periodic bill may be sufficient to maintain the propensity for further action or to reinforce changes that have been made. However, for other households, more specific and timely feedback is required. This could be as simple as providing more frequent energy bills than quarterly or using more innovative approaches such as in-home displays, apps and prompts.

Control of devices by third party

Energy bills could be managed for households through a third party controlling devices (for instance, by controlling larger appliances such as pool pumps, hot water heaters and air conditioners). The third party may or may not be the household's retailer. The reductions in energy bill that are possible by allowing a third party to control the household's device provides an incentive for the household to make this choice.

If a household was on a demand tariff[18] for example, the third party could switch appliances on and off to maintain maximum energy use within a predetermined limit. Such an approach would not be

[18] A demand tariff has a separate component that charges for the maximum amount of electricity used at any one time, generally within a specific period of time (peak times).

required by those households whose ability and level of motivation are high (Enthusiasts and Completers) but could assist other households to manage their energy bills.

Initiatives to incentivise desired outcomes and penalise undesirable outcomes

Another approach to assist households manage their energy bills is to implement initiatives that incentivise the desired outcomes (for instance, incentivise the use of solar power through the provision of competitive feed-in tariffs) and penalise the undesirable outcomes (for instance, setting higher council rates for low energy efficiency properties). Initiatives to incentivise desired outcomes and penalise undesirable outcomes invariably provide some form of financial support or some form of financial payment. However, the financial support is not funded by governments.

Incentivising desired outcomes by providing indirect financial benefits may motivate those households with a high ability level (Enthusiasts, Completers, Complacent and Competent) to act to manage their energy bills, as they have the trust and skills to respond to the incentives.

Penalising undesirable outcomes may more effectively increase the motivation of those households that have a high ability level, high opportunity and a low level of motivation (Complacent) to take actions to manage their energy bills. It may also be the appropriate tool for households that are renting to address the split incentives problem by penalising the landlord.

Penalising undesirable outcomes may be punitive if it is applied to those that do not have the ability or opportunity to take action.

6.2.3 Financial support

Initiatives under financial support are those where funding is generally provided by governments, but could be provided by other agencies. Initiatives in this category involve providing direct financial support to households to help them manage their energy bills and include:

- Energy Performance Contracts (EPCs)[19] and loans
- grants, subsidies (e.g. concessions and equipment replacement) and other initiatives that provide direct financial benefits to households
- direct Government investment in public housing upgrades
- funding of community organisations to provide services.

Households that do not have access to liquid funds to invest in actions that will assist them to manage their energy bills are categorised as having low opportunity when the consumer segmentation is applied to choices that require access to liquid funds (such as installing more energy efficient equipment and appliances and improving the building fabric). This barrier to invest in actions that will assist them to manage their energy bills could be addressed through providing access to funding.

The funding to households with a high ability level (Completers and Competent) could be provided through loans or EPCs. Households with a low ability level (Stuck and Hard to help) may not have the trust and the skills to repay a loan or enter into an EPC. A more appropriate funding approach for these households may be through subsidies or grants.

The most appropriate form of financial support to invest in improvements to the building fabric and fixed appliances for those households that do not have the opportunity because they live in public housing is through Government investment in public housing upgrades.

Financial support can also be provided in the form of funding to community organisations to support them in the provision services to households that have a low ability level may need assistance from others to be able to manage their energy bills.

6.2.4 Regulation

There are a number of ways in which regulation can assist households to manage their energy bills, these include to:

[19] Energy Performance Contracting is when an energy service company is engaged to improve the energy efficiency of a facility, with the guaranteed savings paying for the capital investment required to implement improvements. EPCs are more commonly used to reduce the energy used by businesses, but the concepts could be similarly applied to households.

- regulate minimum performance standards for appliances and building fabric, and labelling
- regulate information provided to households
- regulate schemes that incentivise households to manage their energy bills
- regulate technologies that enable households to manage their energy bills
- regulate retail energy deals / payment supports e.g. bill smoothing, shorter billing period, payment plans
- remove market, policy and regulatory barriers to enable households to access better energy deals
- remove market, policy and regulatory barriers for new products and services that enable households to manage their energy bills.

While all households will be able to better manage their energy bills through the regulation of minimum performance standards for appliances and the building fabric, and the labelling of appliances and residential buildings, those households for which these types of initiatives are most appropriate are those that have low level of trust and literacy, numeracy, problem-solving and research skills (low ability) (Dependent, Stuck, Cautious and Hard to help). They are also appropriate initiatives for middle Australia and for households with a high ability level but have a low level of motivation and/or in the case of the regulation of the building fabric and fixed appliances, are renters (Complacent and Competent).

These same households may benefit from the regulation of technologies that enable households to manage their energy bills. This may be by regulating the roll out of smart meters, if a demand type tariff would provide the household with a better energy deal, or the installation of solar panels and batteries under certain circumstances.

Initiatives that regulate the information provided to households could benefit households that have low ability or low motivation (Dependent, Stuck, Complacent and Competent). They are also appropriate initiatives for middle Australia.

Households that have high-medium ability (Enthusiasts, Completers, Complacent and Competent) can benefit from schemes that incentivise households to manage their energy bills (e.g. white certificates schemes).

Those households that are struggling with the magnitude of infrequent energy bills and the volatility of energy bills from one period to the next may be assisted through energy deal / payment supports such as payment plans, shorter billing periods and payment plans[20]. Those households with a medium and high level of ability will be able to negotiate these types of arrangements. However, those with a low level of ability may not. Those households that have a low level of opportunity are those that do not have any scope to move to a better energy deal. If these households are not able to manage their energy bills on the best energy deal, then they may benefit from the regulation of additional energy deal / payment supports. These households are in the Dependent and Cautious segments for choices relating to the best energy deal.

Regulation could be targeted to specific household segments or could be universal. If the regulation is targeted, only those that require the regulation to help them manage their energy bills will be subject to the regulation. If the regulation is universal, then all households will be subject to that regulation, regardless of whether they require the regulation to manage their energy bills. In some cases, regulation can be effectively targeted to particular households, for example, to those that are in rental accommodation. In other cases, it may be more difficult, for example, to target the regulation of energy deals and payment supports only to those with low ability and low opportunity.[21]

[20] Some of these are already offered by retailers as part of their requirements under the National Energy Customer Framework (NECF). The NECF introduces a legal obligation on energy retailers to support customers who are experiencing financial difficulties and are unable to pay their energy bills. As a minimum, energy retailers must offer customer experiencing financial difficulties a payment plan to make the bill payments more manageable. Retailers may also offer further assistance for hardship customers including flexible payment options (e.g. payment plans and Centrepay), help to access other support services such as concessions and financial counselling and advice about saving energy in the home. The NECF has been adopted in the Australian Capital Territory, Tasmania, South Australia, New South Wales and Queensland. Victoria has not adopted NECF however it has recently reviewed and updated its regulatory framework for customers experiencing payment difficulty. Electricity retailers in Western Australia who supply electricity to residential customers are also required by the Economic Regulation Authority (ERA) to have a financial hardship policy to assist their customers, however, the ERA is not required to approve financial hardship policies.

[21] Indeed, hardship requirements in some states require retailers to identify customers to identify residential customers experiencing payment difficulties due to hardship across all segments (see for instance Division 6 of the National Energy Retail Law in South Australia).

The removal of market and regulatory barriers to consumers accessing better energy deals will facilitate households with the scope to move to a better energy deal, that is, they have the opportunity when viewed through an energy deal lens (Enthusiasts, Dependent, Complacent and Cautious) as well as middle Australia. For example, a regulatory barrier is the requirement for a household to provide explicit informed consent to change to a better energy deal. Some households, particularly those with low ability, don't have the trust to provide explicit informed consent.

Similarly, the removal of market and regulatory barriers for new products and services will facilitate these same households to further manage their energy bills. For example, smart meters that have been rolled out in Victoria have the ability to limit a household's demand for electricity at any point in time, but there are regulations that limit the use of this functionality.

6.2.5 Support services

Initiatives in this category relate to services provided by community organisations that can support and assist households taking action.

As noted before, these services would most benefit those households with a low level of ability (Cautious, Hard to help, Dependent and Stuck). Providing/enabling access to community organisations that can support these households can result in them taking action to manage their energy bill.

7 CONSUMER SEGMENTATION FRAMEWORK

This chapter sets out the consumer segmentation framework, which combines the consumer segmentation model that was developed in Chapter 5 with the initiatives that were identified in Chapter 6 (section 7.1). Section 7.2 discusses the way in which the consumer segmentation framework could be used by policy makers.

7.1 The consumer segmentation framework

A three dimensional nine-segment model was identified in section 5.1.4 to define different types of households based on their motivation, ability and opportunity to manage their energy bills.

As discussed in section 5.1.4, the characterisation of a household will vary depending on the type of choice that a household is making. For example, one household may have low opportunity when viewed through the lens of improvements to building fabric and fixed appliances because they are a renter, but high opportunity when viewed through the lens of energy deals as they have scope to move to a better energy deal.

Six distinct consumer segmentation models were identified, one for each of the types of choices that a household may make to manage their energy bills:

1. change to a better energy deal
2. install alternative energy sources
3. improve building fabric and fixed appliances
4. install more efficient equipment
5. change the way energy is used
6. use less energy at peak times.

A range of initiatives that could support households to manage their energy bills were identified and discussed in Chapter 6. The range of initiatives identified are intentionally generic rather than specific to ensure that the framework is adaptable to the future.

Table 7.1 to Table 7.6 summarise the initiatives that are considered to be appropriate for each type of household for each type of choice. As discussed in section 6.2, we have assessed the appropriateness of initiatives through consideration of their efficiency (value for money) and effectiveness in supporting a household to manage their energy bill by making one of the six choices.

The consumer segmentation framework characterises households to make a particular type of choice at a particular point in time based on their opportunity, ability and motivation, and identifies the initiatives (tools and services) that could support them to make those choices.

The objective of providing the initiatives (tools and services) is to address the barriers to a household choosing to manage their energy bill.

For example, if a household has low opportunity to buy a new more energy efficient appliance because they do not have the funds to do so, then the objective of the initiative is to provide financial support so that the opportunity to buy a new energy efficient appliance is increased. That is, for that particular choice at that particular time, the household moves from having low opportunity to buy a new energy efficient appliance to having high opportunity (assuming there are no other barriers).

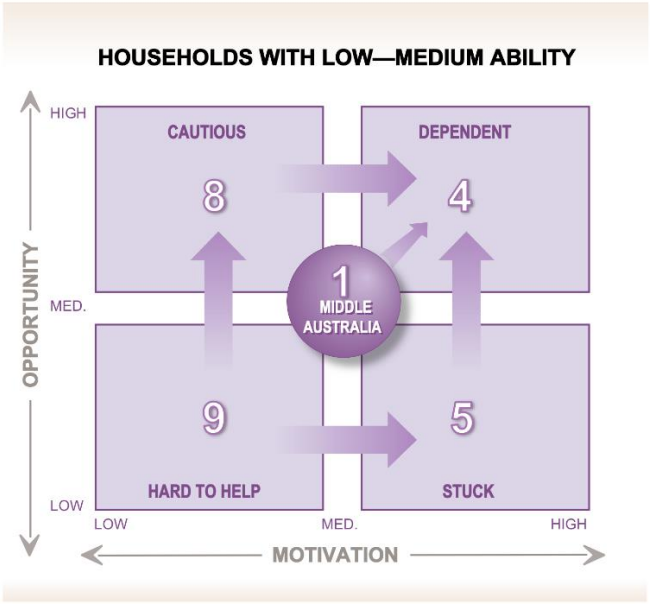
For example, if a household has low motivation to move to a better energy deal because the perceived time and complexity are greater than the perceived benefits, then the objective of the initiative is to reduce the perceived time and complexity to move to a better energy deal and / or increase the perceived benefits. This may be by providing personalised information on the benefits associated with a better energy deal. That is, for that particular choice at that particular time, the household moves from having low motivation to change to a better energy deal to being motivated to make the change.

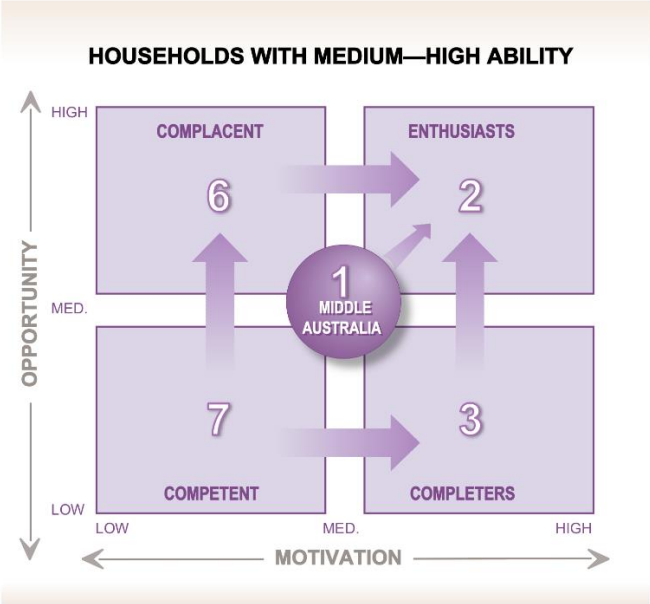
The objective of using tools and services to increase the motivation to make a choice or increase the opportunity to make a choice is illustrated in Figure 7.1.

The ability to use tools and services to increase the likelihood that households in the Enthusiasts segment will choose to manage their energy bills is limited as the households in these segments already have a high level of motivation, opportunity and ability to choose to manage their energy bills. Households in the Dependents segment also already have a high level of motivation and opportunity to choose to manage their energy bills. Initiatives targeted to these types of households need to address the ability barrier.

Households in the Middle Australia segment may need lighter forms of initiatives than households in other segments as the incremental increase in motivation and opportunity required for them to choose to manage their energy bills is less.

FIGURE 7.1 DESIRED IMPACT OF RECOMMENDED INITIATIVES





SOURCE: ACIL ALLEN ASSESSMENT

TABLE 7.1 INITIATIVES TO SUPPORT HOUSEHOLDS MANAGE THEIR ENERGY BILLS, BY TYPE OF HOUSEHOLD – INITIATIVES TO CHOOSE A BETTER ENERGY DEAL

Initiative type	Type of household								
	Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Information, advice and non-financial support									
Awareness campaign	✓	✓	✓						
General information		✓	✓						
Word of mouth communication / role models through technology-based media	✓	✓	✓			✓	✓		
Word of mouth communication / role models through traditional media	✓			✓	✓			✓	✓
Exemplars e.g. open houses, demonstration projects, etc.									
Proactively provide tailored information to the specific household	✓			✓	✓	✓	✓		
Proactively provide simple personalised information through a trusted source								✓	✓
Market-based tools and services to assist households to take action (comparator or investment tools / websites / apps, benchmarking tools / websites, smart meters, energy management systems/devices)	✓	✓	✓			✓	✓		
Provide easy access to information and support and education for trusted sources/organisations that provide support to households				✓	✓			✓	✓
Incentives									
Feedback on outcomes (e.g. energy use and cost)		✓	✓						
Feedback on outcomes that is specific and timely	✓			✓	✓	✓	✓	✓	✓
Control of devices by third party									
Initiatives to incentivise desired outcomes (through indirect financial benefits)		✓	✓			✓	✓		
Penalise undesirable outcomes									
Financial support									
EPCs, loans, etc.		✓	✓			✓	✓		
Grants, subsidies, etc. that provide direct financial benefits to households					✓				✓

Initiative type	Type of household								
	Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Government investment in public housing upgrades									
Fund community organisations to provide services								✓	✓
Regulation									
Regulate minimum performance standards for appliances and building fabric, and labelling									
Regulate information provided to households	✓			✓	✓	✓	✓		
Regulate schemes that incentivise households to manage their energy bills									
Regulate technologies that enable households to manage their energy bills									
Regulate energy deals / payment supports e.g. bill smoothing, shorter billing period, payment plans					✓				✓
Remove market, policy and regulatory barriers to enable access to better energy deals		✓		✓		✓		✓	
Remove market, policy and regulatory barriers for new products and services to manage energy bills									
Support services									
Provide access to community organisations that can be engaged by trusted source to support and assist households taking action				✓	✓			✓	✓

Note: A tick indicates that the tool or service is considered to be appropriate for that type of household

SOURCE: ACIL ALLEN CONSULTING.

TABLE 7.2 INITIATIVES TO SUPPORT HOUSEHOLDS MANAGE THEIR ENERGY BILLS, BY TYPE OF HOUSEHOLD – CHOOSE ALTERNATIVE ENERGY SOURCES

Initiative type	Type of household								
	Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Information, advice and non-financial support									
Awareness campaign	✓	✓	✓						
General information		✓	✓						
Word of mouth communication / role models through technology-based media	✓	✓	✓			✓	✓		
Word of mouth communication / role models through traditional media	✓			✓	✓			✓	✓
Exemplars e.g. open houses, demonstration projects, etc.				✓	✓	✓	✓		
Proactively provide tailored information to the specific household	✓			✓	✓	✓	✓		
Proactively provide simple personalised information through a trusted source								✓	✓
Market-based tools and services to assist households to take action (comparator or investment tools / websites / apps, benchmarking tools / websites, smart meters, energy management systems/devices)	✓	✓	✓			✓	✓		
Provide easy access to information and support and education for trusted sources/organisations that provide support to households				✓	✓			✓	✓
Incentives									
Feedback on outcomes (e.g. energy use and cost)		✓	✓						
Feedback on outcomes that is specific and timely	✓			✓	✓	✓	✓	✓	✓
Control of devices by third party									
Initiatives to incentivise desired outcomes (through indirect financial benefits)		✓	✓			✓	✓		
Penalise undesirable outcomes									
Financial support									
EPCs, loans, etc.			✓		✓		✓		
Grants, subsidies, etc. that provide direct financial benefits to households					✓				✓

Initiative type	Type of household								
	Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Government investment in public housing upgrades					✓				✓
Fund community organisations to provide services								✓	✓
Regulation									
Regulate minimum performance standards for appliances and building fabric, and labelling									
Regulate information provided to households	✓			✓	✓	✓	✓		
Regulate schemes that incentivise households to manage their energy bills		✓	✓			✓	✓		
Regulate technologies that enable households to manage their energy bills									
Regulate energy deals / payment supports e.g. bill smoothing, shorter billing period, payment plans									
Remove market, policy and regulatory barriers to enable access to better energy deals									
Remove market, policy and regulatory barriers for new products and services to manage energy bills		✓		✓		✓		✓	
Support services									
Provide access to community organisations that can be engaged by trusted source to support and assist households taking action				✓	✓			✓	✓

Note: A tick indicates that the tool or service is considered to be appropriate for that type of household

SOURCE: ACIL ALLEN CONSULTING.

TABLE 7.3 INITIATIVES TO SUPPORT HOUSEHOLDS MANAGE THEIR ENERGY BILLS, BY TYPE OF HOUSEHOLD – CHOOSE TO IMPROVE BUILDING FABRIC AND FIXED APPLIANCES

Initiative type	Type of household								
	Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Information, advice and non-financial support									
Awareness campaign	✓	✓	✓						
General information		✓	✓						
Word of mouth communication / role models through technology-based media	✓	✓	✓			✓	✓		
Word of mouth communication / role models through traditional media	✓			✓	✓			✓	✓
Exemplars e.g. open houses, demonstration projects, etc.				✓	✓	✓	✓		
Proactively provide tailored information to the specific household	✓			✓	✓	✓	✓		
Proactively provide simple personalised information through a trusted source								✓	✓
Market-based tools and services to assist households to take action (comparator or investment tools / websites / apps, benchmarking tools / websites, smart meters, energy management systems/devices)	✓	✓	✓			✓	✓		
Provide easy access to information and support and education for trusted sources/organisations that provide support to households			✓	✓				✓	✓
Incentives									
Feedback on outcomes (e.g. energy use and cost)		✓	✓						
Feedback on outcomes that is specific and timely	✓			✓	✓	✓	✓	✓	✓
Control of devices by third party	✓			✓	✓	✓	✓	✓	✓
Initiatives to incentivise desired outcomes (through indirect financial benefits)		✓	✓			✓	✓		
Penalise undesirable outcomes			✓		✓	✓	✓		✓
Financial support									
EPCs, loans, etc.			✓				✓		
Grants, subsidies, etc. that provide direct financial benefits to households					✓				✓

Initiative type	Type of household								
	Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Government investment in public housing upgrades					✓				✓
Fund community organisations to provide services								✓	✓
Regulation									
Regulate minimum performance standards for appliances and building fabric, and labelling	✓			✓	✓		✓	✓	✓
Regulate information provided to households	✓			✓	✓	✓	✓		
Regulate schemes that incentivise households to manage their energy bills		✓	✓			✓	✓		
Regulate technologies that enable households to manage their energy bills	✓			✓	✓		✓	✓	✓
Regulate energy deals / payment supports e.g. bill smoothing, shorter billing period, payment plans									
Remove market, policy and regulatory barriers to enable access to better energy deals									
Remove market, policy and regulatory barriers for new products and services to manage energy bills	✓	✓		✓		✓		✓	
Support services									
Provide access to community organisations that can be engaged by trusted source to support and assist households taking action			✓	✓				✓	✓

Note: A tick indicates that the tool or service is considered to be appropriate for that type of household

SOURCE: ACIL ALLEN CONSULTING.

TABLE 7.4 INITIATIVES TO SUPPORT HOUSEHOLDS MANAGE THEIR ENERGY BILLS, BY TYPE OF HOUSEHOLD – CHOOSE MORE ENERGY EFFICIENT EQUIPMENT

Initiative type	Type of household								
	Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Information, advice and non-financial support									
Awareness campaign	✓	✓	✓						
General information		✓	✓						
Word of mouth communication / role models through technology-based media	✓	✓	✓			✓	✓		
Word of mouth communication / role models through traditional media	✓			✓	✓			✓	✓
Exemplars e.g. open houses, demonstration projects, etc.				✓	✓	✓	✓		
Proactively provide tailored information to the specific household	✓			✓	✓	✓	✓		
Proactively provide simple personalised information through a trusted source								✓	✓
Market-based tools and services to assist households to take action (comparator or investment tools / websites / apps, benchmarking tools / websites, smart meters, energy management systems/devices)	✓	✓	✓			✓	✓		
Provide easy access to information and support and education for trusted sources/organisations that provide support to households				✓	✓			✓	✓
Incentives									
Feedback on outcomes (e.g. energy use and cost)		✓	✓						
Feedback on outcomes that is specific and timely	✓			✓	✓	✓	✓	✓	✓
Control of devices by third party									
Initiatives to incentivise desired outcomes (through indirect financial benefits)		✓	✓			✓	✓		
Penalise undesirable outcomes			✓		✓	✓	✓		✓
Financial support									
EPCs, loans, etc.			✓				✓		
Grants, subsidies, etc. that provide direct financial benefits to households					✓				✓

Initiative type	Type of household								
	Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Government investment in public housing upgrades					✓				✓
Fund community organisations to provide services								✓	✓
Regulation									
Regulate minimum performance standards for appliances and building fabric, and labelling	✓			✓	✓			✓	✓
Regulate information provided to households	✓			✓	✓	✓	✓		
Regulate schemes that incentivise households to manage their energy bills		✓	✓			✓	✓		
Regulate technologies that enable households to manage their energy bills	✓			✓	✓			✓	✓
Regulate energy deals / payment supports e.g. bill smoothing, shorter billing period, payment plans									
Remove market, policy and regulatory barriers to enable access to better energy deals									
Remove market, policy and regulatory barriers for new products and services to manage energy bills	✓	✓		✓		✓		✓	
Support services									
Provide access to community organisations that can be engaged by trusted source to support and assist households taking action				✓	✓			✓	✓

Note: A tick indicates that the tool or service is considered to be appropriate for that type of household

SOURCE: ACIL ALLEN CONSULTING.

TABLE 7.5 INITIATIVES TO SUPPORT HOUSEHOLDS MANAGE THEIR ENERGY BILLS, BY TYPE OF HOUSEHOLD – CHOOSE THE WAY ENERGY IS USED

Initiative type	Type of household								
	Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Information, advice and non-financial support									
Awareness campaign	✓	✓	✓						
General information		✓	✓						
Word of mouth communication / role models through technology-based media	✓	✓	✓			✓	✓		
Word of mouth communication / role models through traditional media	✓			✓	✓			✓	✓
Exemplars e.g. open houses, demonstration projects, etc.				✓	✓	✓	✓		
Proactively provide tailored information to the specific household	✓			✓	✓	✓	✓		
Proactively provide simple personalised information through a trusted source								✓	✓
Market-based tools and services to assist households to take action (comparator or investment tools / websites / apps, benchmarking tools / websites, smart meters, energy management systems/devices)	✓	✓	✓			✓	✓		
Provide easy access to information and support and education for trusted sources/organisations that provide support to households				✓	✓			✓	✓
Incentives									
Feedback on outcomes (e.g. energy use and cost)		✓	✓						
Feedback on outcomes that is specific and timely	✓			✓	✓	✓	✓	✓	✓
Control of devices by third party	✓			✓	✓	✓	✓	✓	✓
Initiatives to incentivise desired outcomes (through indirect financial benefits)		✓	✓			✓	✓		
Penalise undesirable outcomes									
Financial support									
EPCs, loans, etc.									
Grants, subsidies, etc. that provide direct financial benefits to households									

Initiative type	Type of household								
	Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Government investment in public housing upgrades									
Fund community organisations to provide services								✓	✓
Regulation									
Regulate minimum performance standards for appliances and building fabric, and labelling									
Regulate information provided to households									
Regulate schemes that incentivise households to manage their energy bills									
Regulate technologies that enable households to manage their energy bills	✓	✓		✓			✓	✓	
Regulate energy deals / payment supports e.g. bill smoothing, shorter billing period, payment plans									
Remove market, policy and regulatory barriers to enable access to better energy deals									
Remove market, policy and regulatory barriers for new products and services to manage energy bills	✓	✓		✓		✓		✓	
Support services									
Provide access to community organisations that can be engaged by trusted source to support and assist households taking action				✓	✓			✓	✓

Note: A tick indicates that the tool or service is considered to be appropriate for that type of household

SOURCE: ACIL ALLEN CONSULTING.

TABLE 7.6 INITIATIVES TO SUPPORT HOUSEHOLDS MANAGE THEIR ENERGY BILLS, BY TYPE OF HOUSEHOLD – CHOOSE TO USE LESS ENERGY AT PEAK TIMES

Initiative type	Type of household								
	Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Information, advice and non-financial support									
Awareness campaign	✓	✓	✓						
General information		✓	✓						
Word of mouth communication / role models through technology-based media	✓	✓	✓			✓	✓		
Word of mouth communication / role models through traditional media	✓			✓	✓			✓	✓
Exemplars e.g. open houses, demonstration projects, etc.				✓	✓	✓	✓		
Proactively provide tailored information to the specific household	✓			✓	✓	✓	✓		
Proactively provide simple personalised information through a trusted source								✓	✓
Market-based tools and services to assist households to take action (comparator or investment tools / websites / apps, benchmarking tools / websites, smart meters, energy management systems/devices)	✓	✓	✓			✓	✓		
Provide easy access to information and support and education for trusted sources/organisations that provide support to households			✓	✓				✓	✓
Incentives									
Feedback on outcomes (e.g. energy use and cost)		✓	✓						
Feedback on outcomes that is specific and timely	✓			✓	✓	✓	✓	✓	✓
Control of devices by third party	✓			✓	✓	✓	✓	✓	✓
Initiatives to incentivise desired outcomes (through indirect financial benefits)		✓	✓			✓	✓		
Penalise undesirable outcomes									
Financial support									
EPCs, loans, etc.									
Grants, subsidies, etc. that provide direct financial benefits to households									

Initiative type	Type of household								
	Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Government investment in public housing upgrades									
Fund community organisations to provide services								✓	✓
Regulation									
Regulate minimum performance standards for appliances and building fabric, and labelling									
Regulate information provided to households	✓			✓	✓	✓	✓		
Regulate schemes that incentivise households to manage their energy bills		✓	✓			✓	✓		
Regulate technologies that enable households to manage their energy bills	✓	✓		✓		✓		✓	
Regulate energy deals / payment supports e.g. bill smoothing, shorter billing period, payment plans									
Remove market, policy and regulatory barriers to enable access to better energy deals									
Remove market, policy and regulatory barriers for new products and services to manage energy bills	✓	✓		✓		✓		✓	
Support services									
Provide access to community organisations that can be engaged by trusted source to support and assist households taking action			✓	✓				✓	✓

Note: A tick indicates that the tool or service is considered to be appropriate for that type of household

SOURCE: ACIL ALLEN CONSULTING.

7.2 Applying the consumer segmentation framework to a sample of households

Examples of how six sample households can be assigned to different consumer segments for each of the types of choice were provided in Figure 5.3 in Chapter 5.

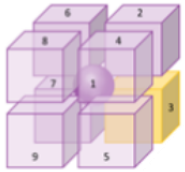
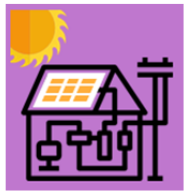
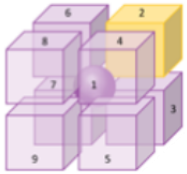
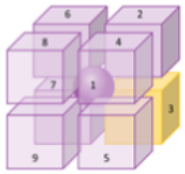
Having identified the consumer segment for a household for a particular type of choice, the framework can then be used to identify the initiatives (tools and services) that could support these households to manage their energy bills by making those types of choices. The recommended initiatives for each type of household for each type of choice were outlined in Table 7.1 to Table 7.6. Examples of the initiatives that could support the six sample households described in Figure 5.3 in Chapter 5 to choose to manage their energy bills are presented in Figure 7.2.

FIGURE 7.2 HOUSEHOLD PROFILES – ALLOCATION OF HOUSEHOLDS TO CONSUMER SEGMENTS FOR SIX TYPES OF CHOICE S AND RECOMMENDED INITIATIVES TO SUPPORT THEM TO MANAGE THEIR ENERGY BILLS

Professional couple

Paul (44) and Mary (45) are a professional couple, each on a high income. They both have a strong interest in technology and are environmentally conscious. They are early adopters of technology and have all the latest gadgets. They built a new 8 star house a couple of years ago and fitted it out with all the latest, most energy efficient appliances and equipment.

Ability = High

Choose a better energy deal		**Segment identification** Paul and Mary extensively research the best retail energy deal each year. As a result, they are already on the best deal that is available. **Motivation = High, Opportunity = Low, Segment = Completers**	 **Initiatives this household could respond to:** • Feedback on the impacts that changing to a different energy deal has had on their energy bill • Reminders to frequently review their energy deal delivered through technology-based media
Choose alternative energy sources		**Segment identification** Paul and Mary have already installed a bank of solar panels on their roof top. They have been investigating battery storage and are about to enter into a contract for it to be installed. **Motivation = High, Opportunity = High, Segment = Enthusiasts**	 **Initiatives this household could respond to:** • Information on the benefits of using alternative energy sources provided through technology-based media • Investment tools that provide estimates of the cost and potential returns of installing alternative sources of energy in their home • Feedback on the impacts that alternative sources of energy installed in their home have had on their energy bills
Choose to improve building fabric & fixed appliances		**Segment identification** Paul and Mary invested in an 8 star house. They are highly motivated to monitor trends to identify whether any further improvements to the building fabric can be made, but opportunities are limited. **Motivation = High, Opportunity = Low, Segment = Completers**	 **Initiatives this household could respond to:** • Information on innovative ways to improve building fabric and fixed appliances provided through technology-based media • Comparator tools that provide estimates of the potential benefits of making further improvements to their home's fabric and fixed appliances

Professional couple (cont.)

Paul (44) and Mary (45) are a professional couple, each on a high income. They both have a strong interest in technology and are environmentally conscious. They are early adopters of technology and have all the latest gadgets. They built a new 8 star house a couple of years ago and fitted it out with all the latest, most energy efficient appliances and equipment.

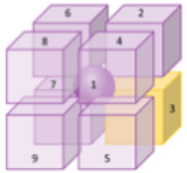
Ability = High

Choose more efficient equipment

Segment identification

Paul and Mary already have energy efficient equipment and appliances. As soon as a more energy efficient model is released, they will upgrade.

Motivation = High, Opportunity = Low, Segment = Completers



Initiatives this household could respond to:

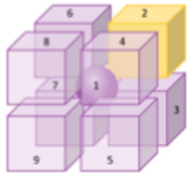
- Information on the newest, more efficient appliances released in the market provided through technology-based media
- Feedback on the impact of their choice of appliances (e.g. through personalised bill benchmarks comparing their energy bill to others)
- Comparator tools that provide estimates of the potential benefits of changing to the newest, more efficient appliances in the market

Choose to change the way energy is used

Segment identification

Paul and Mary consume a lot of energy with all their new gadgets. However, they are environmentally conscious and so are constantly looking at new ways to change the way they use energy so that they can shift their consumption to new uses.

Motivation =High, Opportunity = High, Segment = Enthusiasts



Initiatives this household could respond to:

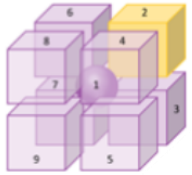
- Information on ways to manage their energy use with their current home and appliances provided through technology-based media
- Awareness campaigns on the benefits of using appliances at different times of day
- Energy management systems/devices
- Feedback on the benefits of the actions that they have taken to manage their bills

Choose to use less energy at peak times

Segment identification

Paul and Mary recently switched to a demand tariff and will be installing battery storage shortly. They are currently analysing exactly how they can use their battery storage and shift demand so they can increase the amount of energy consumed without paying any more.

Motivation = High, Opportunity = High, Segment = Enthusiasts



Initiatives this household could respond to:

- Information on how they can use their battery storage and shift demand provided through technology-based media
- Energy management systems/devices
- Feedback on the benefits of the actions that they have taken to manage their bills

Shared household

Jack (26), Liam (25), Sarah (27), Stephanie (24) and Emily (25) all went to university together. Soon after graduating, they all moved into professional roles and a rental house together. They are all enjoying their independence and new found freedom associated with earning a professional salary.

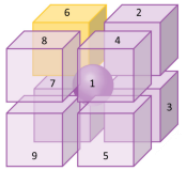
Ability = High

Choose a better energy deal

Segment identification

The group signed on to the first energy deal they came across just before moving into the house. The retail energy deal has a very low discount relative to other offers available. However, when the bill is split five ways, it is a small amount to pay and so they are not concerned whether or not there is a better deal available.

Motivation =Low , Opportunity = High, Segment = Complacent



Initiatives this household could respond to:

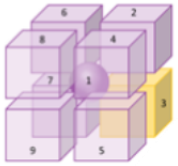
- Information on the benefits of shopping around for better energy deals provided through technology-based media
- Tailored information showing how much they can save by changing to a better energy deal
- Comparator tools that provide estimates of the potential benefits of changing to a better energy deal

Choose alternative energy sources

Segment identification

Jack and Sarah are very tech savvy and environmentally conscious, and so would like to install solar panels and battery storage so that they feel less guilty about the amount of energy that is being consumed by the household. However, they are living in a rental house and so are not able to do that.

Motivation = High, Opportunity = Low, Segment = Completers



Initiatives this household could respond to:

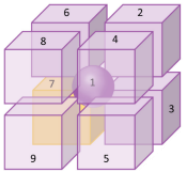
- Incentives to landlords to install alternative energy sources
- Information on intervening/negotiating with landlords provided through technology-based media
- Investment tools that provide estimates of the cost and potential returns of installing alternative sources of energy in their home

Choose to improve building fabric & fixed appliances

Segment identification

The group are living in a rental house and so are not able to improve the building fabric. They spend most of their time at work and so do not notice whether the building fabric needs to be improved or not.

Motivation = Low, Opportunity = Low, Segment = Competent



Initiatives this household could respond to:

- Regulate minimum standards on fixed appliances
- Regulate minimum standards on rental properties
- Mandatory/voluntary disclosure of home energy ratings

Shared household (Cont.)

Jack (26), Liam (25), Sarah (27), Stephanie (24) and Emily (25) all went to university together. Soon after graduating, they all moved into professional roles and a rental house together. They are all enjoying their independence and new found freedom associated with earning a professional salary.

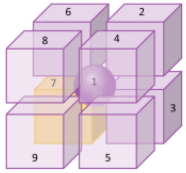
Ability = High

Choose more efficient equipment

Segment identification

They have all pooled their resources to get all new, shiny appliances for the house. They have purchased appliances that are energy efficient and so there is no further opportunity to manage their energy bills by installing more energy efficient appliances.

Motivation = Low, Opportunity = Low, Segment = Competent



Initiatives this household could respond to:

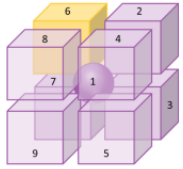
- Information on the newest, more efficient appliances released in the market provided through technology-based media
- Specific and timely feedback on the benefits that they have achieved by installing energy efficient equipment

Choose to change the way energy is used

Segment identification

The energy bills are shared between the five in the household and so the amount that each pays is small. They do not have any interest in changing the way they use energy to better manage their energy bill, and even if they did, harmony within the household is more important than saving a small amount of money.

Motivation = Low, Opportunity = High, Segment = Complacent



Initiatives this household could respond to:

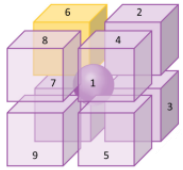
- Information on ways to manage their energy with their current home and appliances provided through technology-based media
- Exemplars (e.g. open houses, demonstration projects) showing how they can manage their energy use better with their current home and appliances
- Smart meters or energy management systems/devices
- Tools that provide estimates of the potential benefits of changing the way energy is used around the house

Choose to use less energy at peak times

Segment identification

They are all at work during the day so energy usage is low during the weekdays. However, energy usage increases significantly in the evenings and on weekends, resulting in a "peaky" load. They are not on a demand tariff and have no incentive to use the features on their new appliances so that they turn on during the day and "flatten" the load.

Motivation = Low, Opportunity = High, Segment = Complacent



Initiatives this household could respond to:

- Information on the benefits of using the features in their current appliances to flatten the load provided through technology-based media
- Control of devices by third party
- Energy management systems/devices

Family with two young children

The Smith household has four members – John Smith (38) works full-time for the local council, Anne Smith (36) works part-time as a nurse, and they have two children – Harry (6) and Laura (4). They own their own home.

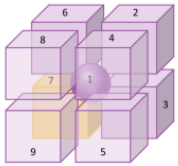
Ability = Medium (high side of medium)

Choose a better energy deal

Segment identification

The Smith household's contract with their energy retailer has expired. With all the media coverage of the discounts currently available on retail offers, they used a website tool to research the best offer available to them, and have already signed up to that offer. As a result, their motivation to look further at other energy deals is low.

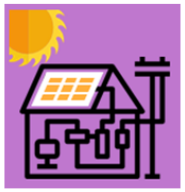
Motivation = Low, Opportunity = Low, Segment = Competent



Initiatives this household could respond to:

- Feedback on the impacts that changing to a different energy deal has had on their energy bill
- Reminders to frequently review their energy deal delivered through technology-based media

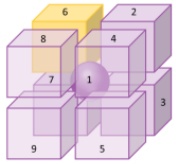
Choose alternative energy sources



Segment identification

The Smith household do not have an alternative source of energy supply. They have the roof space to be able to install solar panels if they chose, but are not interested in doing so. They like the convenience of just flicking a switch without having to think about solar panels on their roof.

Motivation = Low, Opportunity = High, Segment = Complacent



Initiatives this household could respond to:

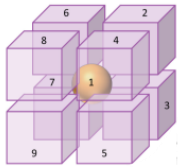
- Information on the benefits of using alternative energy sources provided through technology-based media
- Exemplars (e.g. open houses, demonstration projects)
- Investment tools that provide estimates of the cost and potential returns of installing alternative sources of energy in their home

Choose to improve building fabric & fixed appliances

Segment identification

The Smith household is considering renovating their house sometime in the future when the children get older and finances allow. The building fabric is of a reasonable standard but they would like to further improve the building fabric when they renovate so that the home is warmer in winter and cooler in summer.

Motivation = Medium, Opportunity = Medium, Segment = Middle Australia



Initiatives this household could respond to:

- Awareness campaigns on the benefits of different upgrades
- Comparator tools that provide estimates of the potential benefits of making improvements to their home's fabric and fixed appliances
- Regulate minimum performance standards for appliances and building fabric

Family with two young children (Cont.)

The Smith household has four members – John Smith (38) works full-time for the local council, Anne Smith (36) works part-time as a nurse, and they have two children – Harry (6) and Laura (4). They own their own home.

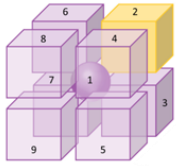
Ability = Medium (high side of medium)

Choose more efficient equipment

Segment identification

The Smith household has an old fridge that is getting to the end of its life. They also have a washing machine that was a good size as a couple but is too small for a family of four. They have been researching fridges and washing machines, and plan to purchase them soon.

Motivation = High, Opportunity = High, Segment = Enthusiasts



Initiatives this household could respond to:

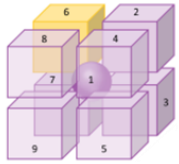
- Information on efficient appliances in the market provided through technology-based media
- Comparator tools that provide estimates of the potential benefits of changing to more efficient equipment
- Specific and timely feedback on the impact of their choice of appliances (e.g. through personalised bill benchmarks comparing their energy bill to others)

Choose to change the way energy is used

Segment identification

The Smith household currently dry their clothes in a clothes dryer. They could manage their energy bills better by hanging the clothes on the clothes line. However they could not be bothered taking the time to walk outside and hang out the clothes – they would prefer to spend as much time as possible with their children.

Motivation = Low, Opportunity = High, Segment = Complacent



Initiatives this household could respond to:

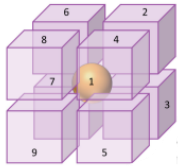
- Information on ways to manage their energy with their current home and appliances provided through technology-based media
- Exemplars (e.g. open houses, demonstration projects) showing how they can manage their energy use better with their current home and appliances
- Tools that provide estimates of the potential benefits of changing the way energy is used around the house

Choose to use less energy at peak times

Segment identification

Anne often runs the washing machine, dishwasher and air conditioner at the same time on her days off, and could readily shift some of the usage to another time. They have made some efforts to limit the number of appliances on at any one time, but as they are not on a demand tariff have not made a bigger effort.

Motivation = Medium, Opportunity = Medium, Segment = Middle Australia



Initiatives this household could respond to:

- Information on ways to flatten their load provided through technology-based media
- Information on the benefits of moving to a demand-based tariff through technology-based media
- Control of devices by third party

Retired couple

John (73) and Margaret (69) are both retired and on a pension. They worked hard all their lives to buy their own home outright, but have very little saved for a rainy day.

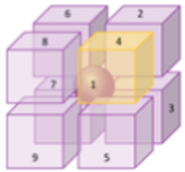
Ability = Medium (low side of medium)

Choose a better energy deal

Segment identification

John and Margaret are highly motivated to save money by being on the lowest cost retail energy deal. They have changed their retail energy deal, but have not been able to get the best deal available to them. Further savings are possible.

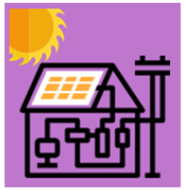
Motivation = High, Opportunity = High, Segment = Dependent



Initiatives this household could respond to:

- Information on how to shop around for better energy deals provided through traditional-based media
- Provide access to community organisations/trusted sources to support them in getting a better energy deal
- Provide community organisations/trusted sources helping this household with access to the required information to help them get a better energy deal

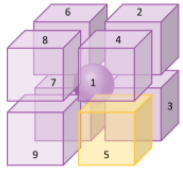
Choose alternative energy sources



Segment identification

John and Margaret would love to install solar panels on their roof. Many of their friends have done it and have been able to reduce their electricity bills to close to zero. However, they cannot afford the capital outlay to do so.

Motivation = High, Opportunity = Low, Segment = Stuck



Initiatives this household could respond to:

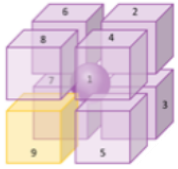
- Grants/subsidies to provide the required financial resources to install alternative energy sources
- Provide access to community organisations/trusted sources that can support them in understanding which alternative sources or energy would be better suited to their circumstances

Choose to improve building fabric & fixed appliances

Segment identification

Although John and Margaret own their own home and so could improve the building fabric, they do not have the money to do so. The perceived benefits of improving the building fabric do not justify the perceived costs.

Motivation = Low, Opportunity = Low, Segment = Hard to help



Initiatives this household could respond to:

- Subsidised building upgrade programs
- Information on the benefits of different upgrades provided through traditional-based media
- Provide simple, personalised information about the potential upgrades they could make to their homes and their benefits through a trusted source

Retired couple (Cont.)

John (73) and Margaret (69) are both retired and on a pension. They worked hard all their lives to buy their own home outright, but have very little saved for a rainy day.

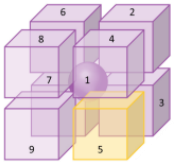
Ability = Medium (low side of medium)

Choose more efficient equipment

Segment identification

John and Margaret recognise that they could save more money by replacing some of the appliances with new more energy efficient ones. However, money is tight so they will not be able to prioritise replacing the appliances until they break down.

Motivation = High, Opportunity = Low, Segment = Stuck



Initiatives this household could respond to:

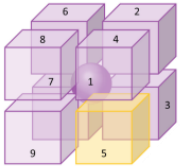
- Provide subsidies for efficient equipment
- Provide simple, personalised information about the options to upgrade to more efficient equipment and their potential benefits through a trusted source
- Retailer obligation schemes with targets by customer segment

Choose to change the way energy is used

Segment identification

As money is tight, John and Margaret have made every effort to minimise the amount of energy they use. They are not aware of anything more that they can do now to reduce their energy usage further but are constantly talking with others to identify whether there is more that could be done.

Motivation = High, Opportunity = Low, Segment = Stuck



Initiatives this household could respond to:

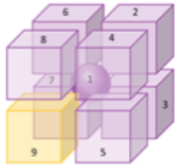
- Information on ways to manage their energy with their current home and appliances provided through traditional-based media
- Provide access to community organisations/trusted sources to support them in changing the way energy is used around their home
- Provide community organisations/trusted sources helping this household with the required training/information/funds to support these households

Choose to use less energy at peak times

Segment identification

John and Margaret are at home most of the day so their demand is already "flat". There is nothing more that they can do to smooth out their load without sacrificing comfort and convenience. Because they do not want to sacrifice comfort or convenience, their motivation to make further changes is low.

Motivation = Low, Opportunity = Low, Segment = Hard to help



Initiatives this household could respond to:

- Information on the benefits of installing a smart meter and moving to demand-based tariff provided through traditional-based media
- Provide access to community organisations/trusted sources to support them installing a smart meter and moving to a demand-based tariff
- Provide community organisations/trusted sources helping this household with the required training/information/funds to support these households

Single mum with two teenagers

The Brown household has three members – Mary Brown (35) is a single mum who works full-time in the local supermarket and she has two teenage sons – Ethan (15) and Luke (13). They rent a unit.

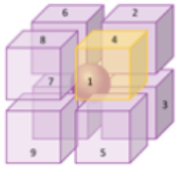
Ability = Low

Choose a better energy deal

Segment identification

The Brown household has heard about the large discounts that are on offer by changing to a different energy retailer. They would love to move to a different retail energy deal as the savings are better in their pockets than the retailers, but they do not trust any of the retailers and do not know how to go about changing to a better deal.

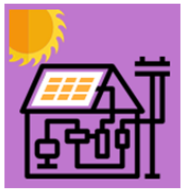
Motivation = High, Opportunity = High, Segment = Dependent



Initiatives this household could respond to:

- Information on how to shop around for better energy deals provided through traditional-based media
- Provide access to community organisations/trusted sources to support them in getting a better energy deal
- Provide community organisations/trusted sources helping this household with access to the required information to help them get a better energy deal

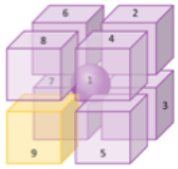
Choose alternative energy sources



Segment identification

As they live in rental accommodation, the Brown household is not able to install solar panels on their roof. As a result, they have no motivation to do so.

Motivation = Low, Opportunity = Low, Segment = Hard to help



Initiatives this household could respond to:

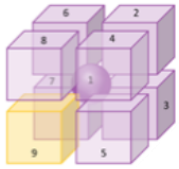
- Incentives to landlords to install alternative energy sources
- Information on intervening/negotiating with landlords provided through traditional-based media
- Provide access to community organisations/trusted sources to support them in negotiating with landlords to install alternative energy sources

Choose to improve building fabric & fixed appliances

Segment identification

The Brown household lives in a very draughty unit, which is cold in winter and warm in summer. However, as renters, there is nothing that the Brown household can do to make improvements to the building fabric, so their motivation is low. They are dependent on the landlord investing in an upgrade.

Motivation = Low, Opportunity = Low, Segment = Hard to help



Initiatives this household could respond to:

- Minimum rental standards
- Minimum standards on fixed appliances
- Incentives for landlords

Single mum with two teenagers (Cont.)

The Brown household has three members – Mary Brown (35) is a single mum who works full-time in the local supermarket and she has two teenage sons – Ethan (15) and Luke (13). They rent a unit.

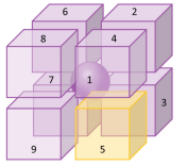
Ability = Low

Choose more efficient equipment

Segment identification

The Brown household has a number of old appliances – the fridge, washing machine and television have seen better days. Mary would love to replace them as they use a lot of energy but she does not have the money to do so. She will persevere until they break down and need replacing.

Motivation = High, Opportunity = Low, Segment = Stuck



Initiatives this household could respond to:

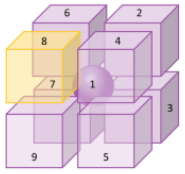
- Provide subsidies for efficient equipment
- Minimum performance standards for appliances and labelling
- Provide simple, personalised information about the options to upgrade to more efficient equipment and their potential benefits through a trusted source

Choose to change the way energy is used

Segment identification

Ethan and Luke will wander from room to room, leaving lights, the television and their gaming consoles on. They stare into the fridge for ages working out what to eat, and regularly have 30 minute showers. Mary could reduce the household's energy bills by changing how her sons use energy, but would prefer to maintain harmony as much as possible rather than have another argument with them.

Motivation = Low, Opportunity = High, Segment = Cautious



Initiatives this household could respond to:

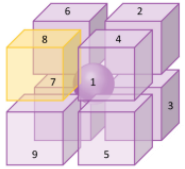
- Information on ways to manage their energy with their current home and appliances provided through traditional-based media
- Provide access to community organisations/trusted sources to support them in changing the way energy is used around their home
- Provide community organisations/trusted sources helping this household with the required training/information/funds to support these households
- Control devices by third party

Choose to use less energy at peak times

Segment identification

The Brown household is out of the house during the day, either at work or school. When they return home, all the appliances are turned on, and as a result they have a "peaky" load. They are not on a demand tariff and do not have any motivation to reduce their demand.

Motivation = Low, Opportunity = High, Segment = Cautious



Initiatives this household could respond to:

- Information on ways to flatten their load provided through traditional-based media
- Provide simple, personalised information about the potential changes that can be made to use less energy at peak times and their benefits through a trusted source
- Control devices by third party

Battler Bob

Bob (62) has been a battler his whole life. He has struggled to hold down jobs for any extended period of time and has moved in and out of different accommodation. He has now secured public housing accommodation and is on a pension.

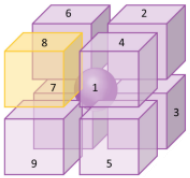
Ability = Low

Choose a better energy deal

Segment identification

Energy bills are too complex. Bob accepted the offer provided to him by the only retailer that he trusted. He may be paying too much, but he does not have any interest in trying to get onto another energy deal which he considers may not be any better in any case.

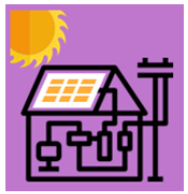
Motivation = Low, Opportunity = High, Segment = Cautious



Initiatives this household could respond to:

- Information on how to shop around for better energy deals provided through traditional-based media
- Provide access to community organisations/trusted sources to support them in getting a better energy deal
- Provide community organisations/trusted sources helping this household with access to the required information to help them get a better energy deal

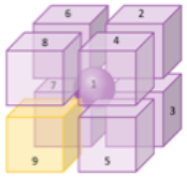
Choose alternative energy sources



Segment identification

As Bob lives in public housing he is not able to install an alternative energy source that could help him to manage his energy bill. Even if he could, he does not have the interest or technical know how to consider installing an alternative energy source.

Motivation = Low, Opportunity = Low, Segment = Hard to help



Initiatives this household could respond to:

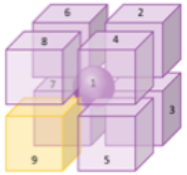
- Government investment in public housing upgrades

Choose to improve building fabric & fixed appliances

Segment identification

As Bob is in public housing, he has no opportunity to improve the building fabric. He is just pleased to have a roof over his head, and so does not see any reason why the building fabric should be improved. The flat may be a bit cold at times, but it is better than the alternative.

Motivation = Low, Opportunity = Low, Segment = Hard to help



Initiatives this household could respond to:

- Government investment in public housing upgrades
- Minimum standards on fixed appliances
- Minimum standards for public housing

Battler Bob (Cont.)

Bob (62) has been a battler his whole life. He has struggled to hold down jobs for any extended period of time and has moved in and out of different accommodation. He has now secured public housing accommodation and is on a pension.

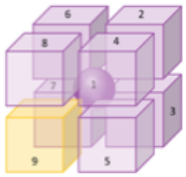
Ability = Low

Choose more efficient equipment

Segment identification

Bob has very few appliances, and the ones he does have do the job. He has no intention of replacing them unless they fail, and will buy the cheapest available.

Motivation = Low, Opportunity = Low, Segment = Hard to help



Initiatives this household could respond to:

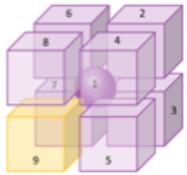
- Provide subsidies for efficient equipment
- Minimum performance standards for appliances and labelling
- Provide simple, personalised information about the options to upgrade to more efficient equipment and their potential benefits through a trusted source

Choose to change the way energy is used

Segment identification

Bob does not understand his energy bill and does not know how and why his energy bill may change from one bill to the next. He is naturally very tight with his money and so uses very little energy in any case. There is no opportunity to change the way he uses energy to help manage his energy bills.

Motivation = Low, Opportunity = Low, Segment = Hard to help



Initiatives this household could respond to:

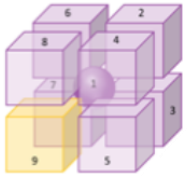
- Specific, timely feedback about the benefits of changing the way energy is used around the house
- Information on ways to manage their energy with their current home and appliances provided through traditional-based media
- Provide access to community organisations/trusted sources to support him in changing the way energy is used around his home
- Provide community organisations/trusted sources helping this household with the required training/information/funds to support him

Choose to use less energy at peak times

Segment identification

Bob uses very little energy. His load is "flat" as he is home most of the time and does not have any appliances that use a lot of energy. He does not have any concept of "demand" or how it can be reduced – it is all too hard.

Motivation = Low, Opportunity = Low, Segment = Hard to help



Initiatives this household could respond to:

- Information on the benefits of installing a smart meter and moving to demand-based tariff provided through traditional-based media
- Provide access to community organisations/trusted sources to support them installing a smart meter and moving to a demand-based tariff
- Provide community organisations/trusted sources helping this household with the required training/information/funds to support these households

SOURCE: ACIL ALLEN CONSULTING.

8 STOCKTAKE OF INITIATIVES TO HELP HOUSEHOLDS MANAGE THEIR ENERGY BILLS

This chapter identifies the existing initiatives (provided by both the public and private sector) to assist households to manage their energy bills across Australia[22]. By nature, this stocktake is *static* as it is based on the existing initiatives at a point in time (i.e. as of the time of writing of this report).

The existing initiatives are identified in Table 8.1 by the type of initiative (categorised using the initiatives outlined in section 6.1) and by the type of choice with which these initiatives assist households.

Chapter 9 maps these initiatives to the consumer segmentation model and highlights gaps where additional assistance to households is required.

Additional detailed information about these initiatives (including their eligibility requirements and the items covered by the initiative) is provided in Appendix D.

[22] Notably, the scope of this research covers established national and state-level initiatives available to significant numbers of consumers, but does not cover local level supports (such as those offered by local councils).

TABLE 8.1 SOURCES OF ASSISTANCE TO SUPPORT HOUSEHOLDS TO MANAGE ENERGY BILLS

Initiative type/description	Scale	Assistance for type of choice:					
		Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
Information, advice and non-financial support							
Information/tips for consumers on ways to save energy	National	✓					
Your Energy Savings — a website that provides a starting point for information about saving energy, saving money and reducing impact. It includes information on programs and financial support available from the Australian Government as well as state and territory governments.	National	✓	✓	✓	✓	✓	✓
Energy Advisory Service — provides free, independent information on a range of energy topics, including: help saving energy at home; understanding energy bills and meters; how to calculate appliance running costs; links to services that can help paying bills; general information about energy efficient home design and renewable energy technology.	SA	✓	✓	✓	✓	✓	
Smarter Choice Program — provides information about the running costs and environmental performance of the appliances, hardware and lighting to help consumers make more informed purchasing decisions on appliances.	NSW and VIC			✓	✓		
YourHome.gov.au — a guide to building, buying or renovating a home with low impact on the environment.	National		✓	✓	✓		
Smart Blocks — a national program providing expert advice to apartment owners and their managers to improve the energy efficiency of common property in apartment buildings.	National		✓	✓	✓		
Interactive energy-efficient house — provides information about energy efficiency opportunities around a house.	VIC		✓	✓	✓		
You and Your Home — a website by Sustainability Victoria providing information about how to live more sustainably. It includes information and advice about how to save energy.	VIC		✓	✓	✓	✓	
Power to Save — a website by the NSW Government providing information about ways to reduce energy use and save on power bills.	NSW			✓	✓	✓	
Michael Mobbs' Sustainable House — an exemplar sustainable house that offers tours to the public.	NSW			✓	✓	✓	✓
Centre for Education and Research in Environmental Strategies (CERES) EcoHouse — an exemplar sustainable house opened to the public.	VIC			✓	✓	✓	✓

Initiative type/description	Scale	Assistance for type of choice:					
		Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
ActSmart — one-stop-shop for information about ACT Government programs and assistance that can help consumers save energy and water, reduce waste and cut greenhouse gas emissions.	ACT			✓	✓		✓
Actsmart Sustainable Home Advice — advice provided by an experienced energy expert to reduce energy use.	ACT			✓	✓	✓	✓
Victorian Residential Efficiency Scorecard — a home energy rating program that provides a star rating for homes. The star rating represents the running cost of the fixed appliances at home. This scorecard can be used as a guide to make home improvements efficiently and cost effectively.	VIC		✓	✓	✓	✓	
Home energy toolkits — Home Energy Toolkits contain tools and information to help consumers find out how energy is used in their home and what they can do to make savings.	SA, ACT, TAS			✓	✓		
Actsmart Low Income Energy Efficiency Program — provides personalised education to support those most in need to reduce their energy use and make their energy bills more affordable.	ACT			✓	✓		
Household electricity calculator — compares a household electricity bill against similar households.	VIC					✓	
Smart meters and applications available on line and on smart phones	Competitive retail markets					✓	
CarbonTRACK energy and solar management system	National		✓			✓	✓
Energy Rating Calculator and App — provides information about how much a new appliance will cost to run and provides comparisons of running costs between appliances.	National			✓	✓		
Light Bulb Saver App — identifies the best light bulbs to replace incandescent and halogen bulbs, as well as how much could be saved by switching to light emitting diodes (LEDs) or compact fluorescent lamps (CFLs).	National				✓		
NABERS Home Energy Explorer — helps to understand how energy is currently used around a home. It shows where energy is being used and helps consumers understand how to reduce bills and improve the comfort of their home.	National			✓	✓		
Appliance Calculator — provides information about how much your major appliances cost to run and compare them against more energy-efficient alternatives.	VIC			✓	✓		
Electrical appliance running cost calculator — calculates the quarterly running costs of appliances.	SA			✓	✓		

Initiative type/description	Scale	Assistance for type of choice:					
		Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
Applications available on line and on smart phones	Competitive retail markets						✓
Energy Made Easy — a website to help residential and small business energy consumers to find a suitable energy offer.	ACT, NSW, QLD, SA, TAS	✓					
Victorian Energy Compare — an energy price comparison site.	VIC	✓					
Sunulator — a free tool that helps plan for grid-connected solar power by estimating the economic feasibility of a solar-battery system. Sunulator calculates the impact on an electricity bill and projects the savings over a 30-year time frame. Financial results include payback period, net present value and return on investment.	National		✓				
Solar Panels Power System Payback Calculator — helps consumers understand the factors involved in purchasing a Solar Panels PV Power System. This calculator compares the payback period between two solar systems. It can be used to compare panel quality, orientation, tilt and battery storage options.	National		✓				
Solar Power System Payback & ROI Calculator — allows consumers to quickly test simple assumptions and system sizes to find the best size solar system for their circumstances.	National		✓				
Solar Power Calculator V2.0 — provides a simple cash flow analysis of solar system options, including finance options for a mortgage or a loan.	National		✓				
Solar PV Savings Calculator — an energy savings calculator for investments in solar PV.	National		✓				
Online Solar Calculator — a simple tool that calculates solar production and bill savings.	National		✓				
– Solar System Output Calculator — a tool to find out how much natural sunlight is available in the area. – Solar System Based on Roof Size — a tool to find a suitable solar system based on roof size and geographical location. – Solar Savings and Payback Calculator — a tool to compare how much different size solar systems can save a consumer on their electricity bill and what will be the Return on Investment. – Solar Income and ROI Calculator — Return on Investment calculator.	National		✓				

Initiative type/description	Scale	Assistance for type of choice:					
		Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
Solar Power Savings Calculator — calculates and compares the potential annual energy savings and bill savings across a number of system sizes.	National		✓				
– Solar Power Calculator — aids users in deciding whether or not to convert to solar power. It provides information about payback period, the cost of the solar system, annual solar savings, lifetime savings, solar power generation, electricity used, cost of hybrid system (solar & battery) and savings in carbon emissions. Calculator also shows the effect a battery will have on the performance of the solar system and factors in things like the daily supply charge, shading and cost of finance. – Solar Battery Calculator —calculates the feasibility of adding battery storage to an existing solar system. – Off Grid Calculator —calculates the power requirements if considering disconnecting from the electricity grid and estimates the system size and battery bank needed to ensure a steady supply of solar energy. – System Size Calculator — calculates the size of the solar system needed to service a customer power needs. – Solar Loan Calculator — calculates monthly repayments and additional interest costs if solar purchase is financed either via an existing mortgage or through a specialist solar lender. – Solar Rebate Calculator — calculates the rebate a consumer will be entitled to when purchasing a new solar panel system. – Feed in Tariff Calculator — calculates the rate a consumer would receive with their retailer if exporting excess solar power back to the grid.	National		✓				
– Small generation unit STC calculator — small generation unit calculator (for small-scale solar panel, wind and hydro systems) designed to assist consumers to determine the approximate number of small-scale technology certificates (STCs) that may be created under the Small-scale Renewable Energy Scheme (SRES) in relation to an installation of a solar system. – Solar water heater STC calculator — assists to determine the approximate number of STCs that may be created under the SRES in relation to an installation of an eligible solar water heater.	National		✓				

Initiative type/description	Scale	Assistance for type of choice:					
		Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
Energy Info Hub — energy information for Victorian community workers.	VIC – but some information provided is relevant to all states	✓	✓	✓	✓	✓	✓
Energy Partners Program — offers free training to staff and volunteers to help organisations support their clients.	SA	✓		✓	✓	✓	✓
Utilities literacy training courses for community workers — Uniting Care Wesley Bowden delivers training courses to community workers and volunteers in metropolitan and regional South Australia. The course covers a range of topics including: – electricity, gas and water in South Australia – reading and understanding meters and bills – using energy and water efficiently at home – how to choose an energy retailer and get a good deal – concessions, complaints, disputes and hardship – how to share these skills in your community.	SA	✓		✓	✓	✓	✓
Energy Efficiency Training and Knowledge Building — a pilot program by the NSW Government providing training to tenants and community service social workers who go into client's homes. Training includes information about: – how to access lower energy tariffs – why supporting tenants with energy advice is important – what tenants can do for themselves to manage their energy bills – what support and advice can be provided to tenants – what hardship programs are available to the tenants – how can energy messages can be 'championed'.	NSW	✓		✓	✓	✓	✓

Initiative type/description	Scale	Assistance for type of choice:					
		Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
Incentives							
Retailer information on energy bills	National	✓	✓	✓	✓	✓	
Control of appliances (e.g. hot water systems and pool pumps) by electricity distributors	Competitive retail markets	✓		✓		✓	✓
Retailer Energy Efficiency Scheme (REES) — South Australia's energy efficiency scheme that provides incentives for households and businesses to save energy through the establishment of energy efficiency and audit targets to be met by electricity and gas retailers.	SA				✓		
Victorian Energy Upgrades program (legislated under the Victorian Energy Efficiency Target (VEET) Act) — scheme operates by placing a liability on large energy retailers in Victoria to surrender a specified number of energy efficiency certificates every year.	VIC				✓		
Energy Savings Scheme (ESS) — the scheme places a mandatory obligation on Scheme Participants to obtain and surrender energy savings certificates, which represent energy savings.	NSW				✓		
Energex Positive Payback Program — a program to help manage peak demand that provides financial incentives for: – installing PeakSmart air conditioners (up to $400) – connecting an electric hot water system to an economy electricity tariff (up to $200) – connecting a pool pump to an economy tariff ($200).	QLD			✓			✓
Ergon Energy Incentives — incentives include: – up to $400 for installing PeakSmart air conditioners – up to $200 cashback by replacing existing fixed speed pool pump with a 5-star pool pump or $250 cashback by connecting it to an economy tariff.	QLD			✓			✓
Small scale renewable energy scheme — the scheme creates a financial incentive for individuals and small businesses to install eligible small-scale renewable energy systems. It does this through the creation of small-scale technology certificates which Renewable Energy Target liable entities have a legal obligation to buy and surrender to the Clean Energy Regulator.	National		✓				

Initiative type/description	Scale	Assistance for type of choice: Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
Competitive feed-in tariffs	National		✓				
Battery storage database registration incentive — provides eligible Queensland households with a one-off $50 payment for registering eligible battery energy storage systems on the Queensland Government battery storage database.	QLD		✓				
Financial support							
Appliance replacement offer — 40% off the cost of a fridge and 50% off the cost of a TV.	NSW				✓		
Discounted energy efficient lighting — this program helps eligible households replace old lights with new LED bulbs. The cost of the LED bulbs and the fee for installation is subsidised.	NSW				✓		
No Interest Loans Schemes (NILS) — provides individuals and families on low incomes with access to safe, fair and affordable credit to buy energy-efficient appliances. There are no fees, interest or charges. Repayments are set up at an affordable amount over 12 to 18 months. Loans are available for up to $1,500 for essential goods and services (including appliances).	National			✓	✓		
Energy efficient appliance rebate — $200 for a 4 star or higher energy rated washing machine, $250 for a 4 star or higher energy rated refrigerator or $300 for a 4 star or higher energy rated air conditioner. Limited to 1 rebate application per household.	QLD			✓	✓		
EnergySmart Public Housing Project — this program will deliver energy efficiency upgrades to 1500 public housing properties across Victoria. As part of this program tenants are provided with information/advice about how to use less energy with their current home and appliances and about how shifting to lower cost tariffs.	VIC	✓		✓	✓	✓	
NSW social housing upgrades (Home Energy Action Program) — through this program the NSW Government will contribute up to 50% of the funding towards energy saving measures in social housing properties. OEH and social housing providers work collaboratively and to share the costs associated with the installation of the energy savings measures.	NSW		✓	✓	✓		

Initiative type/description	Scale	Assistance for type of choice:					
		Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
Energy Hardship Assist — through this program, energy retailers and the NSW Government will co-contribute to install solar panels for energy hardship customers in social housing. The social housing provider will not have to pay for the solar panels to be installed, but will own and maintain them (the program is accessed through the housing provider who enters a contract with the energy retailer).	NSW		✓				
Victorian Healthy Homes Program — a home energy efficiency program that provides free home energy upgrades to vulnerable Victorians who live with complex healthcare needs, and have low incomes. Participants will also receive two visits from an energy liaison officer to assess their homes' energy efficiency, identify their energy/thermal comfort needs, provide them with information that may help them get a better deal from energy retailers and collect various types of energy use and health data (with their agreement).	VIC			✓	✓		
Latrobe Valley Home Energy Upgrade Program — a solar and energy efficiency initiative that will deliver, at no cost to households, energy efficiency upgrades which could include solar installations (photovoltaic to up to 1,000) to vulnerable households in the Latrobe City, Wellington & Baw local government areas.	VIC		✓	✓	✓		
ActewAGL's Fridge Buyback Scheme — through this initiative ActewAGL takes away a consumers' old fridge or freezer and give them a $30 rebate on their next electricity bill.	ACT				✓		
Wood Heater Replacement Program — offers a financial incentive to replace an old wood heater with a new electric reverse cycle system, or upgrade an old reverse cycle system with a more efficient one. Rebates offered: – Wood heater removal - $100 – Ducted electric reverse cycle system - $1000 – Electric reverse cycle split system (min 3 star) - $500 – Upgraded electric reverse cycle system (min 3 star) - $500 Only one rebate payment is available for each premise.	ACT			✓			

Initiative type/description	Scale	Assistance for type of choice: Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
Smart Energy Grants — help owners of residential or investment properties undertake energy efficiency measures to their homes. The grants are run through a voucher system on a 50-50 co-contribution basis for up to $1,000. For approved eligible members of the Northern Territory Pensioner and Carer Concession Scheme, the co-contribution required is 25% (instead of 50%).	NT		✓	✓			
Tasmanian Energy Efficiency Loan Scheme (TEELS) — assists Tasmanian residents and small businesses with loans from $500 to $10,000 to purchase energy-efficient products and appliances. As part of this scheme, Westpac offers residents and small businesses the opportunity to apply for a Westpac Credit Card with 0% p.a. purchase interest for 36 months attributable only on eligible energy efficient products up to a value of $10,000.	TAS			✓	✓		
Payment plans	National	✓					
Bill smoothing	Competitive retail markets	✓					
Low Income Household Rebate — helps eligible households to pay their electricity bills by providing: – $285 (excluding GST) a year to eligible customers who hold an electricity account, or – $313.50 a year to eligible long-term residents of residential communities (caravan and mobile home parks), retirement villages and strata schemes who receive electricity bills from or on behalf of their community operators.	NSW	✓					
Family Energy Rebate (FER)— helps eligible households with dependent children cover the costs of their energy bills by providing: – $180 a year to eligible customers that do not hold a DHS Concession Card or Health Care Card; o – $20 a year to eligible customers that hold a DHS Concession Card or Health Care and also qualify for the Low Income Household Rebate.	NSW	✓					

Initiative type/description	Scale	Assistance for type of choice:					
		Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
NSW Gas Rebate — helps eligible households to pay their gas bills by providing: – $110 (excluding GST) a year to eligible customers who hold a natural gas account with a gas retailer of their choice; or – $121 a year to eligible customers with on-supplied LPG or natural gas and living in residential communities, retirement villages and strata schemes; or – $121 a year to eligible customers that use delivered LPG (bottled gas) for basic household needs such as cooking, heating or hot water.	NSW	✓					
Life Support Rebate —assists people to pay their electricity bills if they are required, or have someone living with them who is required, to use approved energy-intensive medical equipment at home. The value of the rebate depends on the type of machine used by the patient.	NSW	✓					
Medical Energy Rebate — assists people to pay their electricity bills if they, or someone living with them, have an inability to self-regulate body temperature when exposed to extreme (hot or cold) environmental temperatures. It provides: – $285 (excluding GST) a year to eligible customers who hold an electricity account with an electricity retailer of their choice; or, – $313.50 a year to eligible residents of on-supplied residential communities, retirement villages and strata schemes.	NSW	✓					
Energy Accounts Payment Assistance (EAPA) — helps people experiencing a short term financial crisis or emergency to pay their electricity or natural gas bill. This scheme is not available on an ongoing basis. The scheme operates through a voucher system issued by participating providers such as St Vincent de Paul, Salvation Army and Anglicare.	NSW	✓					
Victorian Energy Compare $50 Bill Bonus — a bonus provided to Victorian customers who register at Victorian Energy Compare.	VIC	✓					
Annual Electricity Concession — eligible concession card holders can receive a concession of 17.5% of electricity usage and service costs. The concession does not apply to the first $171.60 of the annual bill.	VIC	✓					
Controlled load electricity concession — eligible concession card holders can receive a 13% discount off their controlled load electricity bills.	VIC	✓					

Initiative type/description	Scale	Assistance for type of choice:					
		Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
Electricity transfer fee waiver — concession card holders can have their electricity service connected for free when moving into a new house.	VIC	✓					
Excess electricity concession — eligible concession card holders can receive a concession of 17.5% of electricity usage and service costs if their electricity costs are above $2,725 per year.	VIC	✓					
Excess gas concession — eligible concession card holders can receive a concession of 17.5% of gas usage and service costs if their whose winter gas costs are above $1,518.	VIC	✓					
Life support concession — concession card holders using a life support machine at home could be eligible for: – an electricity discount equivalent to the cost of 1,880 kilowatt hours (470 kilowatt hours per quarter) of electricity each year, calculated using the general domestic tariff of your retailer – a water discount equivalent to the cost of 168 kilolitres (42 kilolitres per quarter) of water each year.	VIC	✓					
Medical cooling concession — a concession on electricity bills related to medically-required cooling.	VIC	✓					
Non-mains energy concession — a concession for card holders who source non-mains energy for their heating, cooking and hot water. The concession is paid annually based on the amount paid for each energy type in that year. A separate rebate is paid for each energy type used.	VIC	✓					
Service to property charge concession - if electricity usage bill is lower than the service charge, concession card holders can have the service charge reduced to the usage cost.	VIC	✓					
Winter gas concession – discount of 17.5% on gas bills available for eligible concession card holders to help ease the cost of living during the winter months. The concession does not apply to the first $62.40 of the six-month winter period bills.	VIC	✓					
Utility relief grant scheme — relief grants for paying overdue energy or water bills are available to low-income Victorians experiencing unexpected hardship.	VIC	✓					
AGL's Concession Discount — 15% discount off electricity usage charges applied to customer accounts that meet the eligibility criteria. The discount is received in addition to any applicable Victorian State Government concession, grant or rebate.	VIC	✓					

Initiative type/description	Scale	Assistance for type of choice:					
		Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
Electricity and gas rebates — Queensland pensioners and seniors may be eligible for: – the Electricity Rebate—$340.85 per year (GST inclusive) – the Reticulated Natural Gas Rebate—$71.30 per year (GST inclusive).	QLD	✓					
Electricity asset ownership dividend — $200 million from the dividends of government owned corporations will be delivered as a $50 per year ($100 over 2 years) rebate for households over 2018 and 2019.	QLD	✓					
Home Energy Emergency Assistance Scheme — one-off emergency assistance to help paying home energy bills for Queensland households experiencing an unforeseen emergency or a short-term financial crisis. Pays up to $720 once every 2 years.	QLD	✓					
Electricity life support — concession for eligible people who are seriously ill and use a home-based oxygen concentrator or kidney dialysis machine.	QLD	✓					
Medical Cooling and Heating Electricity Concession Scheme — helps with electricity costs for people with a chronic medical condition which is aggravated by changes in temperature. Currently provides $340.85 (including GST) per year to eligible applicants.	QLD	✓					
Electricity and reticulated natural gas rebates for residential home parks and multi-unit residential premises — owners or proprietors of residential home parks or multi-unit residences are required to advise residents that electricity and gas rebates are available and claim the rebates on behalf of eligible residents.	QLD	✓					
Drought Relief from Electricity Charges Scheme (DRECS) — provides relief from supply charges on electricity accounts that are used to pump water for farm or irrigation purposes.	QLD	✓					
Energy bill concession — concessions for eligible South Australians on low or fixed incomes to help with the cost of energy bills. For 2017-18, they could receive up to $217.90 to cover both electricity and gas payments (including LPG bottled gas).	SA	✓					
Home dialysis electricity concession — patients who receive dialysis treatment at home for kidney disease can receive $165 annually to contribute to the running costs of dialysis equipment.	SA	✓					

Initiative type/description	Scale	Assistance for type of choice:					
		Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
Residential park resident concessions — people who live in a residential park or a caravan park may be eligible to receive a single combined concession to help with their energy, water and sewerage bills. From 1 July 2017: – residents who own their own dwelling and pay for water, sewerage and energy can receive up to $516.90 per annum (paid quarterly) – tenants who pay for water and energy can receive up to $339.50 per annum (paid quarterly).	SA	✓					
Medical heating and cooling concession — people on a fixed or low income who have a clinically verified medical condition which requires the frequent use of heating or cooling in the home to prevent the severe worsening of their condition. The concession is currently $217.90 per year and is available to eligible applicants in addition to the current energy concession.	SA	✓					
Cost of living concession — helps those on low or fixed incomes with their cost of living expenses, whether that be electricity, water, gas or medical bills. For the 2017-18 financial year, the concession amount per eligible household is: – homeowner-occupiers - $202.70 – homeowner-occupiers who are self-funded retirees with a Commonwealth Seniors Health Card - $101.40 – tenants - $101.40.	SA	✓					
Energy concession discount offer — consumers that receive the energy bill concession are eligible for the SA Concession Energy Discount Offer (SACEDO) with Origin Energy. The SACEDO includes: – a guaranteed 18% off electricity usage and supply charges until at least 30 June 2019 – flexible payment options – no late payment, processing, paper bill, credit card or exit fees. People who take up the SACEDO are also eligible for a discounted gas plan that includes: – an ongoing gas plan with a guaranteed 11% off gas usage and supply charges – flexible payment options – no late payment, processing, paper bill, credit card or exit fees.	SA	✓					

Initiative type/description	Scale	Assistance for type of choice:					
		Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
Emergency Electricity Payment Scheme (EEPS) — this scheme provides $400 to householders who are experiencing significant financial difficulties or who are eligible for a Government of South Australia concession payment, and have had their electricity disconnected (or are at risk of disconnection).	SA	✓					
Utilities concession — an annual rebate of up to a maximum of $604 to help eligible consumers with utility bills, including water, sewerage, gas and electricity.	ACT	✓					
Home Haemodialysis Rebate — assists eligible patients accessing home haemodialysis with their energy costs, up to $1,200 per annum.	ACT	✓					
Life Support Rebate — rebate on electricity account provided to eligible individuals who use electrically-operated life support equipment necessary in the treatment of a life-threatening condition. The annual rebate amount for 2017-2018 is $121.87.	ACT	✓					
ActewAGL Staying Connected Program — this program provides personalised support to help customers get back on track with electricity and water bills.	ACT	✓					
Hardship Utility Grant Scheme (HUGS) — provides financial assistance to people who are struggling through financial hardship and are unable to pay their utility bills (up to $962 per financial year).	WA	✓					
Energy Concession Extension Scheme — provides annual payments to assist eligible people to meet their energy consumption costs in certain circumstances. The concessions include: the Energy Assistance Payment, the Dependent Child Rebate and the Air Conditioning Rebate.	WA	✓					
Life Support Equipment Electricity Subsidy Scheme — this scheme provides a subsidy to compensate eligible people for the electricity costs of operating life support equipment at home.	WA	✓					
Thermoregulatory Dysfunction Energy Subsidy Scheme — this subsidy helps offset the energy costs associated with temperature control at the home of eligible people or their dependents with a thermoregulatory dysfunction.	WA	✓					
Annual electricity concession — provides a daily discount to eligible customers as a cents per day rate. The current concession is 135.208 cents per day.	TAS	✓					

Initiative type/description	Scale	Assistance for type of choice:					
		Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
Heating allowance — an allowance of $56 a year is made to eligible pensioners to assist with heating costs.	TAS	✓					
Life support concession — provides a daily discount to eligible customers who use an approved life support system or who live with someone who uses such a system in their principal place of residence.	TAS	✓					
Medical cooling or heating concession — provides a daily discount to eligible customers who have, or who live with a person who has, a medical condition that requires the cooling or heating of the customer's principal place of residence to manage that medical condition. The current concession is 40.498 cents per day.	TAS	✓					
NT Pensioner and Carer Concession Scheme (NTPCCS) — provides financial subsidies to eligible members for electricity, water, sewerage, council rates, garbage rates, interstates/overseas travel, spectacles, motor vehicle registration, urban public bus travel and drivers licence renewals.	NT	✓					
Essential Medical Equipment Payment — a payment to cover the additional running costs for essential medical equipment and/or medically required heating/cooling. This payment is available in addition to any existing state and territory government schemes.	National	✓					
No interest loans for solar and battery systems	QLD		✓				
Rebate for solar and battery systems	QLD		✓				
Household Battery Storage Subsidy — support for the installation battery storage systems in ACT homes and businesses. The amount of support can vary depending on the size of the system installed, but residential systems are typically eligible for around $4000 in support.	ACT		✓				
Solar for Low Income Households Program — provides a subsidy of up to 60% of the total cost of a solar system (capped at $3,000) along with a three year interest free loan to pay off the difference.	ACT		✓				
Regulation							
Minimum Energy Performance Standards (MEPS) - Energy Rating Label	National			✓	✓		
Mandatory roll out of smart meters	VIC			✓	✓		✓

Initiative type/description	Scale	Assistance for type of choice:					
		Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
Minimum energy efficiency standards in the National Construction Code	National			✓			
Mandatory support for vulnerable customers	National	✓					
Regulated minimum feed-in tariffs	VIC		✓				
Retailer Energy Efficiency Scheme (REES) — South Australia's energy efficiency scheme that provides incentives for households and businesses to save energy through the establishment of energy efficiency and audit targets to be met by electricity and gas retailers.	SA			✓	✓		
Victorian Energy Upgrades program (legislated under the Victorian Energy Efficiency Target (VEET) Act) — scheme operates by placing a liability on large energy retailers in Victoria to surrender a specified number of energy efficiency certificates every year.	VIC			✓	✓		
Energy Savings Scheme (ESS) — the scheme places a mandatory obligation on Scheme Participants to obtain and surrender energy savings certificates, which represent energy savings.	NSW			✓	✓		
Support services							
Positive Charge — a not for profit organisation that provides trustworthy, low cost and up-to-date energy saving advice, services and products to households, businesses, schools and community groups.	VIC and NSW	✓	✓	✓	✓	✓	✓
Pilot Community Power Hubs (CPHs)— this pilot program aims to support Victorian communities to access the skills and expertise required to develop and deliver community-based renewable energy projects, characterised by local ownership, participation and benefit sharing. The hubs are hosted by a local not-for-profit or a social enterprise organisation that works to coordinate and facilitate the development and expansion of community energy in a geographic area, while helping to build capacity and skills. The Victorian Government has committed over a two-year period to pilot setting up three hubs in regional areas of Ballarat, Bendigo and the Latrobe Valley.	VIC		✓				
Baw Baw Sustainability Network — an independent not for profit group focused on helping people reduce their energy use at home and on improving health through gardening and growing food.	VIC			✓	✓	✓	

Initiative type/description	Scale	Assistance for type of choice:					
		Choose a better energy deal	Choose alternative energy sources	Choose to improve building fabric and fixed appliances	Choose more efficient equipment	Choose to change the way energy is used	Choose to use less energy at peak times
Yarra Energy Foundation — delivers practical programs and pathways to solutions that help our community reduce energy use.	VIC	✓	✓	✓	✓	✓	✓
SEE-Change — not for profit group focused on reducing Canberra's ecological footprint, improve the resilience of the ecosystem, and enhance the wellbeing of all individuals.	ACT		✓	✓	✓		

SOURCE: ACIL ALLEN CONSULTING.

9 MAPPING EXISTING INITIATIVES TO SEGMENTS

9.1 Mapping initiatives to segments

This chapter maps the initiatives that are available as at May 2018 to support Australian households to manage their energy bills (identified in Chapter 8) to the types of households outlined in Chapter 5 , and the initiatives that are identified as appropriate for each type of household and for each type of choice identified in Chapter 7.

The initiatives have been mapped by the type of choice in the following tables:

- Table 9.2 for initiatives to choose a better energy deal
- Table 9.3 for initiatives to choose alternative energy sources
- Table 9.4 for initiatives to choose improving building fabric and fixed appliances
- Table 9.5 for initiatives to choose more energy efficient equipment
- Table 9.6 for initiatives to choose to change the way energy is used
- Table 9.7 for initiatives to choose to use less energy at peak times.

The tables map the **availability** of initiatives rather than the **effectiveness** of those initiatives. Assessing the effectiveness of the initiatives is beyond the scope of this project.

The availability of the initiatives has been mapped using the colour key in Table 9.1. As noted in Table 9.1, gaps in the initiatives available are highlighted:

- in red where an initiative is considered to be appropriate for a particular type of household and type of choice but not available anywhere in Australia
- in yellow with diagonal lines where an initiative is considered to be appropriate for a particular type of household and type of choice but only available in some Australian states.

In effect, this gap analysis highlights areas of opportunity/priority for policy makers (in red and yellow with diagonal lines).

Notably, to avoid confusion, initiatives that are not considered to be appropriate for any types of household for a particular choice, and not in place anywhere in Australia have not been included in the tables.

TABLE 9.1 COLOUR KEY FOR MAPPING THE AVAILABILITY OF INITIATIVES

Colour	Key
	Initiative provided in all states but not considered to be appropriate for this type of household
	Initiative considered to be appropriate for this type of household and provided across all states (i.e. no gap)
	Initiative provided in some states **or** only to particular customer classes, but not considered to be appropriate for this type of household
	Initiative recommended for this type of household but only in place in some states (i.e. gap exists for some states)
	Gap across all states (initiative considered to be appropriate for this type of household but not in place in any state)

SOURCE: ACIL ALLEN CONSULTING.

The key findings from the analysis of the availability of initiatives to support households to manage their energy bills, and the gaps identified in the availability of initiatives, are discussed in Section 9.2.

TABLE 9.2 MAP OF AVAILABILITY OF ASSISTANCE TO HOUSEHOLDS – INITIATIVES TO CHOOSE A BETTER ENERGY DEAL

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Information, advice and non-financial support										
Awareness campaign	Retailer information/tips for consumers to save energy									
General information	Your Energy Savings									
	Energy Advisory Service (SA)									
Word of mouth communication / role models through technology-based media	Localised examples only									
Word of mouth communication / role models through traditional media	Localised examples only									
Proactively provide tailored information to the specific household	Actsmart Sustainable Home Advice (ACT)									
	EnergySmart Public Housing Project (VIC)									
Proactively provide simple personalised information through a trusted source										
Market-based tools and services to assist households to take action (comparator or investment tools / websites / apps, benchmarking tools / websites, smart meters, energy management systems/devices)	Energy Made Easy									
	Victorian Energy Compare									
Provide easy access to information and support and education for trusted sources/organisations that provide support to households	Energy Info Hub (VIC)									
	Energy Efficiency Training and Knowledge Building (NSW)									
	Energy Partners Program (SA)									
	Utilities literacy training courses for community workers (SA)									
Incentives										
Feedback on outcomes	Retailer information on energy bills									
Feedback on outcomes that is specific and timely										
Incentivise desired outcomes										

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Financial support										
EPCs, loans, etc.	Payment plans	■	■	■	■	■	■	■	■	■
	Bill smoothing	■	■	■	■	■	■	■	■	■
Grants, subsidies, etc.	Electricity rebates/concessions for low income/vulnerable households (NSW, VIC, QLD, SA, ACT, WA, TAS, NT) [a]					■				■
	Gas rebates/concessions for low income/vulnerable households (NSW, VIC, QLD, SA, ACT, WA, TAS) [a]					■				■
	Life Support Rebate (State schemes: NSW, VIC, QLD, ACT, WA, TAS) [a]	■	■	■	■	■	■	■	■	■
	Medical Cooling/Heating Energy Rebate (State schemes: NSW, VIC, QLD, SA, ACT, WA, TAS) [a]	■	■	■	■	■	■	■	■	■
	Home dialysis electricity concession (SA, ACT)	■	■	■	■	■	■	■	■	■
	Cwlth Essential Equipment Payment (national)					■				■
	Energy Accounts Payment Assistance (EAPA) (NSW)	■	■	■	■	■	■	■	■	■
	Electricity asset ownership dividend (QLD)	■	■	■	■	■	■	■	■	■
	Drought Relief from Electricity Charges Scheme (QLD)	■	■	■	■	■	■	■	■	■
	Victorian Energy Compare $50 Bill Bonus (VIC)	■	■	■	■	■	■	■	■	■
Government investment in public housing upgrades										
Fund community organisations to provide services	Localised examples only					■			■	■
Regulation										
Regulate information provided to households		■			■	■	■	■		
Regulate retail energy deals / payment supports e.g. bill smoothing, shorter billing period, payment plans	Mandatory support for vulnerable customers					■				■
Remove market, policy and regulatory barriers to enable access to better energy deals			■		■		■		■	

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Support services										
Provide access to community organisations that can be engaged by trusted source to support and assist households taking action	Positive Charge (VIC and NSW)									
	Yarra Energy Foundation (VIC)									

[a] Different states have different eligibility requirements for this rebate and hence it may not be available to all segments in all locations.

SOURCE: ACIL ALLEN CONSULTING.

TABLE 9.3 MAP OF AVAILABILITY OF ASSISTANCE TO HOUSEHOLDS – INITIATIVES TO CHOOSE ALTERNATIVE ENERGY SOURCES

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Information, advice and non-financial support										
Awareness campaign										
General information	YourHome.gov.au									
	Smart Blocks									
	Your Energy Savings									
	You and Your Home (VIC)									
	Energy Advisory Service (SA)									
Word of mouth communication / role models through technology-based media	Localised examples only									
Word of mouth communication / role models through traditional media	Localised examples only									
Exemplars e.g. open houses, demonstration projects, etc.	Interactive energy-efficient house (online) (VIC)									
	Michael Mobbs' Sustainable House (SYD)									
	CERES EcoHouse (VIC)									
Proactively provide tailored information to the specific household	Solar companies									
	Victorian Residential Efficiency Scorecard (VIC)									
Proactively provide simple personalised information through a trusted source										
Market-based tools and services to assist households to take action (comparator or investment tools / websites / apps, benchmarking tools / websites, smart meters, energy management systems/devices)	Multiple solar calculators (output, savings, payback, ROI, etc)									
	Multiple solar system size calculators									
	Solar rebate calculator									
	Feed in tariff calculator									
	Solar loan calculator									

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
	CarbonTRACK home energy management system									
Provide easy access to information and support and education for trusted sources/organisations that provide support to households	Energy Info Hub (VIC)									
Incentives										
Feedback on outcomes	Retailer information on energy bills									
Feedback on outcomes that is specific and timely										
Incentivise desired outcomes	Small scale renewable energy scheme									
	Competitive feed-in tariffs									
	Battery storage database registration incentive (QLD)									
Financial support										
EPCs, loans, etc.	No interest loans for solar and battery systems (QLD)									
Grants, subsidies, etc.	Rebate for solar and battery systems (QLD)									
	Household Battery Storage Subsidy (ACT)									
	Solar for Low Income Households Program (ACT)									
	Latrobe Valley Home Energy Upgrade Program (VIC)									
	Smart Energy Grants (NT)									
Government investment in public housing upgrades	NSW social housing upgrades (Home Energy Action Program)									
	Energy Hardship Assist (NSW)									
Fund community organisations to provide services	Localised examples only									
Regulation										
Regulate information provided to households										

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Regulate schemes that incentivise households to manage their energy bills			■	■			■	■		
Regulate retail energy deals / payment supports e.g. bill smoothing, shorter billing period, payment plans	Regulated minimum feed-in tariffs (VIC)	■	■	■	■	■	■	■	■	■
Remove market, policy and regulatory barriers for new products and services to manage energy bills			■		■		■		■	
Support services										
Provide access to community organisations that can be engaged by trusted source to support and assist households taking action	Positive Charge (VIC and NSW)	■	■	■	▨	▨	■	■	▨	▨
	Pilot Community Power Hubs (VIC)	■	■	■	▨	▨	■	■	▨	▨
	SEE-Change (ACT)	■	■	■	▨	▨	■	■	▨	▨
	Yarra Energy Foundation (VIC)	■	■	■	▨	▨	■	■	▨	▨

SOURCE: ACIL ALLEN CONSULTING.

TABLE 9.4 MAP OF AVAILABILITY OF ASSISTANCE TO HOUSEHOLDS – INITIATIVES TO CHOOSE TO IMPROVE BUILDING FABRIC AND FIXED APPLIANCES

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Information, advice and non-financial support										
Awareness campaign	Smarter Choice Program (NSW & VIC)									
General information	YourHome.gov.au									
	Smart Blocks									
	Your Energy Savings									
	You and Your Home (VIC)									
	ACTSmart (ACT)									
	Power to Save (NSW)									
	Energy Advisory Service (SA)									
Word of mouth communication / role models through technology-based media	Localised examples only									
Word of mouth communication / role models through traditional media	Localised examples only									
Exemplars e.g. open houses, demonstration projects, etc.	Michael Mobbs' Sustainable House (SYD)									
	Interactive energy-efficient house (online) (VIC)									
	CERES EcoHouse (VIC)									
Proactively provide tailored information to the specific household	Home energy toolkits (SA, ACT, TAS)									
	Victorian Residential Efficiency Scorecard (VIC)									
	Actsmart Sustainable Home Advice (ACT)									
Proactively provide simple personalised information through a trusted source	Actsmart Low Income Energy Efficiency Program (ACT)									
Market-based tools and services to assist households to take action (comparator or investment tools / websites / apps, benchmarking tools / websites, smart meters, energy management systems/devices) — fixed appliances	Energy Rating Calculator and App									
	NABERS Home Energy Explorer									
	Appliance Calculator (VIC)									

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
	Electrical appliance running cost calculator (SA)									
Market-based tools and services to assist households to take action (comparator or investment tools / websites / apps, benchmarking tools / websites, smart meters, energy management systems/devices) — building fabric										
Provide easy access to information and support and education for trusted sources/organisations that provide support to households	Energy Info Hub (VIC)									
	Energy Partners Program (SA)									
	Utilities literacy training courses for community workers (SA)									
	Energy Efficiency Training and Knowledge Building (NSW)									
Incentives										
Feedback on outcomes	Retailer information on energy bills									
Feedback on outcomes that is specific and timely										
Control of devices by third party	Control of appliances (e.g. hot water systems and pool pumps) by electricity distributors									
Incentivise desired outcomes	Retailer Energy Efficiency Scheme (REES) (SA)									
	Victorian Energy Upgrades program (VIC)									
	Energy Savings Scheme (EES) (NSW)									
Penalise undesirable outcomes										
Financial support										
EPCs, loans, etc.	No Interest Loans Schemes (NILS)									
	Tasmanian Energy Efficiency Loan Scheme (TEELS)									
Grants, subsidies, etc.	Energy efficient appliance rebate (QLD)									
	Wood Heater Replacement Program (ACT)									
	Energex Positive Payback Program (QLD)									

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
	Ergon Energy Incentives (QLD)									
	Smart Energy Grants (NT)									
	Latrobe Valley Home Energy Upgrade Program (VIC)									
	Victorian Healthy Homes Program (VIC)									
Government investment in public housing upgrades	EnergySmart Public Housing Project (VIC)									
	NSW social housing upgrades (Home Energy Action Program)									
Fund community organisations to provide services	Localised examples only									
Regulation										
Regulate minimum performance standards for appliances and building fabric, and labelling	Minimum energy efficiency standards in the NCC									
	Minimum Energy Performance Standards (MEPS)									
Regulate information provided to households										
Regulate schemes that incentivise households to manage their energy bills	Retailer Energy Efficiency Scheme (REES) (SA)									
	Victorian Energy Upgrades program (VIC)									
	Energy Savings Scheme (EES) (NSW)									
Regulate technologies that enable households to manage their energy bills	Smart meters mandatory roll out (VIC)									
Remove market, policy and regulatory barriers for new products and services to manage energy bills										

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Support services										
Provide access to community organisations that can be engaged by trusted source to support and assist households taking action	Positive Charge (VIC and NSW)									
	SEE-Change (ACT)									
	Baw Baw Sustainability Network (VIC)									
	Yarra Energy Foundation (VIC)									

SOURCE: ACIL ALLEN CONSULTING.

TABLE 9.5 MAP OF AVAILABILITY OF ASSISTANCE TO HOUSEHOLDS – INITIATIVES TO CHOOSE MORE EFFICIENT EQUIPMENT

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Information, advice and non-financial support										
Awareness campaign	Smarter Choice Program (NSW & VIC)									
General information	YourHome.gov.au									
	Smart Blocks									
	ACTSmart (ACT)									
	You and Your Home (VIC)									
	Power to Save (NSW)									
	Your Energy Savings									
	Energy Advisory Service (SA)									
Word of mouth communication / role models through technology-based media	Localised examples only									
Word of mouth communication / role models through traditional media	Localised examples only									
Exemplars e.g. open houses, demonstration projects, etc.	Michael Mobbs' Sustainable House (SYD)									
	CERES EcoHouse (VIC)									
	Interactive energy-efficient house (online) (VIC)									
Proactively provide tailored information to the specific household	Home energy toolkits (SA, ACT, TAS)									
	Victorian Residential Efficiency Scorecard (VIC)									
	Actsmart Sustainable Home Advice (ACT)									
Proactively provide simple personalised information through a trusted source	Actsmart Low Income Energy Efficiency Program (ACT)									
Market-based tools and services to assist households to take action (comparator or investment tools / websites / apps, benchmarking tools / websites, smart meters, energy management systems/devices)	Energy Rating Calculator and App									
	Light Bulb Saver App									
	NABERS Home Energy Explorer									

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
	Appliance Calculator (VIC)									
	Electrical appliance running cost calculator (SA)									
Provide easy access to information and support and education for trusted sources/organisations that provide support to households	Energy Info Hub (VIC)									
	Energy Partners Program (SA)									
	Utilities literacy training courses for community workers (SA)									
	Energy Efficiency Training and Knowledge Building (NSW)									
Incentives										
Feedback on outcomes	Retailer information on energy bills									
Feedback on outcomes that is specific and timely										
Incentivise desired outcomes	Retailer Energy Efficiency Scheme (REES) (SA)									
	Victorian Energy Upgrades program (VIC)									
	Energy Savings Scheme (EES) (NSW)									
Penalise undesirable outcomes										
Financial support										
EPCs, loans, etc.	No Interest Loans Schemes (NILS)									
	Tasmanian Energy Efficiency Loan Scheme (TEELS)									
Grants, subsidies, etc.	Appliance replacement offer (NSW)									
	Discounted energy efficient lighting (NSW)									
	Energy efficient appliance rebate (QLD)									
	Latrobe Valley Home Energy Upgrade Program (VIC)									
	Victorian Healthy Homes Program (VIC)									

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
	ActewAGL's Fridge Buyback Scheme (ACT)									
Government investment in public housing upgrades	EnergySmart Public Housing Project (VIC)									
	NSW social housing upgrades (Home Energy Action Program)									
Fund community organisations to provide services	Localised examples only									
Regulation										
Regulate minimum performance standards for appliances and building fabric, and labelling	Minimum Energy Performance Standards (MEPS)									
Regulate information provided to households										
Regulate schemes that incentivise households to manage their energy bills	Retailer Energy Efficiency Scheme (REES) (SA)									
	Victorian Energy Upgrades program (VIC)									
	Energy Savings Scheme (EES) (NSW)									
Regulate technologies that enable households to manage their energy bills	Smart meters mandatory roll out (VIC)									
Remove market, policy and regulatory barriers for new products and services to manage energy bills										
Support services										
Provide access to community organisations that can be engaged by trusted source to support and assist households taking action	Positive Charge (VIC and NSW)									
	SEE-Change (ACT)									
	Baw Baw Sustainability Network (VIC)									
	Yarra Energy Foundation (VIC)									

SOURCE: ACIL ALLEN CONSULTING.

TABLE 9.6 MAP OF AVAILABILITY OF ASSISTANCE TO HOUSEHOLDS – INITIATIVES TO CHOOSE THE WAY ENERGY IS USED

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Information, advice and non-financial support										
Awareness campaign	Information/tips for consumers on ways to save energy									
General information	Your Energy Savings									
	You and Your Home (VIC)									
	Power to Save (NSW)									
	Energy Advisory Service (SA)									
Word of mouth communication / role models through technology-based media	Localised examples only									
Word of mouth communication / role models through traditional media	Localised examples only									
Exemplars e.g. open houses, demonstration projects, etc.	Michael Mobbs' Sustainable House (SYD)									
	CERES EcoHouse (VIC)									
Proactively provide tailored information to the specific household	Actsmart Sustainable Home Advice (ACT)									
	Victorian Residential Efficiency Scorecard (VIC)									
	EnergySmart Public Housing Project (VIC)									
Proactively provide simple personalised information through a trusted source										
Market-based tools and services to assist households to take action (comparator or investment tools / websites / apps, benchmarking tools / websites, smart meters, energy management systems/devices)	Household electricity calculator (VIC)									
	Smart meters & applications online/on smart phones									
	CarbonTRACK energy and solar management system									
Provide easy access to information and support and education for trusted sources/organisations that provide support to households	Energy Info Hub (VIC)									
	Energy Efficiency Training and Knowledge Building (NSW)									
	Energy Partners Program (SA)									
	Utilities literacy training courses for community workers (SA)									

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Incentives										
Feedback on outcomes	Retailer information on energy bills									
Feedback on outcomes that is specific and timely										
Control of devices by third party	Control of appliances (e.g. hot water systems and pool pumps) by electricity distributors									
Incentivise desired outcomes										
Financial support										
Fund community organisations to provide services	Localised examples only									
Regulation										
Regulate technologies that enable households to manage their energy bills										
Remove market, policy and regulatory barriers for new products and services to manage energy bills										
Support services										
Provide access to community organisations that can be engaged by trusted source to support and assist households taking action	Positive Charge (VIC and NSW)									
	Baw Baw Sustainability Network (VIC)									
	Yarra Energy Foundation (VIC)									

SOURCE: ACIL ALLEN CONSULTING.

TABLE 9.7 MAP OF AVAILABILITY OF ASSISTANCE TO HOUSEHOLDS – INITIATIVES TO CHOOSE TO USE LESS ENERGY AT PEAK TIMES

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Information, advice and non-financial support										
Awareness campaign										
General information	Your Energy Savings									
Word of mouth communication / role models through technology-based media	Localised examples only									
Word of mouth communication / role models through traditional media	Localised examples only									
Exemplars e.g. open houses, demonstration projects, etc.	Michael Mobbs' Sustainable House (SYD)									
	CERES EcoHouse (VIC)									
	Interactive energy-efficient house (online) (VIC)									
Proactively provide tailored information to the specific household	Actsmart Sustainable Home Advice (ACT)									
Proactively provide simple personalised information through a trusted source										
Market-based tools and services to assist households to take action (comparator or investment tools / websites / apps, benchmarking tools / websites, smart meters, energy management systems/devices)	Smart meters & applications online/on smart phones									
	CarbonTRACK energy and solar management system									
Provide easy access to information and support and education for trusted sources/organisations that provide support to households	Energy Info Hub (VIC)									
	Energy Partners Program (SA)									
	Utilities literacy training courses for community workers (SA)									
	Energy Efficiency Training and Knowledge Building (NSW)									
Incentives										
Feedback on outcomes										
Feedback on outcomes that is specific and timely										

Initiative type	Existing initiatives	Type of household								
		Middle Australia	Enthusiasts	Completers	Dependent	Stuck	Complacent	Competent	Cautious	Hard to help
Control of devices by third party		■			■	■	■	■	■	■
Incentivise desired outcomes	Energex Positive Payback Program (QLD)	■	▨	▨	■	■	▨	▨	■	■
	Ergon Energy Incentives (QLD)	■	▨	▨	■	■	▨	▨	■	■
Financial support										
Fund community organisations to provide services	Localised examples only					■			■	▨
Regulation										
Regulate information provided to households		■			■	■	■	■		
Regulate schemes that incentivise households to manage their energy bills			■	■			■	■		
Regulate technologies that enable households to manage their energy bills	Mandatory roll out of smart meters	▨	▨	■	▨	■	▨	■	▨	■
Remove market, policy and regulatory barriers for new products and services to manage energy bills		■	■		■		■		■	
Support services										
Provide access to community organisations that can be engaged by trusted source to support and assist households taking action	Positive Charge (VIC and NSW)	■	■	■	▨	▨	■	■	▨	▨
	Yarra Energy Foundation (VIC)	■	■	■	▨	▨	■	■	▨	▨

SOURCE: ACIL ALLEN CONSULTING.

9.2 Key findings

The following points summarise the key findings from the analysis of initiatives available as at May 2018 to help households to manage their energy bills, and the gaps identified in the initiatives available.

Hard to help households (low-medium motivation, ability and opportunity)

The support available for the Hard to help households across all types of choices is inappropriate, insufficient and/or confined only to some Australian states, resulting in these households being underserved by government assistance and the market in general. For instance, the information available to this segment is not specific enough to allow them to take action and existing simple personalised information through a trusted source is not sufficient or provided across all states.

The main challenges/barriers for catering to these types of households are their low-medium motivation, ability and opportunity. To overcome these barriers, the support offered should be simple, personalised and through trusted sources.

Cautious households (low-medium motivation and ability; high-medium opportunity)

Similarly to the Hard to help households, the existing assistance for Cautious households is not well targeted and/or insufficient. While these households have the opportunity to better manage their bills, they require specific, simple and personalised information provided through trusted sources to be able to make changes as their level of ability and motivation is low. The information and advice currently available is general in nature and/or only offered in some Australian states and financial support to community organisations to provide these services appears to be inadequate.

While there are several community organisations providing financial advice to disadvantaged or vulnerable households, this support seems to be in most cases general in nature (e.g. some community organisations provide assistance to households with financial literacy and budget management, which includes bill management, but specific/personalised information and advice about options to manage energy bills may not be provided).

Complacent households (low-medium motivation; high-medium ability and opportunity)

Complacent households need initiatives/initiatives that incentivise them to take action and make further changes. The initiatives that are appropriate for this type of household include word of mouth communication through technology-based media, exemplars and tailored advice specific to the household. However, these types of initiatives are either localised or only available in some states. Additional initiatives are also needed to incentivise the desired outcomes and/or penalise undesirable outcomes.

The challenge for this type of household is to provide support that is adequate and relevant enough to fully empower them to make further changes. This support can be provided through technology-based media and market-based tools and services.

Competent households (low-medium motivation and opportunity; high-medium ability)

Competent households benefit from initiatives that improve their opportunity to manage their energy bills, including providing access to loans or EPCs if they require access to liquid funds, penalising landlords for undesirable outcomes if renting, and regulating minimum standards for appliances and building fabric. While minimum standards for appliances and buildings are regulated across Australia, initiatives that provide access to liquid funds for these households are limited/only available in some states and there are no initiatives to penalise undesirable outcomes when renting.

These households also need initiatives that motivate them to take action and make further changes. These initiatives include word of mouth communication through technology-based media, exemplars and tailored advice specific to the household. Currently, these types of initiatives are either localised or only available in some states.

Dependent households (high-medium motivation and opportunity; low-medium ability)

Dependent households are motivated to take action to manage their energy bills and have opportunities to do so, but have a low level of ability and therefore depend on others to help them take action. Given these barriers, they require initiatives that provide them with information provided through traditional media and advice that is tailored to their household. They also benefit from initiatives that provide access to community organisations/trusted sources to support them in taking action to manage their energy bills and initiatives that provide community organisations/trusted with access to the required information to help these households. However, these types of initiatives are currently either localised or only available in some states.

Initiatives that provide specific and timely feedback on the outcomes/benefits of their actions are also recommended but lacking across the board.

Stuck households (high-medium motivation; low-medium ability and opportunity)

Stuck households are motivated to take action but lack the ability and the opportunity to do so. Given these barriers, they require initiatives that provide them with information through traditional media and/or exemplars and with advice that is tailored to their specific household. However, these types of initiatives are currently either localised or only available in some states.

Initiatives that are also appropriate for Stuck households are to provide subsidies or grants if they lack access to liquid funds, to penalise undesirable outcomes (e.g. if renting, penalise landlords for undesirable outcomes), and public investment in upgrades for those households in public housing. The analysis in the previous section shows that:

— most states provide subsidies or grants for different appliances, personal circumstances/conditions and/or the installation of alternative sources of energy
— undesirable outcomes are not actively penalised in any state
— formal programs of public investment in upgrades for those consumers in public housing seem to be only available in Victoria and NSW.

Completers households (high-medium motivation and ability; low-medium opportunity)

The following main gaps have been identified in terms of assisting Completers to overcome their opportunity barriers:

— Penalising undesirable outcomes, particularly for households who are renting.
— Providing access to liquid funds through loans or EPCs. While No Interest Loans Scheme (NILS) are widely available across Australia, it is possible that some Completers whose main barrier is capital constraints may not be eligible for the NILS because they do not have a health care card/pension card. A loan program for energy efficient products and appliances with wider eligibility is only provided in Tasmania.

In addition, a gap was identified in the provision of word of mouth communication/role models through technology-based media for Completers.

Enthusiasts household (high-medium motivation, ability and opportunity)

Enthusiasts would benefit from additional initiatives that provide them with:

— information through word of mouth communication and use role models through technology-based media (currently only localised)
— feedback on the benefits/outcomes of their actions (the only current feedback that is generally available is the information provided on energy bills that is infrequent and high level[23]).

In addition, partial gaps were identified in the provision of incentives to drive the desired outcome for Enthusiasts (e.g. white certificate schemes are only available in three Australian states).

[23] More feedback is available for households with smart meters installed and access to that data through a website or other type of tool.

Middle Australia households (medium motivation, ability and opportunity)

Middle Australia would benefit from additional initiatives that provide them with:

- information through word of mouth communication and use role models through traditional or technology-based media (currently only localised)
- feedback on the benefits/outcomes of their actions (the only current feedback that is generally available is the information provided on energy bills that is infrequent and high level[24]).

Gaps that are evident across a number of different types of households

There are a number of initiatives that are not available (or only partially available) and are appropriate for several different types of households.

- Word of mouth communication/role models through technology-based or traditional media are appropriate for all households across all types of choices, yet are not widely available.
- Exemplars are recommended for four types of households (Dependent, Stuck, Complacent and Competent) across all types of choices except to choose a better energy deal. However, these initiatives are only available in two states.
- As noted above, tailored or simple personalised information that is specific to the household is either lacking, inappropriate, insufficient or confined only to some Australian states.
- While there are several tools and calculators to assist households to choose to change the way energy is used, installing more energy efficient equipment and fixed appliances, choosing a better energy deal and installing alternative sources of energy, there seems to be a gap in tools that assist households with the choice to improve building fabric.
- Feedback on outcomes is missing across all households and all types of choices (the only feedback that is generally available is the information provided on energy bills which is infrequent and high level). For some households, such as those with a high ability level and high level of motivation (Enthusiasts and Completers), feedback through a periodic bill may be sufficient to maintain the propensity for further action or to reinforce changes that are made. However, for other households, more specific and timely feedback is required. This could be as simple as providing more frequent energy bills than quarterly, or alternatively access to more detailed information through smart meters.
- Control devices by a third party (i.e. control of appliances – e.g. hot water systems and pool pumps – by electricity distributors) are appropriate for all households except Enthusiasts and Completers across several types of choices (change the way energy is used, install more efficient equipment, use less energy at peak times and choose a better energy deal). However, they are only offered in certain states and/or by certain retailers.
- There are general gaps in terms of penalising undesirable outcomes (particularly with respect to initiatives to address the split incentive barrier for tenanted properties, while noting that this may lead to perverse outcomes).
- With regards to financial assistance, while there seem to be enough grants and subsidies available to relevant consumer segments, there are general gaps in terms of investing in public housing upgrades and funding community organisations to provide services to Cautious and Hard to help consumers. There is also a partial gap in terms of the provision of loans to relevant segments and of initiatives to incentivise the desired outcomes across certain types of choices.
- In terms of regulation, there seem to be general gaps in terms of:
  - regulation to provide information to households
  - regulation of schemes that incentivise households to manage their energy bills (partial gap, white certificate schemes are available in three states)
  - regulation of technologies that enable households to manage their energy bills
  - the removal of market and regulatory barriers to enable households to access better energy deals and for new products and services that enable consumers to manage their energy bills.
- Assistance to organisations that support households is insufficient and/or confined only to some Australian states.

[24] More feedback is available for households with smart meters installed and access to that data through a website or other type of tool.

10 USING THE CONSUMER SEGMENTATION FRAMEWORK

The strategic framework has been developed to inform policy-makers on:

- the tools and services that could support a particular choice that could be made by households to manage their energy bills
- a particular type of tool or service that could be considered to support households in choosing to manage their energy bills
- the tools and services that support a particular group of households to manage their energy bills.

10.1 Tools and services to support a particular type of choice

A policy maker may need to consider the tools and services that are appropriate to support a particular type of choice that households have to manage their energy bills, which tools and services are currently available, and which could be introduced to support households to make that choice.

The tools and services that are appropriate, in terms of efficiency and effectiveness, to support each type of household to manage their energy bills by choosing:

- a better energy deal, are set out in Table 7.1
- alternative energy sources, are set out in Table 7.2
- to improve their building fabric and fixed appliances, are set out in Table 7.3
- more energy efficient equipment and plug-in appliances, are set out in Table 7.4
- to change the way energy is used, are set out in Table 7.5
- to use less energy at peak times, are set out in Table 7.6.

The factors that influence a household's motivation, ability and opportunity are summarised in Table ES 1. The factors that are relevant to a household's choice will vary by the type of choice.

As an example, the strategic framework could be used by policy-makers to identify the tools and services that could support households to choose a better energy deal. The factors that are the most relevant for a household to make this type of choice include:

- Motivation – whether the household perceives that the cost savings associated with a better energy deal justify the perceived effort and complexity associated with changing to that deal.
- Ability – whether the household has the literacy, numeracy, research and problem solving skills to research and identify a better energy deal.
- Opportunity – whether the household is already on the best energy deal available at that time.

The tools and services that are the most appropriate, in terms of efficiency and effectiveness, to support a household to choose a better energy deal are set out in Table 7.1. The availability of those tools and services, as at May 2018, is set out in Chapter 8.

Table 10.1 brings together the characteristics of each type of household that are most relevant to choosing a better energy deal, and examples of the tools and services that are appropriate, in terms of efficiency and effectiveness, to support that type of household to choose a better energy deal. The tools and services are colour coded to indicate their availability as at May 2018. Those in red are not currently available, those in orange are available in some jurisdictions and those in green are widely available.

This same type of table can be developed, based on the information in the report, for each type of choice and by considering the full range of potential tools and services that is appropriate for that type of choice.[25] A refresh of the stocktake of tools and services available would need to be undertaken at the time the strategic framework is used by a policy maker so that the colour coding of tools and services is up to date.

TABLE 10.1 CHOOSING A BETTER ENERGY DEAL – THE RELEVANT CHARACTERISTICS OF HOUSEHOLDS AND THE AVAILABILITY OF APPROPRIATE TOOLS AND SERVICES

	Motivation	
Opportunity	**Low**	**High**
Ability = High - medium		
High	**Complacent** Key relevant characteristics – Have good literacy, numeracy, problem solving and research skills to look at alternative energy deals – Perceived cost savings don't justify the perceived effort – Not currently on the best energy deal Examples of appropriate tools and services: – Comparator tools – Feedback on outcomes that is specific and timely – Regulate information provided to customers	**Enthusiasts** Key relevant characteristics – Have good literacy, numeracy, problem solving and research skills to look at alternative energy deals – Perceived cost savings justify the perceived effort – Not currently on the best energy deal Examples of appropriate tools and services: – Awareness campaign – Comparator tools – Feedback on outcomes
Low	**Competent** Key relevant characteristics – Have good literacy, numeracy, problem solving and research skills to look at alternative energy deals – Perceived cost savings don't justify the perceived effort – Already on the best energy deal Examples of appropriate tools and services: – Tailored information specific to household – Comparator tools – Feedback on outcomes that is specific and timely – Regulate information provided to customers	**Completers** Key relevant characteristics – Have good literacy, numeracy, problem solving and research skills to look at alternative energy deals – Perceived cost savings justify the perceived effort – Not currently on the best energy deal Examples of appropriate tools and services: – Awareness campaign – Tailored information specific to household – Comparator tools – Feedback on outcomes

[25] Given the complexity of the information presented in Table ES 2, and the need for this to be replicated multiple times to provide a comprehensive view of all tools and services available for all types of households for all the types of choices that could be made by those households to manage their energy bills, a practicable way to access this information is through a digital application.

Opportunity	Low	Motivation High
Ability = Medium		
Medium		**Middle Australia** Key relevant characteristics – Have reasonable literacy, numeracy, problem solving and research skills so able to look at alternative energy deals, as long as the process is not too complex – Prepared to put in some time and effort to realise cost savings, but not too much – Have chosen a better energy deal, but is not the best available Examples of appropriate tools and services: – Awareness campaign – Tailored information specific to household – Feedback on outcomes that is specific and timely – Regulate information provided to customers
Ability = Low - medium		
High	**Cautious** Key relevant characteristics – Don't have the literacy, numeracy, problem solving and research skills to look at alternative energy deals – Perceived cost savings don't justify the perceived effort and complexity – Already on the best energy deal Examples of appropriate tools and services: – Tailored information specific to household – Feedback on outcomes that is specific and timely	**Dependent** Key relevant characteristics – Don't have the literacy, numeracy, problem solving and research skills to look at alternative energy deals – Perceived cost savings justify the perceived effort and complexity – Not currently on the best energy deal Examples of appropriate tools and services: – Tailored information specific to household – Feedback on outcomes that is specific and timely – Regulate information provided to customers
Low	**Hard to help** Key relevant characteristics – Don't have the literacy, numeracy, problem solving and research skills to look at alternative energy deals – Perceived cost savings don't justify the perceived effort and complexity – Already on the best energy deal Examples of appropriate tools and services: – Simple personalised information through a trusted source – Feedback on outcomes that is specific and timely – Grants and subsidies	**Stuck** Key relevant characteristics – Don't have the literacy, numeracy, problem solving and research skills to look at alternative energy deals – Perceived cost savings justify the perceived effort and complexity – Not currently on the best energy deal Examples of appropriate tools and services: – Simple personalised information through a trusted source – Feedback on outcomes that is specific and timely – Grants and subsidies – Regulate information provided to customers

Note: Red = Not available; Orange = Available in some jurisdictions; Green = Widely available

SOURCE: ACIL ALLEN CONSULTING.

10.2 A particular type of tool or service to support households making a choice

A policy maker may be considering a particular tool or service that could support households to choose to manage their energy bills. The policy maker may be interested to understand for which household types that tool or service is appropriate and what other tools and services are already available to that particular household.

As an example, the strategic framework could be used by policy-makers to assess the appropriateness of introducing an awareness campaign to assist households to choose a better energy deal.

Table 10.1 indicates that awareness campaigns are only appropriate for households that are categorised as Enthusiasts and Completers and Middle Australia (they have medium-high ability and medium-high motivation). An awareness campaign is unlikely to be effective for other types of households. Table 10.1 also indicates that awareness campaigns were widely available at May 2018.

Alternatively, a policy maker could use the strategic framework to assess the appropriateness of being able to proactively provide personalised information to the specific household.

Table 10.1 indicates that proactively providing personalised information to specific households is only appropriate for households that are defined as Cautious and Hard to Help (they have low-medium ability and low-medium motivation). While proactively providing personalised information to specific households would be effective for all households, it would not be an efficient approach. Table 10.1 indicates that personalised information was not provided to specific households as at May 2018.

Table 10.1 also indicates that, as at May 2018, grants and subsidies (in the form of concessions) were available to some Hard to Help households, and tailored information specific to the household was available to some Cautious households, to support their choice to change to a better energy deal.

Tools and services that support a particular group of consumers

A policy maker may be considering the tools and services that could support a particular type of household to choose to manage their energy bills. The policy maker may be interested to understand which tools or services are appropriate for a particular type of household and whether those tools and services are already available to that particular household.

As an example, the strategic framework could be used by a policy maker to identify the tools and services that could support Hard to Help households to manage their energy bills by choosing a better energy deal. Table 10.1 identifies that the tools and services that are appropriate to support Hard to Help households to choose a better energy deal include:

- simple personalised information through a trusted source
- feedback on outcomes that is specific and timely
- grants and subsidies.

Table 10.1 also identifies that simple personalised information through a trusted source and feedback on outcomes that is specific and timely were not available for Hard to Help households as at May 2018, and that grants and subsidies were available to some Hard to Help households as at May 2018.

11 RECOMMENDATIONS

Section 11.1 outlines our recommendations based on the analysis of the existing assistance by household segment presented in Chapter 9 and the suggested areas for further research are provided in section 11.2.

11.1 Policy recommendations

The analysis in Chapter 9 identified gaps (both complete and partial) in assistance to households to manage their energy bills and highlighted areas of opportunity/priority for policy makers based on:

- the recommended initiatives identified for each type of household and type of choice (the rationale behind the initiatives that are recommended for different types of households is discussed in Chapter 6 and Chapter 7)
- the stocktake of initiatives available in Australia as at May 2018.

The following recommendations have been developed to address these gaps. These recommendations are provided by type of initiative.

Information, advice and non-financial support

The following is recommended to help households across different segments improve their motivation to manage their energy bills.

- Develop programs to provide information through word of mouth communication and role models through technology-based media to engage Enthusiasts, Completers, Complacent, Competent and Middle Australia households. Relevant information should be provided to help households across all types of choices.
- Develop programs to provide information through word of mouth communication and role models through traditional-based media to engage Dependent, Stuck, Cautious, Hard to help and Middle Australia households. Relevant specific information (that is user friendly) should be provided to help households across all types of choices.
- Extend the use of exemplar houses and demonstration projects across Australia, while noting that this is only likely to be effective for Dependents, Stuck, Complacent and Competent.
- Develop programs to extend the provision of tailored information that is specific to households. Examples of this include:
  - exploring the introduction of voluntary residential energy rating schemes across Australia (similar to the current Victorian Residential Efficiency Scorecard)
  - extending the availability and encouraging the use of home energy toolkits (currently only available in South Australia, Tasmania and the ACT)
  - creating a national program that is similar to the ACT's Sustainable Home Advice program which provides ACT households with advice on how to reduce energy use provided by an energy expert

- extending AGL's Energy Insights pilot.

— Develop programs that provide simple, personalised advice to Cautious and Hard to help consumers through trusted sources. An example of this could be the extension of the ACT's Low Income Energy Efficiency Program which assists low income households with education and support to reduce their energy bills. This service is funded by the ACT Government and delivered by St Vincent de Paul. Through this program, an Energy Efficiency Outreach Officer visits people in their homes and provides a free assessment to determine the best ways to reduce their energy bills and make their household environment more comfortable. This can include help to seal gaps, providing heated throw blankets to use instead of heaters, or encouraging the use of clothes lines or indoor clothes drying racks as opposed to clothes dryers. Where appropriate, the program has also assisted in the replacement of old fridges with newer, more efficient models.

— Develop tools to assist households to choose to improve building fabric. This could be, for instance, a tool that assists households to calculate their potential bill (or energy) savings from installing insulation or double-glazed windows.

Incentives

— Explore ways to provide households with feedback on outcomes that is more specific and timely, for instance through the provision of more frequent energy bills as a minimum, access to more detailed metering data through smart meters and an extension of AGL's Energy Insights pilot.

— Explore ways to increase the availability and use of control devices by a third party (including exploring any regulatory and market barriers to their increased use).

— Explore additional initiatives to incentivise the desired outcomes for the relevant types of households. This could include for instance:

- For households with low opportunity living in rental accommodation (Completers, Stuck, Competent and Hard to help) a program of tax incentives for landlords could be explored. Enhancing the tax treatment of energy saving fixtures would provide a financial inducement to landlords to install energy saving fixtures. Tax incentives could be provided through a number of existing federal, state or local government taxes including, for example, income tax, state land tax and council rates. Tax incentives are one of the most prominent factors that landlords consider when deciding to invest in their property. Currently, unless a landlord is replacing a broken item, upgrades are not deductible from income tax (i.e. they are treated as a capital expense that can be used to offset capital gains). A tax incentive which provides immediate relief could therefore be effective.
- On-bill financing for rental properties. In this model, a property owner finances the fixture through a third-party provider. Therefore, they do not make an upfront payment but make repayments through charges on their property's energy bill. The energy saving can be greater than the amount of repayment, giving the investment a positive pay-off. On-bill financing models already exist in the Australian marketplace (such as solar leasing models offered by some energy retailers). These products are currently targeted at owner occupiers. However, on-bill financing for rental properties has been successful in the US and has been adopted in the UK and France. To overcome the split incentive, charges can be passed on to the tenant (either by the landlord if the energy bill is in their name) or otherwise levied directly on the tenant's bill.
- Increased use of Energy Performance Contracts (EPCs) in the residential sector for Completers and Competent households.
- Extending the programs offered by some retailers in Queensland to help manage peak demand.

— Explore initiatives to penalise undesirable outcomes (particularly for tenanted properties). This could include for instance:

- Consideration of mandatory disclosure of home energy performance at the point of lease (while also noting that mandatory disclosure is unlikely to influence outcomes during periods of tight rental vacancy).
- Setting higher council rates for low energy efficiency properties.

Financial support

Recommendations to improve access to funds to invest in actions that will assist households manage their energy bills and to incentivise the desired outcomes are provided below.

— Improve access to liquid funds through loans for relevant segments (particularly for those who are not eligible for NILS). This could be done through a loan program for energy efficient products and appliances with wider eligibility similar to the one provided in Tasmania (TEELS).
— Extend investment in targeted retrofits of public housing stock with the poorest energy performance and explore partnerships with the private sector to undertake these retrofits. The benefits of partnering in this way include increased scale and ability to draw on industry knowledge and expertise.
— Provide additional targeted funds to community organisations to provide assistance to vulnerable households to manage their energy bills.

Regulation

— Regularly conduct research to identity whether there are market and regulatory barriers to enable consumers to access better energy deals and if so, remove these barriers where there is a case to do so. For example, the National Electricity Rules have recently been changed to facilitate competition in metering services. Government will need to monitor the effectiveness of these rule changes.
— Regularly conduct research to identity whether there are market and regulatory barriers for new products and services that enable consumers to manage their energy and if so, remove these barriers where there is a case to do so. For example, battery storage is a relatively new product that has the potential to assist households to manage their energy bills. Governments will need to ensure that there are no inappropriate market or regulatory barriers to the efficient uptake of battery storage.

Support services

As noted in Chapter 9, the assistance that is currently available to organisations that support households is insufficient and/or confined only to some Australian states. As such, the following is recommended.

— Increase access to information and support/training for trusted sources so that this assistance can be accessed by trusted sources around Australia.
— Identify key community groups with presence around Australia who can support and assist households taking action and jointly develop specific programs to help Cautious and Hard to Help households taking action.

11.2 Suggested areas for further research

This report focused on developing a consumer segmentation framework that can be applied by policy makers to develop better policies, tools and services to support different types of households make different types of choices to manage their energy bills.

The framework was developed based on existing Australian and international research and stakeholder input and feedback.

The proposed consumer segmentation model is conceptual in nature and therefore does not empirically measure the size of each of the proposed consumer segments.

There are a number of additional areas of research which would help improve the use and application of the proposed framework:

1. Further research to validate the proposed consumer segmentation model.
2. Further research to validate the appropriateness of the proposed initiatives by type of household.
3. Noting the difficulty in surveying some of the segments in the model, further research to assess the size of each of the segments by type of choice.

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APPENDICES

A SUMMARY OF DESKTOP RESEARCH

The following sections provide a summary of the desktop research that has been undertaken for this project. The information provided below includes the types of customers that were captured in the segmentation model and the basis for the segmentation (where applicable). The basis for segmentation could be:

- demographic variables, which include age, gender, income, ethnicity, nationality, marital status, education, occupation, household size, etc.
- geographic variables, which include city, state, postcode, region, metropolitan or rural location, population density, climate, population growth rate, etc.
- psychographic variables, which include attitudes, values, opinions, interests, lifestyle, hobbies, risk aversion, personality traits, leadership traits, magazines read, television programs watched, etc.
- behavioural variables include: brand loyalty, usage level, benefits sought, distribution channels used, reaction to marketing factors, etc.
- other.

Program / organisation / study	**Driving Change: Identifying what Caused Low-Income Consumers to Change Behaviour** Russell-Bennett et.al. 2017a (GEERA)
Customer focus	Low income households
Segmentation basis	Demographic ☑ Geographic ☑ Psychographic ☑ Behavioural ☑

Description

This study by the Group of Energy Efficiency Researchers Australia (GEERA) examined in detail the result of the Low-Income Energy Efficiency (LIEP) Program pilots to identify what drives behavioural change.

GEERA adopted a two-stage segmentation approach. First, across the broad population base, it identified four consumer segments based on their attitude towards energy efficiency ("energy champions", "ready to engage", "I am doing everything I can do" and "resistors") and concluded that participants in the LIEEP fell mostly in the "Ready to Engage" segment.

In the second stage of consumer segmentation, GEERA identified four bases or dimensions for segmenting participants in the LIEEP trials – by geographic, demographic (cohort, age and education level), psychographics (thoughts, opinions or attitude of a person) and behavioural indicators (physical actions and habits).

GEERA qualitatively identified three sub-segments within the broader "Ready to Engage" segment based primarily on age group, cultural background and self-efficacy.

— New to Energy — segment largely determined by people's geographic location (extreme climate zones and regional/remote areas) and cultural background (culturally and linguistically diverse (CALD) and Indigenous cohorts). Participants in this segment are slow to take up energy efficiency behaviours as energy is a relatively new topic and they are unsure how energy fits into their lives.

— Energy Without— segment largely determined by people's age group (young adults) and psychographic variables (high confidence, positive attitudes and high need for thermal comfort). Participants in this segment are confident and positive about energy efficiency, and are willing to take up energy efficient behaviours.

— Stressed About Energy —segment largely determined by people's life cycle stage (mature consumers) and psychographic variables (high tolerance for thermal discomfort, price-sensitive, habitual in their behaviours and have low self-efficacy and competency in relation to managing their energy efficiency). Participants in this segment are anxious or uncertain about energy efficiency behaviours.

These sub-segments were characterised by motivation, opportunity and ability.

Program / organisation / study	**Taking advantage of electricity pricing signals in the digital age: Householders have their say, a summary report** Russell-Bennett et.al. 2017b (CitySmart)
Customer focus	Residential energy users
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☑ Behavioural ☑

Description

This report was focused on the engagement by consumers with energy, and the challenges and barriers they might face in this process. The research was particularly focused on consumer attitudes to technology, and the role that could play in empowering consumers to take up and respond to new electricity retail pricing offers.

The researchers developed five personas during a qualitative research phase, which informed the identification of six consumer segments. Segments were defined by their elemental traits, being those traits that are fairly stable over time and not likely to vary when making household decisions across a range of products or services. These included:

— the way goals were set in the household (were they based on consensus or subject to coercion, trade-off or self-interest)

— the organisational structure of the household (was it bureaucratic and strict or organic and ad hoc)

— the way households made a decision (were decisions made by "upper management" or did everyone have a say)

— the way that households gathered information for decisions (did they take a passive approach, gathering whatever was at hand or would they actively search and collect information).

The segments were then profiled in more depth by considering the households' surface-level traits (those that can vary by situation and are changeable over time):

— attitude and preferences for using technology to manage household challenges (do they want control over management decisions or are they happy to delegate simple decisions to the technology)

— attitude and preferences to gathering information (from come and talk to me to give me a dashboard and I will work it out to give me engaging apps and tools to make it easier for my family and I to understand and engage).

— The consumer segments identified through this research are:

— Ant Colony — we work together for common goals. We know what we are doing. When something new comes along we want an expert to assist us in making sure it is right. Technology needs to fit in with our way of doing things

- Bee Hive — we each have expert roles in finding information to make household decisions. While one person tends to be in charge, we are flexible enough to adapt. We like to use tariff reform technology we trust and can control
- Flock of Geese — we take turns in leading the decision-making. We wait for a problem to occur before making changes because we are busy. Tariff reform technology assists us to ensure harmony
- Wallabies — we don't have a lot of rules. We share decision-making and everyone gets a say. We like tariff reform technology to be fun and to support our flexibility
- Domestic Cat Family — we are all engaged and like to figure things out for ourselves. We don't actively seek information unless a problem arises, and we trust in our ability to control tariff reform technology
- Lion Pride — we are all independent and we like to figure things out for ourselves. We actively seek information before a problem arises; and we trust in our ability to control tariff reform technology.

Program / organisation / study	**Flex Your Power** California, USA
Customer focus	General public
Segmentation basis	Demographic ☑ Geographic ☑ Psychographic ☑ Behavioural ☐

Description

Flex Your Power was California's first state-wide energy efficiency marketing and outreach campaign. It began in 2001 and was a central part of California's response to the energy crisis of 2001/02. The campaign then became an ongoing program.

Program / organisation / study	**Ontario Power Authority (OPA)** Ontario, Canada
Customer focus	Residential energy users
Segmentation basis	Demographic ☑ Geographic ☐ Psychographic ☑ Behavioural ☑

Description

The OPA is an independent corporation reporting to the Ontario Minister of Energy with a mandate to ensure an adequate, long-term supply of electricity for Ontario. The OPA conducted research to enable a segmentation of the Ontario public to inform its marketing and conservation initiatives. Four residential segments were identified:

- Live4Today — low commitment to electricity conservation, they are not anti-conservation but are simply not interested – they do not see electricity reliability and environmental issues as their problem to solve. They are also mistrustful of institutions and sceptical of messages from government.
- Budget Driven — with proper motivation they will undertake easy-to-do actions to conserve electricity and buy low-value electricity-efficient products. They feel somewhat overwhelmed by day-today financial pressures and their sole motivation for reducing electricity use is saving money in the short term.
- Pragmatic Conservers — they believe in electricity conservation for its own sake. However, despite their conceptual support for conservation and using electricity wisely they must be convinced that an action also serves their interests before they will take it. They will not sacrifice lifestyle, comfort or pay extra to support their belief that conservation is the right thing to do.

— Green Champions — they are the most likely to take actions which require greater levels of commitment. Green Champions conserve electricity as part of a values-driven approach to conservation and sustainability in all forms. They strongly believe that individuals are part of larger systems – societal networks and environmental systems – and have a highly-developed sense of social responsibility.

Program / organisation / study	**Pacific Gas and Electric Company (PG&E)** Energy utility company, California
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐
	Other: First by sector (e.g. agriculture, industrial, commercial, residential), then by mass (e.g. small and large commercial) and targeted markets (e.g. medical facilities, schools and universities)

Description

PG&E traditionally relied in sectoral segmentation of their customers to offer targeted energy efficiency programs. However, they are increasingly relying on customer's demographic characteristics, attitudes towards energy use, energy efficiency, conservation, demand response, knowledge of energy efficiency and peak demand reduction options to identify effective segmentation schemes.

Program / organisation / study	**Southern California Edison Company (SCE)** Energy utility company, California
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐
	Other: First by sector (e.g. residential, non-residential), then by segments (or subsectors) within these sectors (e.g. multi-family, affordable housing, manufactured housing, etc.).

Description

SCE has a somewhat different approach to segment their customers for energy efficiency programs. After segmenting their markets by sector and subsectors, they target their energy programs towards a progression of short-, mid-, and long-term actions, with a goal of transforming the way consumers use energy by targeting the principal barriers to adoption in key sectors. SCE has directed different approaches to different segments, including the use of delivery- or market-based methods and intervening in the supply-demand chain at different points (they offer upstream, midstream and downstream programs).

Program / organisation / study	**The Preference of Romanian Consumers for Renewable Energy** Alexandru, 2014
Customer focus	Residential energy users
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☑ Behavioural ☐

Description

Doctoral thesis regarding the Romanian energy sector and household consumers' willingness to pay for the positive attributes of Renewable Energy. As part of the study the author segmented household energy consumers using a psychographic method. Segments were identified based on lifestyle components – work and relationships, recreation, health, techno-environmental, family unity and volunteering-spirituality. The sample comprised 227 customers.

Six market segments were identified: introverted, carpe diem, modern, solo-active, active and traditional.

Program / organisation / study	**The responsiveness of households to energy demand management initiatives: segmenting by household types** Kleinschafer and Morrison, 2016
Customer focus	Residential energy users
Segmentation basis	Demographic ☑ Geographic ☐ Psychographic ☐ Behavioural ☐ **Other:** Household type: sole person, single parent, shared household, married no children, de facto no children, married with children, and de facto with children.

Description

This paper presents segmentation by household type as a simple method of segmentation, accessible to organisations with limited resources and able to be employed using a secondary data set or with relatively simple data collection and analysis. Despite its simplicity, the study show that this form of segmentation differentiates well between segments in terms of their actual electricity use, their past efficiency behaviours and preferences for efficiency programs. The results of study show the effect of having children and of marital status on energy use and efficiency behaviours, the high curtailment but low investment behaviours of single parent households, and the low efficiency behaviours of shared households. The study identifies seven household types: sole person, single parent, shared household, married no children, de facto no children, married with children, and de facto with children.

Motivations vary by households – price-sensitive behaviour highest for married couples with no children and lowest for shared households. Married couples with no children undertake largest number of pro-environmental behaviours and married couples with children undertake the largest number of comfort-related behaviours. Sole person households undertake the lowest number of comfort-related behaviours.

Married couples least likely to be renting; single parents most likely to be renting.

Presence of children, marital status and home ownership are important drivers of energy usage and efficiency behaviours.

Program / organisation / study	**Using a consumer-segmentation approach to make energy efficiency gains in the residential market** McKinsey 2013
Customer focus	Residential energy users
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☑ Behavioural ☑

Description

This paper presents a consumer segmentation approach for energy providers to deliver better energy-efficiency opportunities to the market. It divides the target audience into five segments based on attitudes and behaviours.

- Green advocate energy savers — positive overall energy saving behaviour, strong positive environmental sentiments and interest in new technologies.
- Traditionalist cost-focused energy savers — extensive overall energy-saving behaviour motivated by cost savings, limited interest in new technologies or new service programs.
- Home-focused selective energy savers — concerned about saving energy, more interested in home improvement efforts, driven by interest in new technologies and cost savings.
- Non-green selective energy savers — selective energy saving behaviour with focus on “set and forget” interventions. Not concerned about environmental considerations.
- Disengaged energy wasters — less motivated by saving money through energy savings. Not concerned about environmental considerations. Not interested in new technologies.

Program / organisation / study	**Energy market segmentation for distributed energy resources implementation purposes** Encinas et al. 2007
Customer focus	All energy users
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☑ Behavioural ☑
	Other: First by sector (e.g. residential, non-residential), then by economic activity of the customer (for the commercial and industrial sectors) and on type of dwelling (single family house, single family apartment and multi-family unit) and climate zone for the residential sector and finally by energy end-use (e.g. space heating, water heating, lighting, space cooling, process cooling, etc.).

Description

This paper presents a segmentation methodology that allows the identification of different types of customers in accordance with their energy use. This is different from the common segmentation procedures usually developed by utilities, which is based on mainly economic activity and size.

The paper proposes a three-level segmentation structure based on a top-down approach:

— First level: traditional sector division (commercial, residential and industrial)

— Second level: based on the economic activity of the customer (for the commercial and industrial sectors) and on type of dwelling (single family house, single family apartment and multi-family unit) and climate zone for the residential sector

— Third level: based on qualitative evaluation of energy end-uses (e.g. space heating, water heating, lighting, space cooling, process cooling, etc.).

Program / organisation / study	**Consumer engagement in the energy market since the Retail Market Review: 2016 Survey Findings** UK Office of Gas and Electricity Markets (Ofgem) 2016
Customer focus	Residential energy users
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☑ Behavioural ☑

Description

This report presents results from the 2016 Ofgem consumer engagement survey. The first survey was conducted in 2014 to contribute towards the establishment of a baseline of consumer attitudes and behaviour in the early stages of Ofgem's Retail Market Review (RMR) interventions. Now the survey is repeated annually to track engagement in the energy market and examine any changes in these attitudes and behaviours. To measure consumer engagement consistently following the implementation of the RMR reforms, a consumer engagement index was developed. On the basis of this index, it was possible to divide consumers into four segments as follows.

— Switched on — this is the most engaged group. These customers are highly knowledgeable about the energy market, likely to read all communications in detail and to take action as a result. They are confident in navigating the energy market and have switched providers multiple times. They compare tariffs often, are less satisfied with energy suppliers than other customers, and are less trusting of energy suppliers to treat them fairly and charge them a fair price.

— Tuned in — these customers show similar levels of understanding to On Standby customers, but are more confident about engaging in the energy market. They show high levels of trust towards their own energy suppliers and are likely to read communications in detail. They conduct some comparison activity and are likely to have switched providers in the last year. However, they are not as active as Switched on consumers when it comes to changing tariff and switching activity.

— On standby — these costumers show higher levels of understanding awareness than Unplugged costumers, but this does not translate into regular engagement with the energy market. Very few have compared, changer or switched providers in the last 12 months. They also do not differentiate between suppliers and are likely to have switched only once or twice, 2-5 years ago. On standby costumers show high levels of trust towards their own energy suppliers.

— Unplugged — this is the least engaged group. These customers show little understanding of the energy market. They have not changed or compared tariff in the last year and many have never switched supplier or changed tariff. Many do not recall receiving communications in the last 12 months. They are the least likely to trust their energy supplier to provide helpful information, and they are the least satisfied with the service from their supplier. Unplugged customers are the most likely to pay for their energy by prepayment meter and to be on a standard variable tariff.

Program / organisation / study	**Electricity Network Transformation Roadmap: Interim Program Report** CSIRO and Energy Networks Association (ENA) 2015
Customer focus	Residential energy customers and non-residential end consumers
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐ **Other:** The Roadmap program used the 'Jobs to be Done' approach to examine the technological offerings that may be received and by whom. This approach is based on what customers want, not the process or the product to get it (i.e. people don't want to buy a quarter-inch drill, they want a quarter-inch hole). In the case of the roadmap, the 'job' that residential energy management will perform is to make it easy and painless for householders to manage their energy consumption and to take advantage of new electricity pricing incentives. The analysis considers the pains that customers want minimised and the gains that they want maximised. The Roadmap program used this framework to develop a customer profile design, exploring customer jobs, pains and gains. It then developed a customer value proposition design, creating products and services, gain creators and pain relievers to address the customer profiles for each segment. Segments are represented along a market adoption curve, with highly engaged early adopters to the left and more passive adopters to the right. In addition, customers segments are categorised into three categories that describe how they interact with energy in a 'dependent-engaged-autonomous' spectrum.

Description

The Electricity Network Transformation Roadmap is a blueprint for transitioning Australia's electricity system to enable better customer outcomes. It identifies an integrated program of actions and measures that provide the 'pathway' for Australia's energy transition over the 2015–25 decade. To ensure value for customers and society more generally, the Roadmap program places customers at the centre of our electricity future. To do so, the Roadmap explored a range of customer segments in 2025, to provide a plausible basis for analysing electricity solutions that different residential, commercial and industrial customer types are likely to value.

Using global literature reviews, expert reports and structured workshops, a range of plausible 2025 representative customer segments for residential customers were developed (see Figure A.1).

FIGURE A.1 AMPLE MARKET SEGMENTATION CURVE FOR RESIDENTIAL CUSTOMERS IN 2025

SOURCE: CSIRO AND ENA, 2015.

The Roadmap program identified some common themes in the literature, which were reflected in the five customer segments: Autonomous, Tech focused, Hands on, Be my agent and Service dependent (including vulnerable customers). A description of these segments is presented in Table A.1.

TABLE A.1 SUMMARY OF FUTURE RESIDENTIAL CUSTOMER SEGMENTS BASED ON WHAT THEY VALUE MOST

	Autonomous	Tech focused	Hands on	Be my agent	Service dependent
Distinctive features	**Independent:** Wants full control, granular cost management and the ability to configure the operation of the electricity solution. Will often involve disconnecting from the grid entirely, and may be motivated by locational cost or reliability issues.	**Empowered:** Has a strong affinity with technology and desires control. Wants to influence directly the design and operation of the customised solution. System cost is important but maximising returns on investment from trading energy services with the grid is critical.	**Active:** Wants to understand what each available option has to offer and to be involved fully in the selection process. Willing to maintain a moderate to high involvement in the ongoing operation. System cost and return on investment from interacting with the grid to trade energy services are both important.	**Passive:** Prefers electricity solutions that provide ease and convenience at a reasonable cost. Desires an agent to provide a shortlist of options that make sense, are easy to deliver and require a minimum of ongoing involvement. May invest in additional cost saving measures if simple and convenient.	**Dependent:** Needs affordable network services and help to identify the most suitable options. Includes vulnerable customers experiencing energy hardship. Also includes households that cannot adopt new electricity solutions, given rental property constraints or a lack of access to capital.
Common features	All customer segments will value solutions that provide secure and reliable electricity for Australia's modern lifestyle. Some customers may want to trade off some aspects that have been standardised traditionally, in return for a financial benefit. Participation in a given segment is fluid and bi-directional. Households are likely to transition between segments at different stages of the life cycle, either towards greater autonomy or increased dependence. Customer segments are likely to be less affected by income level, as evolving business models and financing mechanisms make complex solutions available to larger proportions of customers.				

SOURCE: CSIRO AND ENA, 2015.

Segments are represented along a market adoption curve, with highly engaged early adopters to the left and more passive adopters to the right. The passive late adopters includes the vulnerable customer group, who will struggle to access more advanced market offerings but require ongoing access to affordable and reliable network services.

In addition, customers segments are categorised into three categories that describe how they interact with energy in a 'dependent-engaged-autonomous' spectrum. The spectrum does not imply any value judgements (for example, autonomy is good, dependence is bad). However, it can be assumed that customers that move and remain to the left of the diagram are willing to deal with increased levels of complexity, choice and possibly risk in exchange for some financial, social and/ or emotional incentive or motivator. Customers at the far right are highly dependent on the grid to maintain their standard of living and require ongoing access to affordable, reliable and predictable services. The bulk of future customers are likely to be either actively or passively engaged. However, *actual proportions of customers in each segment will shift over time, as customers respond to emerging market and technology trends*.

The segments are multidimensional and no single factor can suitably differentiate the behavioural characteristics between segments. Importantly, the segments do not represent income or socioeconomic status. That is, high levels of grid dependency and autonomy do not necessarily correlate with low and high income households respectively. There are many reasons why customers may not engage in the market (for example, rental barriers). Similarly, customers from lower socioeconomic groups may seek to leave the grid for a range of reasons.

Program / organisation / study	**Who puts the most energy into energy conservation? A segmentation of energy consumers based on energy-related behavioural characteristics** Sütterlin et al., 2011
Customer focus	Residential energy users
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☑ Behavioural ☑

Description

The aim of this study is to identify different energy consumer segments based on their energy-related behaviours and energy-related psychosocial factors in order to highlight the characteristics of the most promising segments and elaborate on possible tailored energy conservation strategies and policies.

Consumer segments were segmented based on three psychologically different energy-saving behaviours –curtailment, energy efficiency and acceptance of policy measures –, together with energy-related psychosocial variables (e.g. perceived response efficacy, perceived self-efficacy, perceived personal efficacy, awareness of consequences, ascription of responsibility, personal norms, attitudes towards loss of comfort, etc.).

Six energy consumer segments were identified:

— Idealistic energy-saver — show the most energy-saving efforts based on curtailment behaviour as well as based on energy efficiency measures. Driven by idealistic thoughts, they do not mind financial efforts and restrictions of convenience and also fully accept policy measures in terms of sales and use regulations. Their awareness of consequences is highly pronounced and they believe in their ability to induce a positive change.

— Selfless inconsequent energy-saver — demonstrate considerable energy-savings efforts. But given their readiness to make sacrifices reflected in their high acceptance of policy regulations, their pronounced awareness of consequences, and their belief that consumers' energy-saving actions can make a difference, energy-saving efforts seem rather inconsequential. Energy-saving actions, in particular with respect to curtailment behaviour in energy efficiency measures are comparatively small.

— Thrifty energy-saver — these consumers highly engage with energy-saving efforts as long as they involve no financial disadvantages. Accordingly, they disapprove of policy measures based on sales or use regulations that are associated with additional financial efforts. Their energy-saving efforts are,

in general, rather extrinsically motivated, since beside financial considerations, they also experience the most social pressure to engage in energy-saving behaviour.

— Materialistic energy consumer — show less energy-saving efforts with respect to transport and food, but energy-saving actions based on energy efficiency measures in the housing domain are considerably pronounced. Policy measures with possible financial consequences are less accepted. If they engage in energy-saving behaviour, this is mainly due to financial considerations.

— Convenience-oriented indifferent energy consumer — there consumers are the least likely to engage in energy-saving actions. They largely ignore the fact that the increase in energy consumption and its consequences constitute a serious problem for society, and they neither feel jointly responsible for the present energy situation, nor have energy consciousness anchored in their personal norms. Their behaviour is less driven by financial considerations than by concerns regarding personal comfort and convenience. Restrictive political regulation and interference are strongly disapproved of.

— Problem-aware well-being-oriented energy consumer — these consumers are not eager to engage in energy-saving actions. Their awareness of consequences is rather pronounced and they believe their energy-saving efforts can make a difference. However, they still do not feel obliged to avoid unnecessary energy. Furthermore, they consider their ability to perform energy-saving behaviours as rather limited. A possible loss of comfort and convenience constitutes a barrier to their engagement in energy-saving efforts, but on the other hand, they perceive a certain social pressure to save energy.

Program / organisation / study	**A Three-Dimensional Model of Residential Energy Consumer Archetypes for Local Energy Policy Design in the UK** Zhang et al., 2012
Customer focus	Residential energy users
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐
	Other: This paper proposes a three-dimensional conceptual model for archetyping residential energy consumers in the UK by considering property energy efficiency levels, the greenness of household behaviour of using energy and the duration of property daytime occupancy.

Description

This paper proposes a three-dimensional *conceptual* model for archetyping residential energy consumers in the UK by considering three dimensions traditionally reviewed in research related to residential energy consumption in the UK:

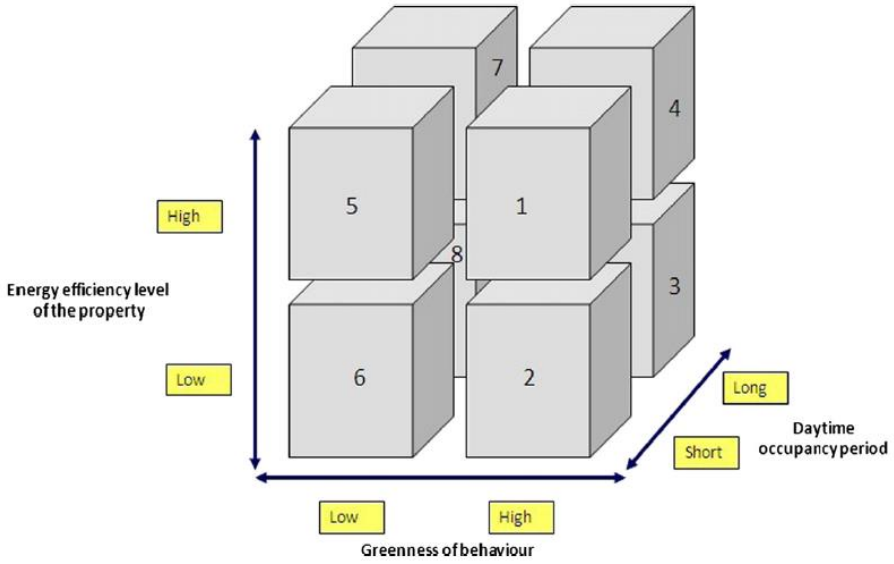
— property energy efficiency levels — this relates to the physical attributes of the property that influence residential energy consumption (e.g. materials used for constructions, insulation, efficiency and control of heating systems, etc.) that are independent of the number of occupants in the property and their behaviour

— the greenness of household behaviour of using energy — this dimension relates to the consumers' pro-environmental behaviours and how changes in behaviour can lead to reduced energy consumption

— the duration of property daytime occupancy — this dimension relates to load profiles of residential buildings which are highly related to its length of daytime occupancy period.

Assuming that each of the three dimensions has two measures, the authors derive a three-dimensional model with eight archetypes of energy consumers as shown in Figure A.2.

FIGURE A.2 THREE-DIMENSIONAL ARCHETYPE MODEL OF RESIDENTIAL ENERGY CONSUMERS IN THE UK



SOURCE: ZHANG ET AL., 2012.

The eight archetypes of residential energy consumers in the UK that were identified with the proposed model are: pioneer greens, follower greens, concerned greens, home stayers, unconscientious wasters, regular wasters, daytime wasters, and disengaged wasters. Their attributes are summarised in the table below.

TABLE A.2 ATTRIBUTES OF THE UK RESIDENTIAL ENERGY CONSUMER ARCHETYPES

Archetype	Attributes		
	Property energy efficiency level	Greenness of behaviour	Duration of daytime occupancy
1: Pioneer greens	High	High	Short
2: Follower greens	Low	High	Short
3: Concerned greens	Low	High	Long
4: Home-stayers	High	High	Long
5: Unconscientious wasters	High	Low	Short
6: Regular wasters	Low	Low	Short
7: Daytime wasters	High	Low	Long
8: Disengaged wasters	Low	Low	Long

SOURCE: ZHANG ET AL., 2012.

The paper then investigated possible energy policies/interventions that can be put in place to manage energy consumption for each archetype.

Program / organisation / study	**A framework for pro-environmental behaviours** UK Department for Environment, Food and Rural Affairs (Defra) 2008
Customer focus	General public
Segmentation basis	Demographic ☑ Geographic ☑ Psychographic ☑ Behavioural ☑

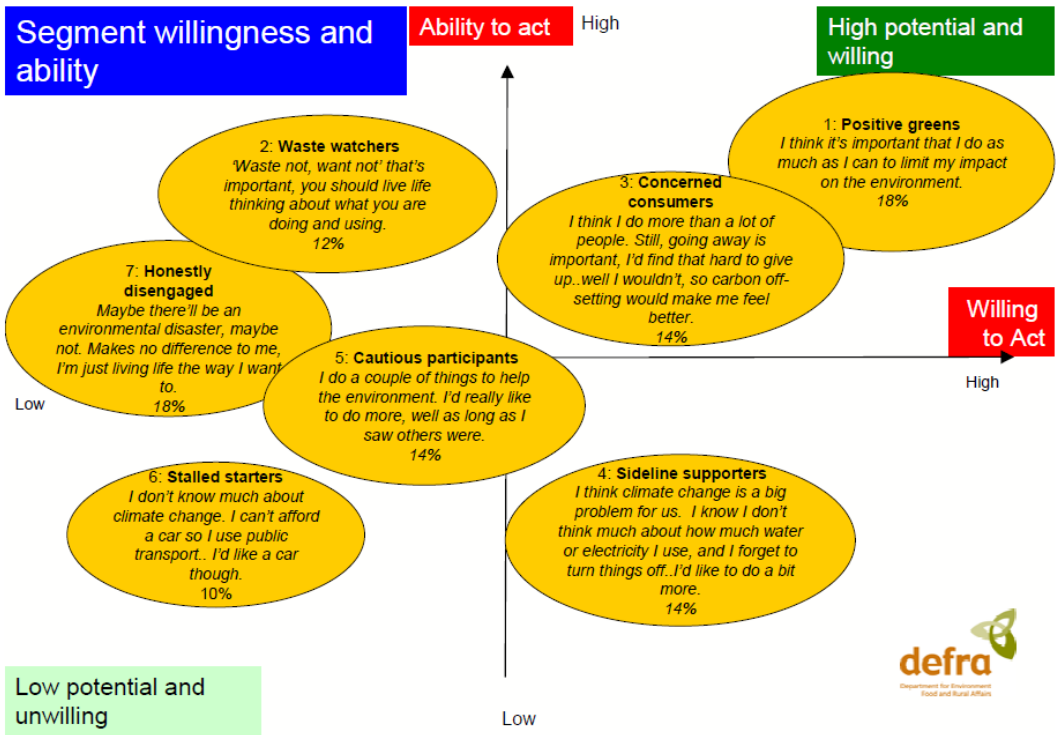
Description

This report sets out a framework for Defra's work on pro-environmental behaviour (including behaviours in personal transport, home waste, home energy, home water, and eco-products). It pulls together evidence on public understanding, attitudes and behaviours; identifies behaviour goals; and draws conclusions on the potential for change across a range of behaviour groups.

To tailor interventions for specific groups, Defra segmented the public into seven clusters each sharing a distinct set of attitudes and beliefs towards the environment, environmental issues and behaviours (see Figure A.3, which plots each segment against their relative willingness and ability to act).

The model is based on people's responses to a broad range of attitudinal questions as part of the 2007 Defra attitudes and behaviours survey and includes detailed profiles of each segment covering, for example ecological worldview, sociogeodemographics, lifestyle, attitudes towards behaviours and current behaviours, motivations and barriers, and knowledge and engagement.

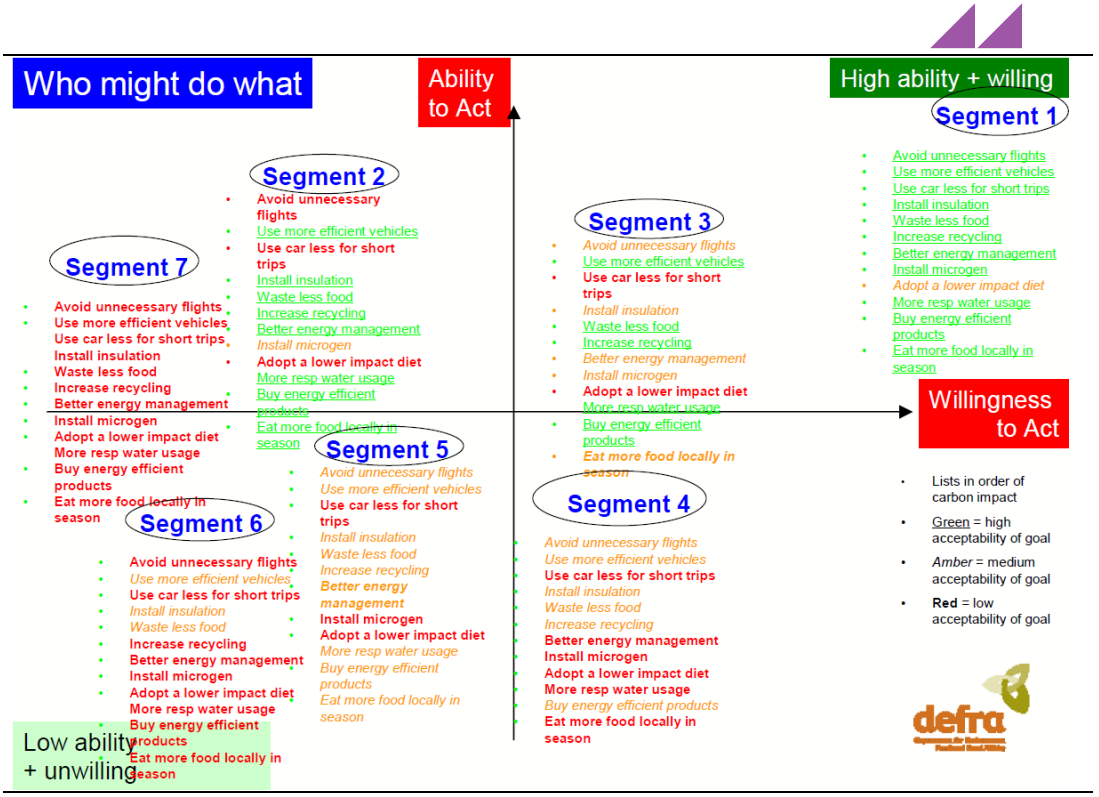
FIGURE A.3 DEFRA'S SEVEN POPULATION SEGMENTS



SOURCE: DEFRA, 2008.

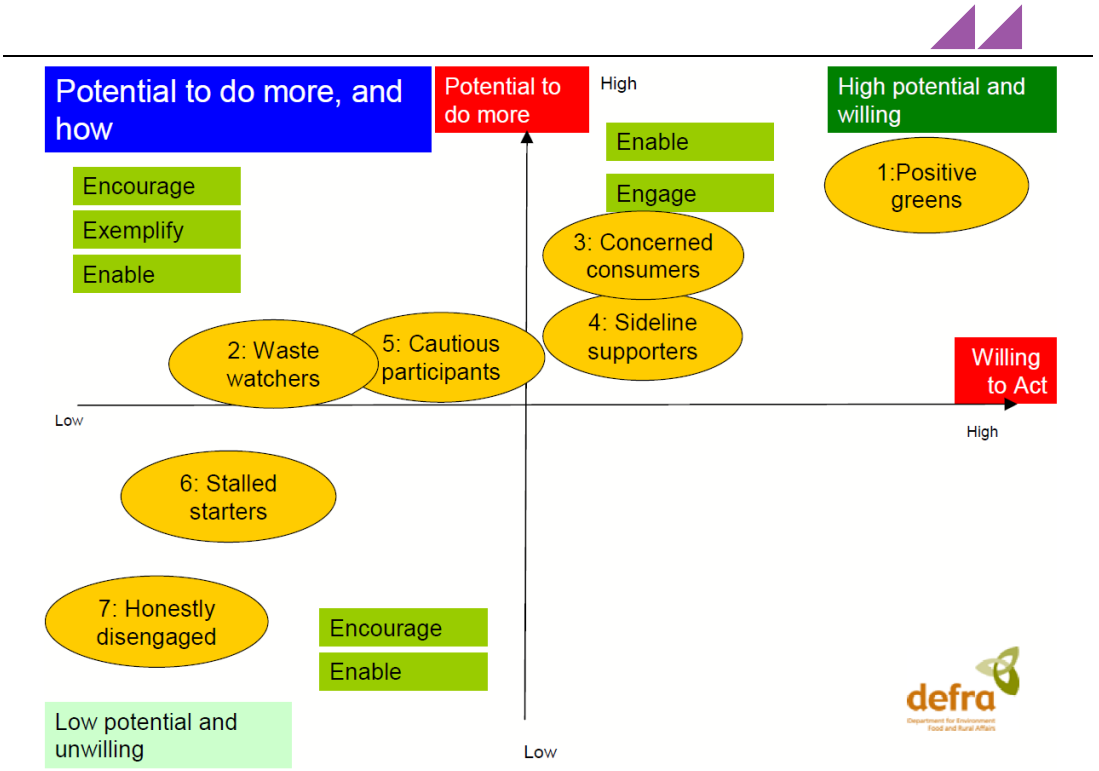
This research also provides an indication of the relative acceptability of each of headline behaviours by segment and the relative potential of each segment to do more (see Figure A.4 and Figure A.5).

FIGURE A.4 DEFRA'S ACCEPTABILITY OF HEADLINE GOALS BY SEGMENT



SOURCE: DEFRA, 2008.

FIGURE A.5 DEFRA'S SEGMENTED STRATEGY



SOURCE: DEFRA, 2008.

Program / organisation / study	**Segmenting Residential Customers: Energy and Conservation Behaviours** Pedersen 2008
Customer focus	Residential energy users
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☑ Behavioural ☑

Description

BC Hydro is a Canadian electric utility in the province of British Columbia. After the British Columbia Government's 2006 Energy Plan set out an ambitious target to acquire 50% of BC Hydro's incremental resource needs through conservation by 2020, BC Hydro tried to gain a deeper understanding of its residential customers via a psychographic (or behavioural) segmentation to better target their marketing programs and strategies.

Based on a territory-wide end-use survey of 4,191 residential customers that was supplemented with a set of 60 attitudinal and behavioural questions in regard to electricity and conservation, this study segments the market into six segments.

Tuned-Out & Carefree

— *What they think and how they behave* — these customers are the most disengaged in the way that they think about and use electricity (they aren't cynical, but rather, apathetic). Reflecting this, they consistently emerge as having the highest billed electricity consumption after controlling for dwelling type, heating fuel and household size. However, as much as energy and electricity issues do not appear to be pressing concerns for them, many of them do believe – or perhaps "buy" into – the argument that energy conservation is a worthwhile endeavour.

— *Demographic profile* — segment predominantly comprised of men (65%). They are significantly more likely than all others to be living in Metro Vancouver and they are the youngest segment. While just over one-half of the Tuned-Out & Carefree live in single detached houses, this segment has a slight over-proportion of individuals living in apartments/condos compared to the overall population. It follows that they are less likely than all others to own their own homes. This finding, however, cannot be tied to income as they report having the highest household earnings.

Stumbling Proponents

— *What they think and how they behave* — they are conflicted in that their behaviours do not follow in step with their very well-intentioned attitudes and opinions around conservation. They demonstrate some conservation habits, but the extent and consistency to which they exhibit the desired behaviours lag well behind most others (for several categories, they are the worst offenders). After controlling for dwelling type, heating fuel and household size, they consistently emerge in the high third of the six segments in terms of their annual electricity consumption.

— *Demographic profile* — they have a disproportionately high incidence of those living in single detached houses, as well as in duplexes, row houses and townhouses – second only to the Entrenched Libertarians. They are the most likely to have attended and completed a university curriculum. Reflecting this, they have the second highest household earnings.

Comfort Seekers

— *What they think and how they behave* — can be viewed as siblings to the Stumbling Proponents in that their pro-conservation views and intentions are not followed-up with the desired behaviours. What makes this segment of customers especially different from all others is their behaviour around space heating and space cooling which can be described as nothing short of lackadaisical (e.g. they very rarely use a programmable thermostat or manually turn down the heat – either at night or when no one is home). They are consistently in the middle to high third of the six segments in terms of their annual electricity consumption.

— *Demographic profile* —they have the highest incidence of individuals 25 to 44 years old – particularly in the 35 to 44 bracket. Likely reflecting this, the Comfort Seekers segment is more likely than any other segment to have children and young adults living in the household, and to have three or more

household members. They are the most ethnically diverse segment, having an overproportion of customers who primarily speak languages other than English in the household. The segment has a disproportionately high percentage of individuals living in Metro Vancouver and while the majority live in single detached houses (followed by duplexes, row houses and townhouses), they have the highest incidence of apartment/condo dwellers.

Entrenched Libertarians

— *What they think and how they behave* — most do care about energy issues, do see some reason for conserving, and believe that there are things individuals can do that will have some effect in the long-run. In fact, for most end-uses, this segment demonstrates very favourable conservation habits and behaviours. What makes this group profoundly unique is that most of them strongly disagree with the notion that customers have a moral obligation to conserve, that conservation efforts can be substantial, and that their homes' use of energy impacts the environment. When they do conserve, they tend to do it for their own reasons or on their own terms. For most dwelling types, they fall in the middle third of the six segments in their annual electricity consumption.

— *Demographic profile* — significantly more likely than all others to be living in single detached houses and are also more likely than most others to occupy duplexes, row houses and townhouses (i.e. few of them live in apartments/condos or mobile homes). Their gender and age profile is skewed towards females and the 35-54 age bracket. Notwithstanding the fact that many have earned university degrees, they are significantly more likely than all others to have an intermediate level of education – college, vocational, technical and only some university courses.

Cost-Conscious Practitioners

— *What they think and how they behave* — they are fairly modest in the different ways they think of themselves as being active energy conservers – so much so that they emerge in fourth position in terms of having the desired attitudes and opinions around electricity and energy conservation. Despite the fact that they don't talk or think about energy conservation with the same conviction as do some of the other segments, they report exhibiting much more favourable and consistent behaviours around space heating, water usage, lighting and other plugin appliances and devices than most others. All of this can be tied to the fact that they primarily conserve to save money – not the environment – though it appears they ride the bandwagon of doing things for a greater good. They generally have the second-lowest annual electricity consumption.

— *Demographic profile* — with few exceptions, their demographic profile most closely reflects the profile of the overall population. Unlike the fairly even gender split among all residential customers, they are somewhat more likely to be female. This segment is also differentiated by education as they have the lowest incidence of university graduates.

Devoted Conservationists

— *What they think and how they behave* —they are the conservation ambassadors and leaders that the corporation would like everyone else to model and follow. Their attitudes toward and understanding of energy issues, electricity and conservation are unparalleled and certified as genuine, based on demonstrating persistent conservation habits to levels beyond all others and their actual billed electricity consumption – the lowest of all six segments.

— *Demographic profile* — they are significantly older than all others – six in ten are at least 55 years old, including one third over 65. Likely due in part to the belief that many of them are retired, they report having the lowest household incomes among any of the six segments. Only about one-half of the Devoted Conservationists call Metro Vancouver home – the least likely to do so.

Program / organisation / study	**Who cares about the environment?** NSW DEC (now OEH) 2006
Customer focus	Residential energy users
Segmentation basis	Demographic ☑ Geographic ☑ Psychographic ☐ Behavioural ☑

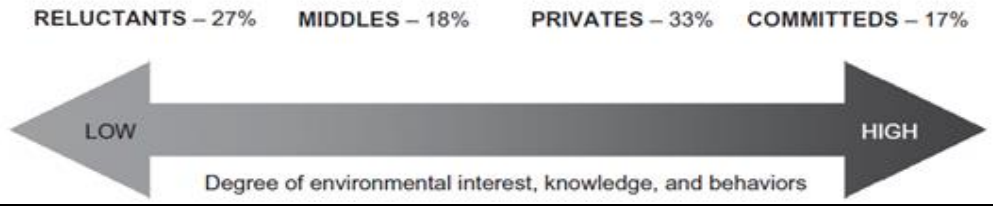
Description

Every three years since 1994, the NSW Office of Environment and Heritage (OEH – previously the Department of Energy and Conservation) has conducted a survey of the NSW community and discussion groups to track trends in the public's environmental views, priorities, knowledge and actions.

The Who Cares? 2006 research included a segmentation analysis based on demographic characteristics (age, gender, education, residential location, language and with/without children), environmental interest, knowledge and behaviours and was based on two telephone surveys with a representative sample of 1,721 people from across NSW and qualitative research with six focus groups.

Energy users are segmented along a continuum according to their level of environmental attitudes and beliefs (EAB) (see Figure A.6) and identified segmented consumers either as committeds, middles, privates, or reluctants, according to the respondents' level of involvement in specific pro-environmental behaviours.

FIGURE A.6 ENVIRONMENTAL ATTITUDES AND BELIEFS SEGMENTATION SPECTRUM



Note: the above percentage figures refer to the percentage of NSW residents categorised as reluctants, middles, privates or committeds.

SOURCE: NSW DEC, 2006

- Committeds — characterised by high concern about the environment, moderate knowledge, dominantly pro-environmental attitudes and they have the highest expectation for all community sectors to do more to protect the environment. Committeds are more likely to be male (53% to 41% female), in the middle years (52% are 35-54) and have a university degree (49%). 20% live in small country towns or rural areas (compared to 9-12% for other segments), and 70% have children.
- Middles — Middles have moderate to high levels of environmental concern, knowledge, level of pro-environmental attitudes and expectations that various community sectors should do more to protect the environment. Middles are more likely to be female (56% to 44% male) and have a university degree (45%). They are spread across all age groups and 66% have children. 21% live in the Hunter or Illawarra compared to 10-16% of other segments.
- Privates — Privates have low to moderate levels of environmental concern, knowledge, level of pro-environmental attitudes and expectations that various community sectors should do more to protect the environment. Privates are more likely to be female (61% compared to 39% male) and 67% have children. They are spread across all age groups but 23% are retired or aged pensioners compared to 15-18% of other segments. 30% have not completed high school (compared to 17-22% for other segments) and 52% in total have a secondary education or less.
- Reluctants — Reluctants have low concern, low-moderate knowledge, borderline pro-environmental or mixed attitudes and the lowest expectation that all community sectors should do more. Reluctants are more likely to be male (59% to 41% female) and young (27% are under 25 compared to 9-15% of

other segments). 17% are students (compared to 6-10%) and only 48% have children (compared to 66-70%). 14% are of non-English speaking background (compared to 4-6% for other segments).

Program / organisation / study	**Improving consumers' responsiveness to electricity demand management initiatives in regional New South Wales: the potential use of behavioural – based constructs for identifying market segments** Morrison et al. 2013
Customer focus	Residential energy users
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☑ Behavioural ☑

Description

This study aims to segment household energy consumers to facilitate better targeting of demand management programs. The focus of the study is on electricity consumption of regional NSW households. The authors employ a motive-based segmentation approach (measuring both attitudes and behaviours) based on a survey of 1,074 households and a series of focus groups with residential electricity users.

Based on three behavioural constructs (price sensitive behaviour, comfort sensitive behaviour and environmental conscious behaviour) the study identifies six segments:

- Lower socio-demographic (SD) non-conservers
- Lower SD price and enviro-conscious
- Average households
- Wealthy price and enviro-conscious
- Wealthy unempowered
- Wealthy comfort seeking

The segmentation allowed for the identification of three higher SD segments, two lower SD segments and one 'average' segment. This indicates that uptake of energy efficiency is not simply related to SD status, but that within sociodemographic classes there are groups that have differential behaviour and attitude that influence energy efficiency.

Those with high usage and poor efficiency require education and communication. Lower SD non-conservers have a preference for voluntary reductions, then home meters, then subsidies. Higher SD consumers have a preference for home meters and voluntary reductions as well as remote load control and audits.

Program / organisation / study	**Plugging in the consumer, innovating utility business models for the future** IBM Global Business Services 2007
Customer focus	Residential households and small commercial customers (excluded large commercial and industrial companies)
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐ **Other:** Consumers segmented based on 2 main attributes: personal initiative , disposable income

Description

This study aimed to assess how the utility industry would like in five to ten years, determine how quickly will utilities and regulators respond to emerging consumer needs and how much control do consumers really want. (Note that it was written in 2007)

For this study the authors surveyed 1,900 consumers from six countries (Australia, Germany, Japan, the Netherlands, the UK and the US). Consumers included residential households and small commercial customers, but excluded large commercial and industrial companies.

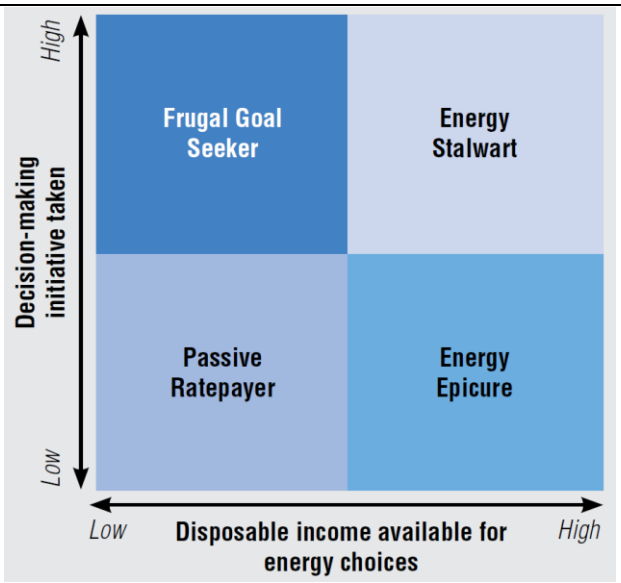
The consumer survey suggested that two main attributes were associated with the greatest variances in consumers' energy behaviour patterns:

— Personal initiative – The willingness of a consumer to make decisions and take action based on specific goals, such as cost control, reliability, convenience and climate change impacts

— Disposable income – The consumer's financial wherewithal to support energy related goals; in early adoption phases, only those with sufficient resources will be able to implement new technologies and buy more expensive products.

Using these two differentiators, the authors divide residential and small commercial customer into four main consumer segments (see Figure A.7).

FIGURE A.7 EMERGING SEGMENTATION AMONG RESIDENTIAL AND SMALL COMMERCIAL ELECTRIC POWER CUSTOMERS



SOURCE: IBM GLOBAL BUSINESS SERVICES 2007

— Passive Ratepayers – Consumers who are relatively uninvolved with decisions related to energy usage and uninterested in taking (or unable to take) responsibility for these decisions.

— Frugal Goal Seekers – Consumers who are willing to take modest action to address specific goals or needs related to energy usage, but are constrained in what they are able to do because disposable income is limited.

— Energy Epicures – High-usage consumers who have little or no desire for conservation or active involvement in energy control; these consumers are more likely to own a large number of high-consumption devices for gaming, computing or entertainment.

— Energy Stalwarts – Consumers who have specific goals or needs related to energy usage and have both the income and desire to act on those goals.

The authors also provided advice for different strategies and offerings that utilities could use for each segment (see Table A.3).

TABLE A.3 STRATEGIES AND OFFERINGS THAT UTILITIES COULD USE FOR DIFFERENT CONSUMER SEGMENTS

	Consumer segment		
	Passive Ratepayers/ Energy Epicures	Frugal Goal Seekers	Energy Stalwarts
Technology leveraged	– Traditional generation – Traditional distribution networks	– Utility-owned renewables – Low-cost (to consumer) intelligent network capabilities [a]	– Self-generation – Utility-owned renewables – Full-spectrum intelligent network capabilities [a]
Service packages	– Traditional utility service – Remote notification (Energy Epicures)	– Time-of-use program – Efficiency incentives – Subsidized programs	– Green power packages – Grid power with backup power system – Time-of-use program – Remote notification
Communication	– Targeted bill inserts (best candidates from customer analysis) – Public education/mass media outreach	– Public education/mass media outreach – Association/interest group messaging – Financial incentives/assistance – Product tie-ins – Corporate social responsibility publicity	– Direct marketing – Special interest media (magazines, Web sites) – Association/interest group messaging – Product tie-ins

[a] Intelligent network capabilities include smart meters as well as network automation and analytics.

Note: Passive Ratepayers are consumers who are relatively uninvolved with decisions related to energy usage and uninterested in taking (or unable to take) responsibility for these decisions. Frugal Goal Seekers are consumers who are willing to take modest action to address specific goals or needs related to energy usage, but are constrained in what they are able to do because disposable income is limited. Energy Epicures are high-usage consumers who have little or no desire for conservation or active involvement in energy control. Energy Stalwarts are consumers who have specific goals or needs related to energy usage and have both the income and desire to act on those goals.

SOURCE: IBM GLOBAL BUSINESS SERVICES, 2007.

— Passive Ratepayers usually require little attention from their utilities. However, some utilities may decide it is worthwhile to attempt to move them into another more energy-conscious category. Where this is the case, companies can either use mass-market techniques such as general public awareness campaigns or more precise actions such as targeted bill inserts.

— For Frugal Goal Seekers, utilities will need offerings and programs that require little or no financial investment from the consumer. This might include education on voluntary energy efficiency actions, low-cost information devices and financial assistance or subsidies for green energy choices. Time-of-use programs for this segment could have a more complex design, since these consumers are more committed and willing to be actively involved.

— Energy Epicures typically require very little effort to serve and could be a source of revenue growth as upper-end, digital homes proliferate. If a utility has reason to convert Energy Epicures into Energy Stalwarts, special programs will be needed to reach these high-use but conservation- averse consumers. For instance, a utility could partner with manufacturers of high-end consumer electronics to bundle an energy-efficiency package into the equipment purchase, effectively lowering the cost of the equipment. This group might also be intrigued by “leading edge” convenience features enabled by the intelligent network, such as remote notification and control capabilities. To reach this group with conservation messages, companies will need to utilize specific channels these consumers frequent, such as mobile and Internet channels as well as clubs, events, social networks and media programming associated with gaming or sports.

— Energy Stalwarts are the most demanding of the four segments but likely the most attractive customers in the long run. They want options and choices. They’re often interested in green power packages, self-generation, real time pricing programs – and perhaps even access to the spot market to cover a shortfall in their own generating capacity. Their interests and higher disposable income also translate into a high likelihood of emerging as early technology adopters, which can be leveraged to

bring costs down over time and make new technologies more economically accessible to a broader base of customers. One of the most valuable services utilities can provide to this segment is information – what options are available, where equipment can be purchased, how to estimate savings and costs and so on. Utilities can also offer this segment non-traditional services, such as financing, installation and maintenance for solar panels, micro-combined heat and power devices and other distributed generation equipment. To reach this audience, power companies should consider direct marketing, special interest media and social networking approaches.

Program / organisation / study	**2017 State of the Consumer Report** SGCC 2017
Customer focus	Smart Grid users
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☑ Behavioural ☐
	Other:

Description

SGCC provides an attitudinal segmentation framework for Smart Grid consumers to increase consumer engagement with Smart Grid-enabled programs and technologies. These segments are outlined in Figure A.8.

FIGURE A.8 SEGMENTATION FRAMEWORK FOR SMART GRID CONSUMERS

SEGMENTS	PERCENT OF CONSUMERS	PERSPECTIVES
Green Champions	30%	*"Smart energy technologies fit our environmentally aware, high-tech lifestyle."*
Savings Seekers	20%	*"How can smart energy programs help us save money?"*
Status Quo	18%	*"We're okay; you can leave us alone."*
Technology Cautious	17%	*"We want to use energy wisely, but we don't see how technologies can help."*
Movers & Shakers	15%	*"Impress us with smart energy technology and maybe we will start to like the utility more."*

SOURCE: SGCC 2017

The study found that these consumer segments have a significant impact on the interest in and awareness of various smart grid offerings (see Figure A.9).

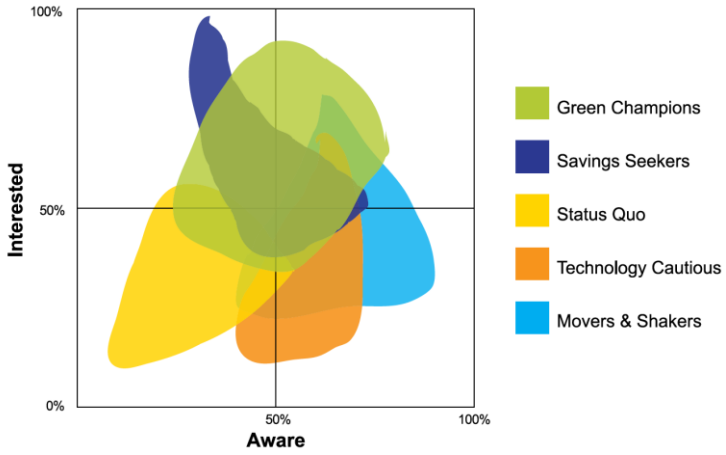
The general pattern of interest and awareness by segment can help stakeholders design effective campaigns. For instance, Savings Seekers tend to have a relatively high level of interest in a host of Smart Grid-enabled programs. Yet their awareness of these offerings tends to be lower than other segments. As a result, marketing that grows awareness among Savings Seekers is likely to be money well spent.

Consumers in the Status Quo segment demonstrate a generally low level of both interest and awareness. The typical orientation of these consumers toward their utility is "we're OK; you can leave us alone". Marketing efforts will reap better rewards if focused on the other four segments where plenty of awareness and interest exists.

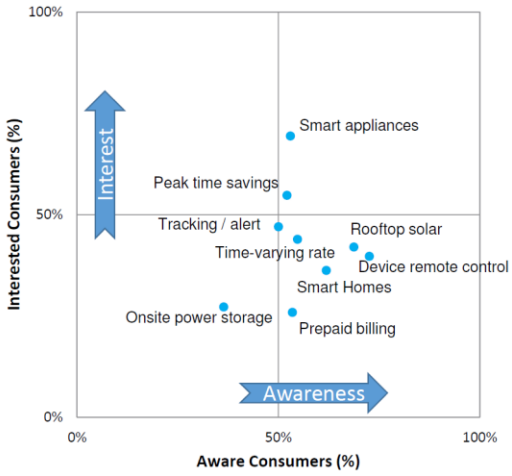
The authors note that not only is there variability in awareness and interest by consumer segment, but these also vary by offering (see figure below). Where awareness and interest is high, providers need to focus on adoption. Otherwise, campaigns should be designed to move offers to the right (increase awareness) and up (increase interest). This might require the provider to redesign or clarify the offer or promote adoption with an incentive to make the offer more attractive.

FIGURE A.9 SGCC CONSUMER SEGMENTS AND POTENTIAL OFFERINGS

Consumer segments by level of awareness and interest



Potential offerings to consumers based on level of awareness and interest



SOURCE: SGCC, 2017.

Program / organisation / study	**Revealing the Values of the New Energy Consumer** Accenture 2011
Customer focus	Residential end customers
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐
	Other: Customer segmented according to the characteristics about adoption of in-home technologies, electricity management programs and related products and services.

Description

This study is part of a multi-year global research program by Accenture aimed at gaining a deeper understanding of consumers' attitudes, opinions and preferences toward energy management programs.

The study analysed the interrelationships between consumers' responses across the full spectrum of adoption variables— namely information display, service/ set-up, usage adjustment, provider and loyalty rewards and identified six core consumer segments.

Self-reliants (13%) - "I prefer to manage my electricity consumption on my own"

— *Adoption attributes*: Self-reliants exhibit the highest willingness to manually manage their appliances based on real-time pricing information. They also show higher interest in monitoring and adjusting their electricity usage through an existing device. They are more uncomfortable than the average consumer about sharing data with a third party for commercial purposes, but have a higher readiness to purchase energy-efficient products from online sites.

— *Demographics*: Self-reliants have a higher proportion of women and have a higher proportion of consumers who are 55 years old or older.

Social independents (18%) — "I like testing new technologies"

— *Adoption attributes:* Social independents express the highest interest in personally setting up their in-home device, and are more interested than other consumers in monitoring and adjusting their electricity usage through a new device. They also exhibit the highest interest in receiving their device, information and pricing program from multiple providers. They are relatively uncomfortable about sharing data with a third party to make a program work, and while they generally have the lowest interest in loyalty rewards, they would value electronics/computer rewards. They are more likely to be dissatisfied about poor communication of changes to the program.

— *Demographics:* Social independents have a higher proportion of men, and are found at all ages and levels of income. They value a program that allows them to connect with a community and share experiences, and like the idea that a program would be regarded as "trendy" by family and friends.

Cost-sensitives (22%)— "I look above all for the best financial rewards"

— *Adoption attributes:* Cost-sensitives have the highest level of interest in loyalty rewards, especially loyalty rewards that can be used in a store for products and services of their choosing. They also exhibit the highest sensitivity to a program that would reduce their bill. An increase in their bill is likely to act as a catalyst to make them eager to learn about a program, and they are especially interested in programs that can be customized to their personal needs and usage.

— *Demographics:* Cost-sensitives have a higher proportion of women, and include a relatively high proportion of consumers who are 25 to 34 years old. This segment has a higher than average share of lower-income consumers.

Service-centrics (18%)— "I want the best service for my family and me."

— *Adoption attributes:* They are the segment most interested in full set-up of the device and assistance by a certified technician, and exhibit the highest sensitivity for a program that would allow them to better control heating/cooling. Their interest in learning about a program is more likely to be stimulated by moving into a new home. They are more likely than the average consumer to be dissatisfied by a program with poor customer support and poor product installation, and have the highest preference for dealing with their utilities/electricity providers. They also express higher interest in a program that is easy to use for the whole family, and in an in-home device display installed at no cost.

— *Demographics:* Service-centrics have a higher proportion of women, and are spread across all ages and income levels.

Traditionalists (15%) — "I prefer a familiar experience"

— *Adoption attributes:* Traditionalists have the highest interest in receiving their device, information and pricing program from a single provider, and represent the segment most likely to purchase energy efficient products from their utilities/ electricity providers. Similarly, they have lower readiness to go to a retailer, telephone/cable provider or online site to purchase electricity, energy efficient products, and/or related services. They are more likely to be interested in learning about a program when they are renovating their home.

— *Demographics:* Traditionalists are divided equally between the genders and levels of income, but have a higher proportion of consumers who are 55 years old or older.

Tech-savvys (14%) — "I value convenience and efficiency"

— *Adoption attributes:* Tech-savvys represent the segment with the highest interest in automatic management of their appliances by a device, and are generally more interested than other consumers in full set-up of the device and assistance by a certified technician. They are the segment most likely to install a "SetAndForget" program that switches their devices on and off automatically, and have the highest interest in monitoring their consumption on their mobile telephone or another personal electronic device. Tech-savvys also exhibit the highest readiness to consider online sites for purchasing electricity, energy-efficient products and/or related services.

— *Demographic:* Tech-savvys have a higher proportion of men. They include relatively high proportions of consumers 25 to 34 years old and who are high-income earners. They are more likely to choose a program that simplifies their life.

Program / organisation / study	**Retail Competition Review: Understanding Vulnerable Customer Experiences and Needs** AEMC 2016
Customer focus	Vulnerable residential consumers
Segmentation basis	Demographic ☑ Geographic ☑ Psychographic ☑ Behavioural ☑

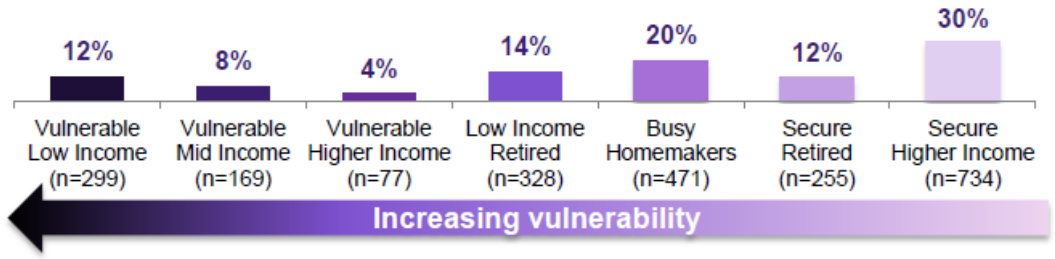
Description

This report forms part of the AEMC's 2016 annual review of retail competition in the National Energy Market (NEM). It focuses in particular on understanding vulnerable customers, their experiences, and how they could be supported to benefit more from the energy market.

A segmentation analysis was undertaken based on a survey of 2,333 residential consumers from across the NEM to understand the broad extent and nature of vulnerability in the energy market, and to in turn help to identify ways to better meet the needs of the most vulnerable consumers. The segments, from most to least vulnerable, are as follows (see Figure A.10):

- Vulnerable Low Income: This financially insecure segment is the most vulnerable, and the most familiar with support services.
- Vulnerable Middle Income: Overwhelmed by financial and family commitments and high energy bills, this is the unhappiest segment.
- Vulnerable Higher Income: This young, highly educated, culturally diverse and tech-savvy segment is likely to be experiencing circumstantial or social vulnerability. They are the most actively engaged in the market; most likely to have switched and more satisfied.
- Low Income Retired: With low levels of education, income and tech-savviness, they are the least engaged with the energy market.
- Busy Homemakers: This segment consists largely of busy mums in more traditional households, some of whom are also working part-time, with 'average' financial vulnerability and market engagement.
- Secure Retired: This segment of retirees is more financially secure and reasonably comfortable with navigating the energy market.
- Secure Higher Income: They use more energy and are time-poor, but tech-savvy and relatively comfortable navigating the market.

FIGURE A.10 AEMC SEGMENTATION OF VULNERABLE CONSUMERS



SOURCE: AEMC 2016

While there is diversity of demographics and circumstances within all segments, consumers with certain characteristics are more likely to be vulnerable. These include being female (especially single mothers), renting, not being in full-time employment, experiencing recent household stress in (e.g. arrival of a baby or a death), living in regional areas, being Indigenous, being a recent immigrant, having special payment arrangements with one's energy provider, and having savings that would last less than three months.

Other important observations from the analysis:

— While the most vulnerable segment is highly reliant on government services for income and other support, the next most vulnerable segment ('Vulnerable Mid Income') is among the least tapped into government services — and are therefore more 'hidden'.

— In terms of switching behaviours, there were no significant differences across the segments in investigating and/or switching energy company or plan, apart from the Vulnerable Higher Income segment (more likely to have looked). The Vulnerable Mid and Higher Income segments were, however, the most interested in switching.

Based on the findings from this research, the authors offer the following advice with regards to support for this customers.

— Government comparison websites could be far more heavily promoted to increase awareness and usage — not just among vulnerable customers, but also generally. The websites would also benefit from further usability refinements to address uncertainties, including some of the terminology and inputs. Promotional efforts could span multiple channels to maximise reach, particularly digital media (online portals, websites, consumer forums, social media, etc.), but also print, traditional mass media, targeted direct mail and community-based centres. It would be important to ensure information reaches those who may not have access or skills in using the internet.

— Educational tools would greatly assist consumers in both better managing their energy consumption and feeling more confident in engaging with the market. These could include energy calculators and in-home displays, online portals (such as a consumer version of the Victorian EnergyInfoHub), consumer forums (e.g. Whirlpool), how-to guides, glossaries, seminars, webinars and shareable YouTube clips, tutorials and direct contact via phone or in person.

— Vulnerable customers would also benefit from access to subsidies, loans and other financial assistance to secure more energy-efficient appliances to help them better manage their energy use.

— Fear of the unknown is one the most significant barriers to consumers looking into their options. While knowledge helps to address this in part, there could also be a role for government to emphasise the consumer protections and remedies available, also helping to overcome concerns about new and unknown retailers.

Many consumers who had switched provider or plan found it easier than anticipated. Such testimonies could feature in a marketing campaign to help consumers overcome inherent inertia, particularly among those who believe the savings would not be worth their time and effort. Such a campaign could also serve as a prompt to remind consumers to regularly check if they are on the best available deal.

Program / organisation / study	**Evaluating communication to optimise consumer-directed energy efficiency interventions** Wilson 2014
Customer focus	
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐
	Other: No specific segmentation proposed/provided

Description

This article investigates whether existing theoretical models can usefully be combined for evaluations of message-oriented programmes (awareness campaigns, education and training programmes, label schemes and smart metering).

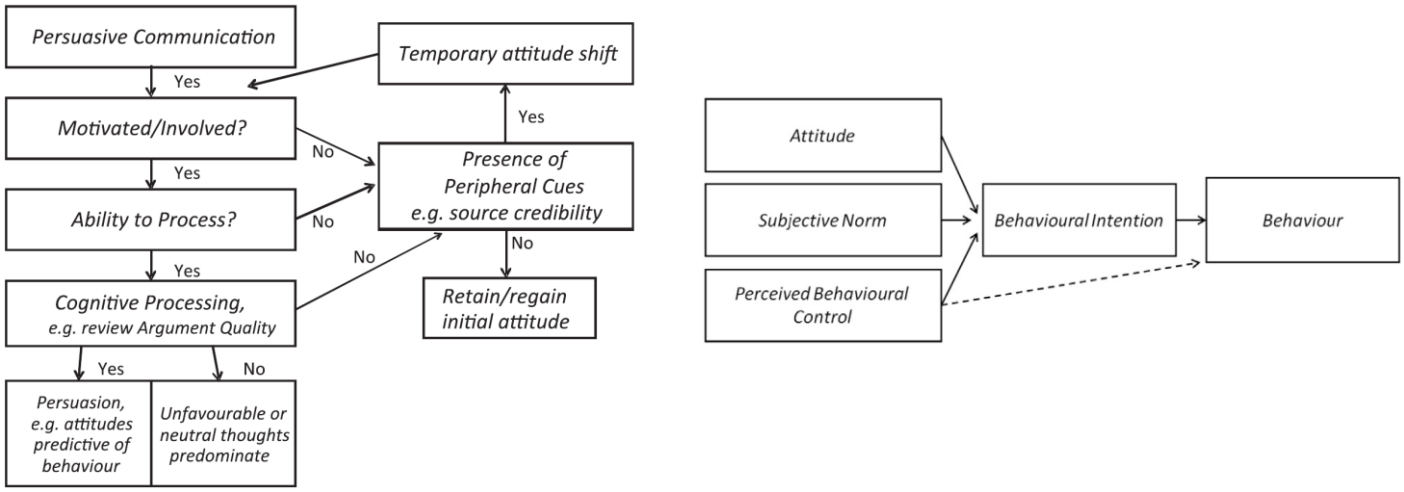
The purpose of this paper is to assist policy makers, planners and evaluators in identifying a framework which might provide useful underpinning theory to assess behaviour change projects which have communication as a substantial lever. This framework has potential use to assess projects at the planning stage, at mid-term impact and for summative outcomes.

The analysis revealed that when the Elaboration Likelihood Model (ELM) and the Theory of Planned Behaviour (TPB) are used together, these theories offer insight into the impact of messaging.

— The ELM is a message-oriented linear model helpful to understanding how communication exerts influence on attitudes. The model describes how people process information to varying degrees of thoroughness, the depth of processing being a function of motivation and ability. If motivation and ability levels are high, thoughtful elaboration is more likely to occur. A limitation of the ELM as an evaluation tool is that it fails to test the assumed links between changes in attitude and changes in behaviour (see Figure A.11).

— The TPB addressed the ELM gap in that it gives a theoretical account of the personal (attitude), social (subjective norm), and internal (perceived behavioural control) factors that guide the process from deliberating or elaboration, to intention and action.

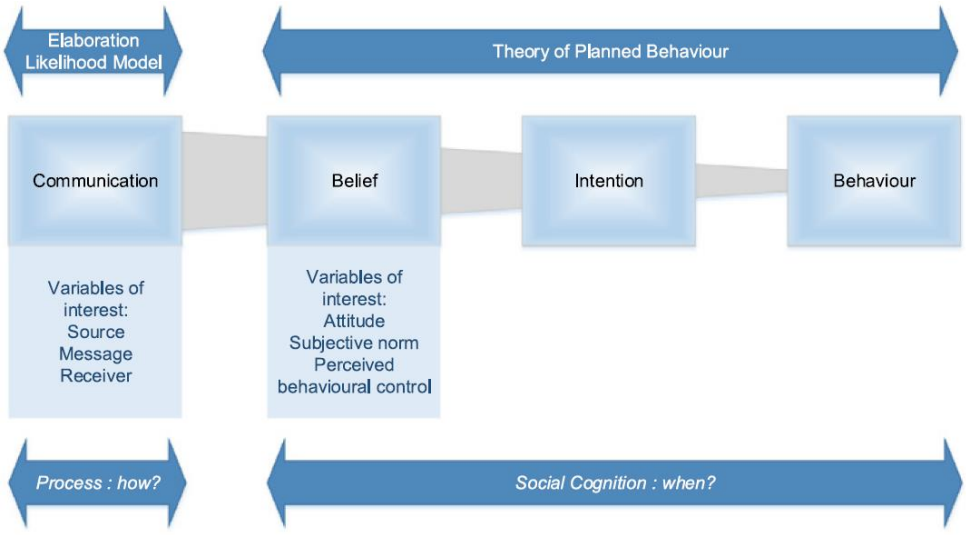
FIGURE A.11 ELABORATION LIKELIHOOD MODEL AND THEORY OF PLANNED BEHAVIOUR



SOURCE: WILSON, 2014.

The article's theorised relationship between the two theories is show in the figure below.

FIGURE A.12 THEORISED RELATIONSHIP BETWEEN THE ELABORATION LIKELIHOOD MODEL AND THE THEORY OF PLANNED BEHAVIOUR



SOURCE: WILSON, 2014.

Program / organisation / study	**Rethinking social psychology and intervention design: A model of energy savings and human behaviour.** Ohnmacht et al. 2017
Customer focus	Individual energy consumers
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐ **Other:** The article segments the population according to four phases of behaviour change (predecision, preaction, action, and postaction)

Description

This article develops a hypothetical classification of interventions and links them to socio-psychological factors affecting the transition points of four phases of behaviour change (predecision, preaction, action, and postaction – see Table A.4). It provides a theoretical framework to help segment the population based on their behaviours and provides examples of interventions to achieve substantial behavioural change through the different phases of behaviour change.

TABLE A.4 PHASE MODEL WITH TRANSITION POINTS AND PSYCHOLOGICAL TASKS

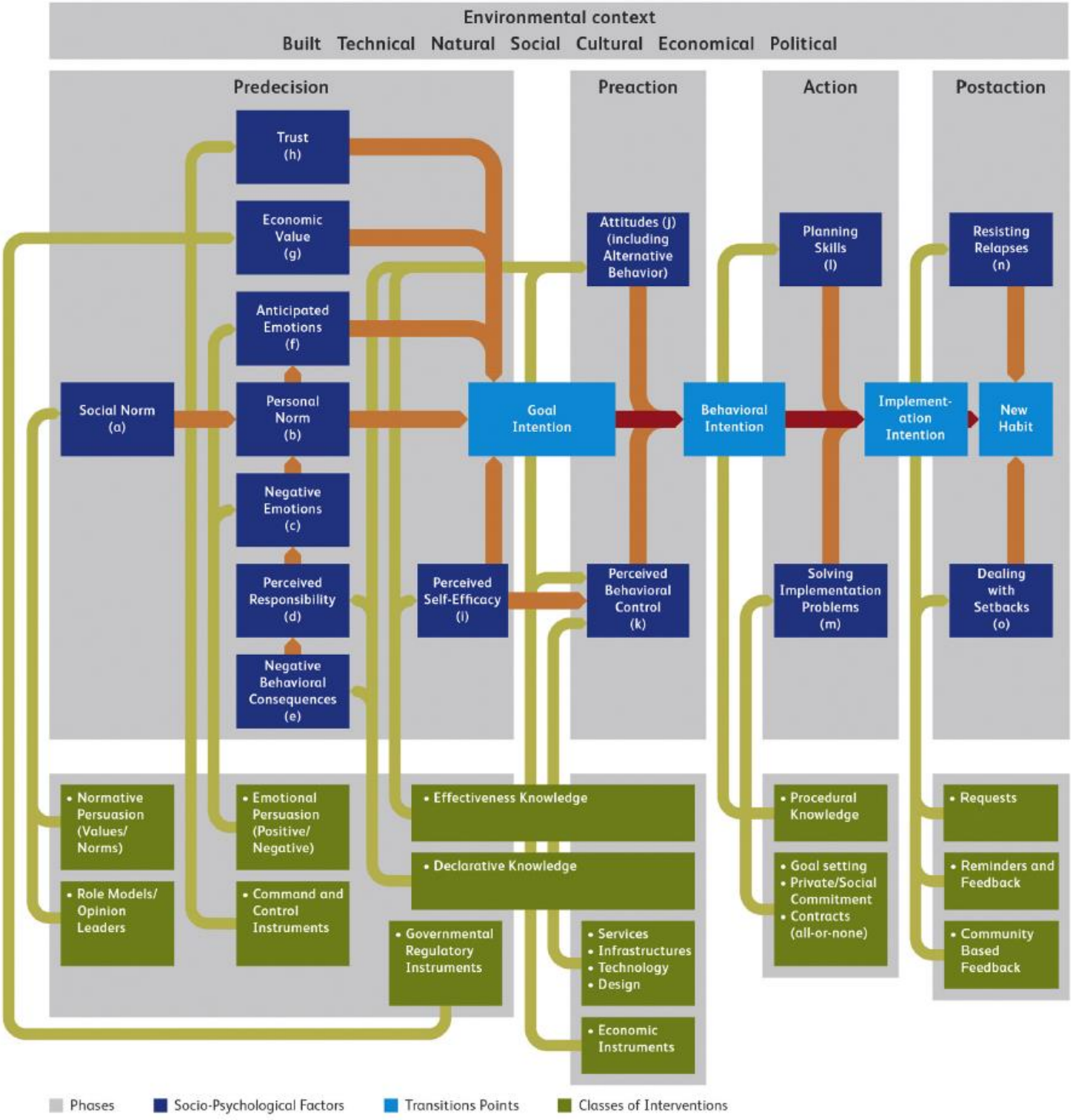
No	Phase	Transition point to next phase	Psychological task
1	Predecision	Goal intention ('be' goals) – Gain goals – Normative goals – Hedonic goals	Re-evaluation of actual and habitualised behaviour
2	Preaction	Behavioural intention ('do' goals)	Select new behavioural alternative
3	Action	Implementation intention ('motor control' goals)	Implement new behaviour
4	Postaction		Habitualisation of new behaviour

SOURCE: OHNMACHT ET AL. 2017.

The main contribution of this article is that it connects the different phases of behaviour change (and the different transition points between the phases) with interventions. The main output of the article is thus a model which postulates causal influences from interventions on socio-psychological factors within and between the phases and also considers environmental contexts (see Figure A.13).

The authors suggest the following steps as a means of encouraging pro-environmental behaviour. First, empirically detect the phase in which an individual or group is found. Second, define which socio-psychological factors should be addressed to promote pro-environmental behaviour. Third, choose the class of intervention that is connected to this socio-psychological determinant (in this respect the authors note that interventions cannot target all phases and hence study designers must prioritize the interventions linked to socio-psychological factors that affect the transition points to the next phases). Fourth, develop or apply an intervention that suits the socio-psychological determinant and the individual or group's phase.

FIGURE A.13 PHASE MODEL, SOCIAL-PSYCHOLOGICAL FACTORS AND CLASSES OF INTERVENTIONS



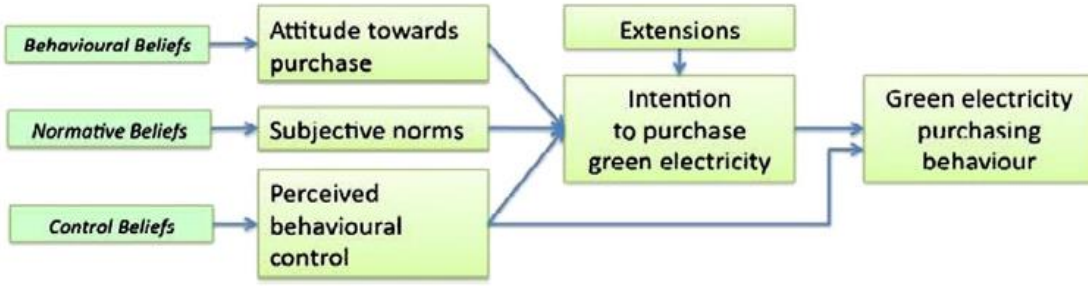
SOURCE: OHNMACHT ET AL. 2017.

Program / organisation / study	**Helping "light green" consumers walk the talk: Results of a behavioural intervention survey in the Swiss electricity market** Litvine and Wüstenhagen, 2011
Customer focus	Individual electricity consumers
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐
	Other: No specific segmentation proposed/ provided

Description

This study develops a psychological model based on the theory of planned behaviour (TPB) linking consumer attitudes and behaviour that explains green electricity purchases (see Figure A.14). This model is then used to design a large-scale behavioural intervention survey with 1163 Swiss electricity consumers.

FIGURE A.14 CONCEPTUAL MODEL — EXPLAINING GREEN ELECTRICITY PURCHASES WITH TPB APPROACH



SOURCE: LITVINE AND WÜSTENHAGEN, 2011.

The results of the survey analysis show that by providing information targeted at the key factors influencing the intention to purchase green electricity, namely attitudes towards purchase, social norms and perceived behavioural control, a significant increase in green electricity market share can be achieved. The results show that price is not the only barrier to purchasing green electricity, and that information to increase the perceived benefit of buying green electricity as well as targeted communication to overcome inertia among retail electricity consumers are equally important factors.

Program / organisation / study	**Models of Decision Making and Residential Energy Use** Wilson and Dowlatabaldi 2007
Customer focus	
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐
	Other: One of the decision models reviewed by this article (the technology adoption and attitude-based decision model) can be used to segment the population targeted for an intervention. This segmentation is done based on the stages of the decision making process where a consumers is at — knowledge, persuasion, decision, implementation or confirmation.

Description

There are many different models of decision making and behaviour within the social sciences. These models vary widely in their basic assumptions, independent variables, structure, and scale. This paper reviews four different perspectives on drivers of individual behaviour and models of decision making: conventional and behavioural economics, technology adoption theory and attitude-based decision making, social and environmental psychology, and sociology.

Decision models can inform the design of interventions to change behaviour by identifying the key influences on decision making. Each perspective suggests particular lessons for designing interventions to change behaviour. Table A.5 synthesizes and compares some of the main features of the decision models reviewed by this article.

TABLE A.5 COMPARISON OF DISCIPLINARY APPROACHES TO DECISION MAKING IN THE CONTEXT OF RESIDENTIAL ENERGY USE

Main features	Conventional economics	Behavioural economics	Technology diffusion	Social psychology	Sociology
	SECTION 3		SECTION 4	SECTION 5	SECTION 6
Decision model	Utility – maximisation based on fixed and consistent preferences	Widely varying decision heuristics and context-dependent preferences	Attitude-based evaluation of technologies and the consequences of adoption	Interacting psychological and contextual variables	Sociotechnical construction of demand
Decision scale	Individual	Individual	Individual/social	Individual/Social	Social
Main research methods	Quantitative (observed behaviour)	Quantitative (controlled experiments)	Quantitative and qualitative (surveys, interviews, observed behaviour)	Quantitative and qualitative (surveys, observed behaviour)	Qualitative (interviews, observation)
Main dependent variables	Preferences between decision outcomes	Preferences between decision outcomes	Rate of diffusion	Self-reports of behaviour and/or energy use	Observed or self-reported behaviour
Main independent variables	Costs and benefits of outcomes and their respective weightings	Aspects of the decision frame, context, and elicitation method, as well as outcomes	Adopter role in social networks, communication channels, technology attributes, and leadership of adopter	Values, attitudes, norms, sociodemographics, economic incentives, skills, capabilities, and resources	Social, cultural and technical determinants of energy demand embedded in routine behaviour
Empirical basis in energy use	Extensive	Very little	Some	Extensive	Some
Implications for interventions to reduce residential energy use	Provide information about benefits and incentives to improve cost-benefit ratio and improve cognitive capacity to assess net benefits/utility	Pay attention to framing and reference points for decisions, influence heuristic selection by emphasising associations or emotive attributes, control choice sets and default options	Segment target population, exploit communication channels through social networks and use change agents, identify stage of decision process in target groups and use appropriate change mechanisms, ensure desired technology or behaviour has key attributes	Influence attitudes only if external conditions are weak, use multiple interventions with due attention to interaction effects, identify and target barriers, design salient and personally relevant information, values provide a disposition for long-term change	Work toward long-term sociotechnical regime change, exploit opportunities of transition, recognise the social role of routine or habitual behaviour, manage expectations
Timescales for interventions	Short term	Short term	Short to medium term	Short to medium term	Long term

SOURCE: WILSON AND DOWLATABALDI 2007

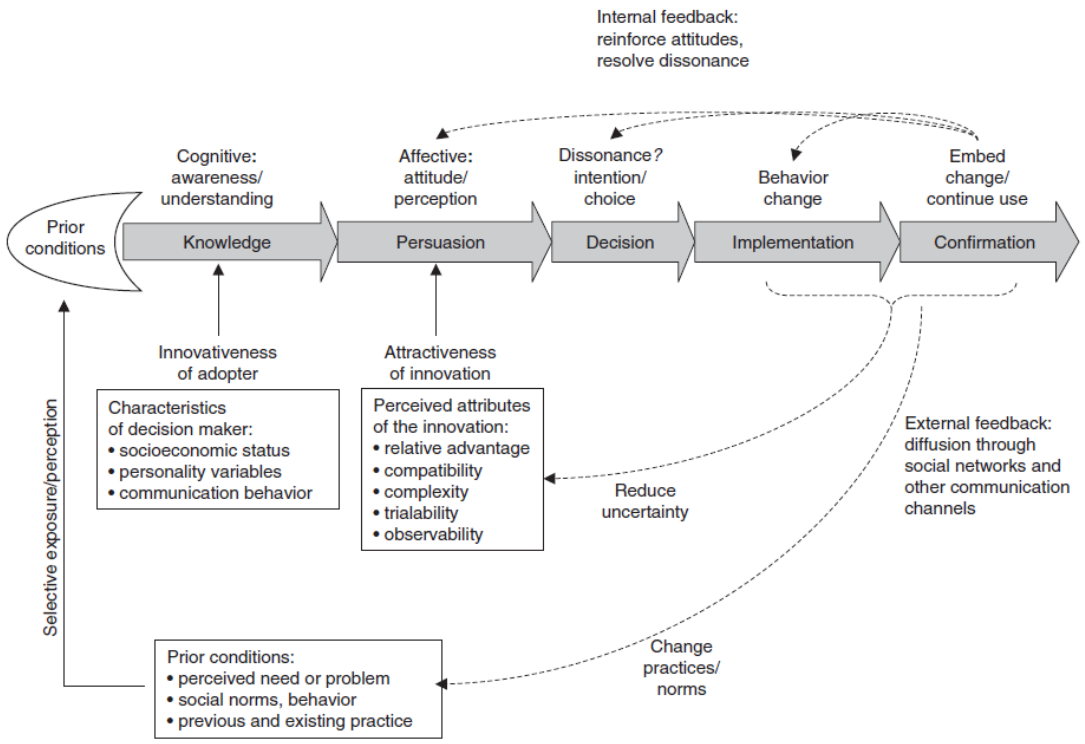
As noted in the table above, technology adoption and attitude-based decision models can be used to segment the population targeted for an intervention. This segmentation is done based on the stages of the decision making process where a consumers is at — knowledge, persuasion, decision,

implementation or confirmation (see Figure A.15 which shows the innovation decision process). As individuals move through the stages of the decision process, their evaluation of the outcomes of action improves, as does their perceived ability to act. Intervention design should target the particular processes that influence change at each stage.

The authors suggest that when applying behavioural theories to the design or evaluation of an intervention, an appropriate decision model must be selected to match the particular decision characteristics and context that the intervention seeks to influence.

Residential energy use is characterized by a wide range of decision types and contexts, as well as psychological and contextual influences on behaviour. Decision models from different research traditions are all relevant to some aspect of residential energy use.

FIGURE A.15 THE INNOVATION DECISION PROCESS



SOURCE: WILSON AND DOWLATABALDI, 2007.

Program / organisation / study	**A comparative study of theoretical behaviour change models predicting empirical evidence for residential energy conservation behaviours** Sarkis, 2016
Customer focus	
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐ **Other:** No specific segmentation proposed/ provided.

Description

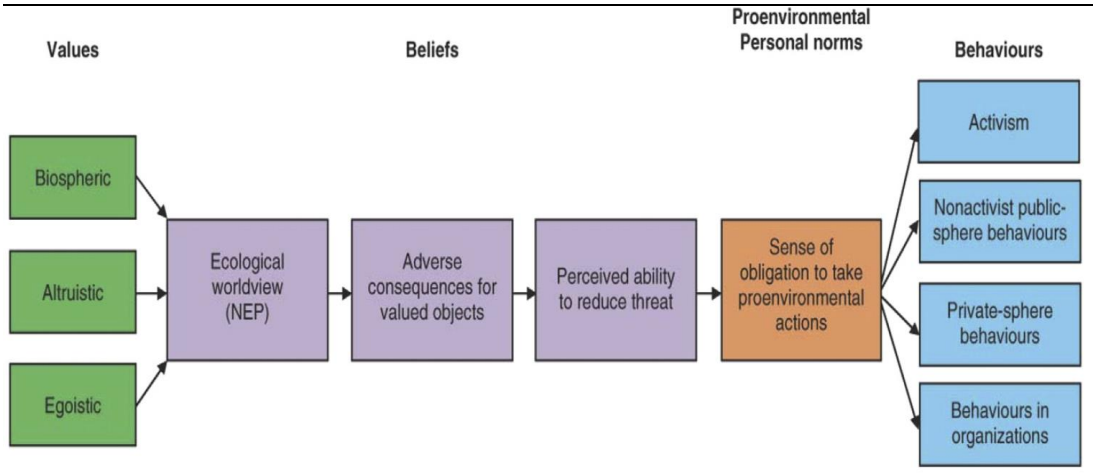
This article compares two models of behavioural decision making — the theory of planned behaviour (TPB) and the value belief norm theory (VBN)— with the specific purpose of evaluating whether a certain theory offers a better fit than the other for understanding two separate forms of residential energy purchases.

The intentional-based theory of planned behaviour is distinct from the causal chain-based value belief norm theory. The VBN theory recognises a causal chain of relationships between a set of values and beliefs working to develop personal pro-environmental norms leading to a range of behaviours. The VBN involves greater specificity of the VBN structure to understand a range of environmental behaviours for the greater public good (see Figure A.16). The TPB alone is not specifically structured to recognize moral support for environmental action. The attitudinal component of the TPB (see Figure A.17) is structured more as a positive or negative feeling toward a given behaviour. The model offers no psychological construct specifically to support morally grounded environmental action for the public good.

The TPB is more appropriate for studying behaviours with stronger relationships that have an impact on matters closer to the self (i.e. home energy conservation) versus those with public good related environmental impacts. The VBN is considered superior for the study of public good behaviours such as adopting green power.

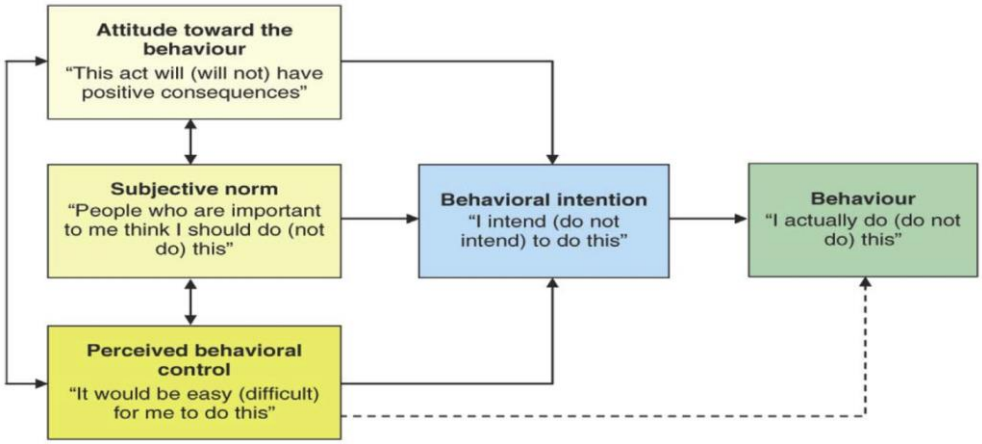
The results of the analysis show that the first is better suited to understanding consumer energy efficiency behaviours; the second is preferred for behaviours related to the voluntary green power market. The differentiation is important for energy policy makers and business strategists aiming to leverage consumer demand.

FIGURE A.16 PAUL STERN'S THEORY OF VALUES, BELIEFS AND NORMS



SOURCE: SARKIS, 2016.

FIGURE A.17 THE THEORY OF PLANNED BEHAVIOUR



SOURCE: SARKIS, 2016.

Program / organisation / study	**Climate change issue and theory of planned behaviour: relationship by empirical evidence** Masud et al. 2016
Customer focus	
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐ **Other:** No specific segmentation proposed/provided

Description

This paper explores the pro-environmental behaviour of Malaysian citizens using the Theory of Planned Behaviour (TPB). In particular, it examines whether attitudes toward climate change, subjective norms, and perceived behavioural control have significant associations with behavioural intention to adapt to climate change and adopt pro-environmental behaviour.

The key findings of this study indicate that attitudes towards climate change, subjective norms, and perceived behavioural control have a positive influence on behavioural intention to adapt/mitigate climate change. The authors suggest that, in order to increase environmental awareness, attitudes, and pro-environmental behaviour, policymakers should use the following mediums: (a) awareness and education by disseminating information to public (e.g. through mass media), (b) uses of other mode of communications such as by mosque, church, and worship place and, (c) involvement in community activities with formal research activities.

Program / organisation / study	**The energy efficiency behaviour of individuals in large organisations: A case study of a major UK infrastructure operator** Zierler et al., 2017
Customer focus	Employees in large organisations
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☑

Description

This paper explores individuals' energy-use behaviours in organisations, in particular it investigates the structure of energy behaviours of individuals in a large organisation (a major infrastructure operator in Great Britain) and aims to address the question of whether behavioural frameworks developed to understand consumer- or domestic behaviours can be successfully applied to organisational settings.

The author suggests that, given demonstrated large variations between clusters of employees, large companies' internal energy engagement campaigns should be tailored to meet the needs of these different groups. Organisations should recognise a diversity of attitudes to energy efficiency across staff populations, and design engagement strategies to take account of these. However, few strong links were found between particular demographic groups and cluster membership. Based on the cluster analysis undertaken in this study, organisations should avoid segmenting energy engagement campaigns based on gender, age, length of experience and company department.

The clusters developed by the authors (based on the employees' energy behaviours) are outlined below.

— Technological Sceptic — this is a group who neither feel able nor willing to save energy, and cannot see the economic or environmental benefits to the company of doing so.

— Efficiency-Aware — this cluster identifies individuals with the highest awareness of energy efficiency campaigns, and those who feel that energy savings are relatively easy for them, but not necessarily those with the highest intention to do so. Of the clusters identified, this perhaps represents those with the best (perceived) access to information.

— Barrier-Sensitive — individuals in this group have a personal intention to save energy and a high level of support for energy efficiency measures, but may be held back by a perception that the rest of the

organisation needs to adopt technologies faster, and that their personal efforts to save energy will therefore have minimal effect.

— Organisational Barriers — of all the clusters, this group had the lowest overall intention to save energy in future, but the highest perceived ease of doing so at a personal level, particularly in economic terms. This suggests that this group may perceive conflicts in desired performance goals as a reason for not pursuing energy efficiency efforts within the business.

— Benefit Sceptic — this group seems to receive the highest perceived technological support from the company, but they are not necessarily in agreement that energy efficiency is a worthwhile use of company resources.

Program / organisation / study	**Co-managing Home Energy Demand, Stage 5: Project Final Report** Strengers and Nicholls, 2013
Customer focus	Residential electricity consumers
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐
	Other: As part of Stage 4 of the CHED Project, households were divided into five segments to represent their predominant cooling practices.

Description

The Co-managing Home Energy Demand (CHED) Project aimed to understand how residential electricity consumers conceptualise peak demand, how they are responding to various demand management programs enabled by smart meters and smart grids, and what types of demand management incentives do and don't work. Stage 1 reviewed Ausgrid's previous demand management and dynamic pricing research. Stages 2 and 3 involved qualitative research with Ausgrid's customers on different pricing concepts (Stage 2), trust in the electricity industry (Stage 3) and household practices (Stages 2 and 3). Stage 4 involved research with Endeavour Energy's customers participating in the CoolSaver or PeakSaver demand management programs. The final Stage 5 report summarises and synthesises the research findings from all four stages of the project, and provides overall recommendations to inform the development of residential demand management programs in New South Wales.

In addition to a review of prior demand management research, the CHED Project adopted a qualitative methodology involving in-depth semi-structured interviews, home tours and observations with households (Stages 2–4). A total of 118 individual participants from 80 households in the Ausgrid and Endeavour Energy distribution areas were involved in this research. The research sample included a range of household electricity use profiles, incomes, age groups and cultural backgrounds.

As part of Stage 4, households were divided into five segments to represent their predominant cooling practices. Each household was categorised on the basis of the way they stayed cool on hot days and their usage and understandings of air-conditioners to identify discernible patterns and trends. While there was some overlap between segments, particularly segments 4 and 5, households were allocated on a 'best-fit' basis which reflected their dominant approach to summer cooling.

The five identified segments were:

— Natural comfort and health (Segment 1, 15%) — this segment did not use no air-conditioning in the home because they did not think it necessary, preferred 'natural' breezes and airflow and/or believed that 'natural' air was better for their health.

— Aspiring to air-conditioned cooling (Segment 2, 3%) — this segment did not currently have air-conditioning but were aspiring towards Segment 3.

— Natural cooling supplemented with air-conditioning (Segment 3, 53%) — in this segment air-conditioning was used sporadically in conjunction with natural cooling strategies.

— Liberal air-conditioned cooling (Segment 4, 25%) — this segment regularly used air-conditioning as their dominant cooling strategy.

— Automated climate control (Segment 5, 4%) — this segment kept their home climate controlled at 21–23°C throughout the summer.

Segments 3 and 4 (78% of sample) represent the biggest contributors to peak electricity demand. Segments 1, 2 and 3 (71%) were particularly receptive to meanings of health and 'natural' comfort that can both hinder and help efforts to reduce energy demand. Meanings associated with air-conditioning and heat (as natural/unnatural, comfortable/uncomfortable) demonstrate the diversity in cooling strategies and preferences and point towards an important source of potential malleability in air-conditioned cooling strategies and ways to shift them outside peak times.

Program / organisation / study	**What do people living in deprived communities in the UK think about household energy efficiency interventions?** Scott et al. 2014
Customer focus	
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐
	Other: No specific segmentation proposed/ provided.

Description

This paper investigated what residents living within two deprived communities in the UK thought about a number of household energy efficiency interventions. The Theory of Planned Behaviour (TPB) was used as a framework to understand the determinants of residents' intentions to adopt home energy efficiency interventions.

The study findings provide support for the TPB to the extent that over 70% of the variance in residents' intentions was explained by TPB constructs. However, closer examination revealed that only residents' attitudes toward the interventions (e.g., whether they think that cavity wall insulation would be beneficial) predicted intentions to adopt. Subjective norms (i.e., what important others think that residents should do) and perceived behavioural control (e.g., the extent to which residents' feel that they have control over whether or not to have household energy efficiency interventions) did not predict intentions to adopt energy efficiency measures in the current study.

Residents generally felt positive about the proposed interventions and expected that they would lead to financial savings, improve the appearance and warmth of their home, and sense of pride in the local community. However, while residents intended to adopt energy efficiency interventions if offered them, they were less willing to personally invest in them. Home ownership and the belief in humans' ability to tackle climate change were found to predict willingness to invest.

Program / organisation / study	**Year 3 Project Report: Transformation to Low Carbon Living - Social psychology of low carbon behavioral practice** O'Brien et al. 2017
Customer focus	Energy users
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐
	Other: While this report doesn't specifically segments customers, it provides insights into: – different clusters of the Australian population with respect to their adoption of low carbon infrastructure – low carbon mindsets.

Description

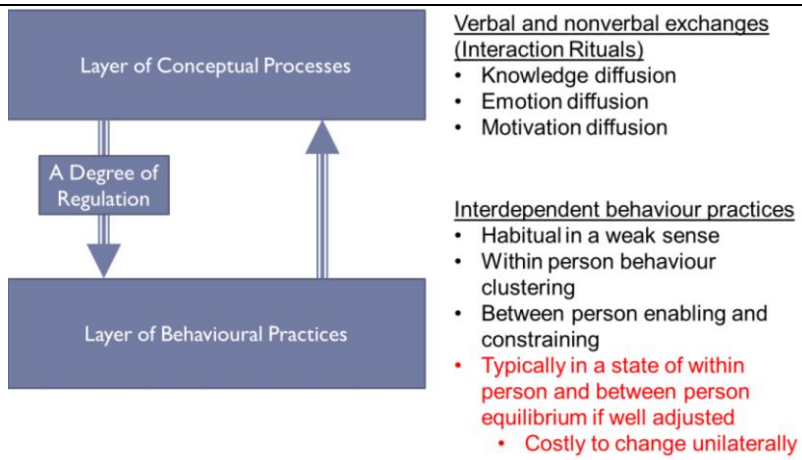
This report addresses three main subjects.

4. It provides an initial presentation of the social psychological decision-making framework for transitioning to low carbon living.

5. It describes the nature and predictive power of a low carbon goal measure that was developed to identify readiness to transition to low carbon living (the Low Carbon Readiness Index (LCRI)).
6. It considers how a low carbon goal will be situated within a broader mindset regarding low carbon behavior in society.

The authors note that to change behaviours people have to make adjustments to two different layers, a layer of *practices* (the observable network of activities where people manage a balance both within their own personal activities and with others' activities) and a layer of *concepts* (the network of beliefs, attitudes, aspirations, goals and intentions that go along with the practices being performed) (see Figure A.18). For people to take the initiative to make low carbon changes in their lives, they need to adjust the second layer first.

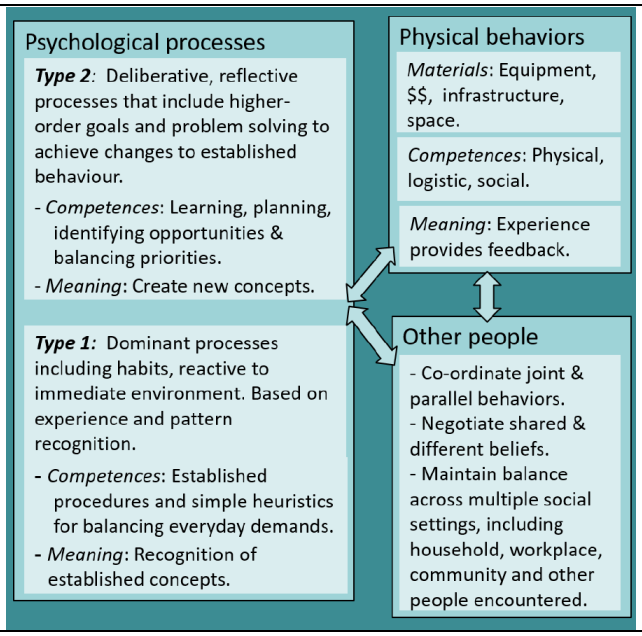
FIGURE A.18 TWO LAYERS OF BEHAVIOUR CHANGE



SOURCE: O'BRIEN ET AL. 2017.

To assess the kinds of resources that people will need to make changes, it can be helpful to think in terms of: (a) psychological and physical resources, and (b) co-ordination with other people (see Figure A.19).

FIGURE A.19 FRAMEWORK FOR BEHAVIOUR IN CONTEXT



SOURCE: O'BRIEN ET AL. 2017.

The authours suggest that when designing an intervention, new technology or new policy, considering the dot points below will help anticipate how readily the target people will adopt the new behaviour.

— Know the target – understand what those people doing in their everyday life, who are they and what demands are they juggling and what sorts of people do they associate with.

— Know the requirements – undertstand what does the target need to have to pick up the new behaviour (e.g. materials, knowledge and skills)

— Know the costs and benefits of uptake and maintenance — understand the economic, psychological and social costs and benefits for the target. Consider comfort, convenience, socializing, sense of empowerment/disempowerment and coordination with others (including the impact the change will have on others' comfort, convenience, socialising and sense of empowerment).

When developing the LCRI (which is a short practical measure to identify people who hold a low carbon goal that predicts generalized measures of low carbon behavior within the household and personal travel), the authors undertook national surveys to identify low carbon behavioral clusters (and latent classes of people participating within different combinations of clusters) and then tested whether the LCRI can predict activity within summary measures of these clusters and classes.

One of the clusters identified was a low carbon infrastructure cluster. Within this cluster three different types (classes) of people in the Australian population were identified in terms of possession of low carbon infrastructure:

— Advanced — these people tended to have efficient appliances and temperature systems, as well as solar panels, and to a lesser extent, solar hot water

— Intermediate — these people tended to have efficient appliances and temperature systems

— Beginners — these people tended to not have low carbon infrastructure.

To understand more about the perceptions and priorities associated with having a low carbon goal, and actually pursuing it, the LCRI survey tool includes a variety of measures in addition to the core LCRI (i.e. the low carbon goal measure). The authors report on four measures: energy efficiency goal, descriptive low carbon norm, trending low carbon norm and community support.

Using these measures, the analysis identified three different types of people who had different profiles of low carbon-related goals and perceptions, referred to here as 'low carbon mindsets'. The three classes of people identified three different mindsets:

— Collective mindset — strives to reduce greenhouse gas emissions, believes most people do the same, and that even more people will do so within a year.

— Activist mindset — strives to reduce greenhouse gas emissions and believes most people do NOT do the same, and that the amount of people trying to reduce is unlikely to change within a year.

— Low readiness mindset — does not strive to reduce greenhouse gas emissions and believes most people don't either.

Program / organisation / study	**The message changes belief and the rest is theory: The "1% or less" milk campaign and reasoned action.** Booth-Butterfield and Bill, 2004
Customer focus	
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐
	Other: No specific segmentation proposed/ provided.

Description

The "1% or less" campaign is a mass media, message-based community intervention designed to increase sales and consumption of low-fat milk as a nutritional strategy to reduce saturated fat in the diet. This paper describes the possible theoretical force behind the campaign and presents data supporting this theoretical foundation. The key question driving this research is, How do the communication variables in the "1% or less" campaign cause the obtained positive effects?

Using the Theory of Reasoned Action (TRA), high-fat (whole and 2%) milk users were surveyed to assess milk use before and after a 6-week mass media campaign aimed at changing behavioural rather than normative beliefs.

The TRA is one of the most widely accepted and employed behaviour change theories in the social sciences. The theory holds that the best predictor of a volitional behaviour is intention, and that intention is driven by two factors: attitude toward the behaviour and the subjective norm. Further, these two factors are each composed of two elements. Attitude is formed through the multiplicative product of behavioural beliefs and evaluation of those beliefs. The subjective norm is created multiplicatively through normative beliefs and the motivation to comply with those beliefs.

Evidence presented in this paper indicates that constructs from the TRA provide a strong explanation for the positive effects of the campaign. The data provide evidence that (1) interventions are more likely to succeed when they focus upon specific behaviours, and (2) the theory can be used prescriptively to plan and implement message-based mediated interventions. Campaign messages that focused upon a specific switching behaviour changed targeted behavioural beliefs, which changed intentions, which changed behaviour.

Program / organisation / study	**Effective engagement: Building a relationship of cooperation and trust with the community** Langham and Paulsen, 2015
Customer focus	
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐
	Other: No specific segmentation proposed/ provided.

Description

This paper describes the context and development of a prototype community engagement framework recently developed in the Australian Taxation Office (ATO). This framework emerged from an increased focus on improving engagement, cooperation and trust between the ATO and the taxpaying population.

The framework bridges the division between enforcement and collaboration, demonstrating that engagement is a spectrum of professionalism and service delivery. The framework was intended to be flexible and not overly prescriptive, but should also enable a more co-ordinated and integrated approach to community engagement.

The final version of Effective Engagement Framework contains four components for general reference and to enable effective planning and evaluation of engagement activities. Table A.6 outlines the key components of the framework. The purpose components are originally sourced from the IAP2 Public Participation Spectrum (Spectrum of Engagement).

TABLE A.6 KEY COMPONENTS OF THE EFFECTIVE ENGAGEMENT FRAMEWORK

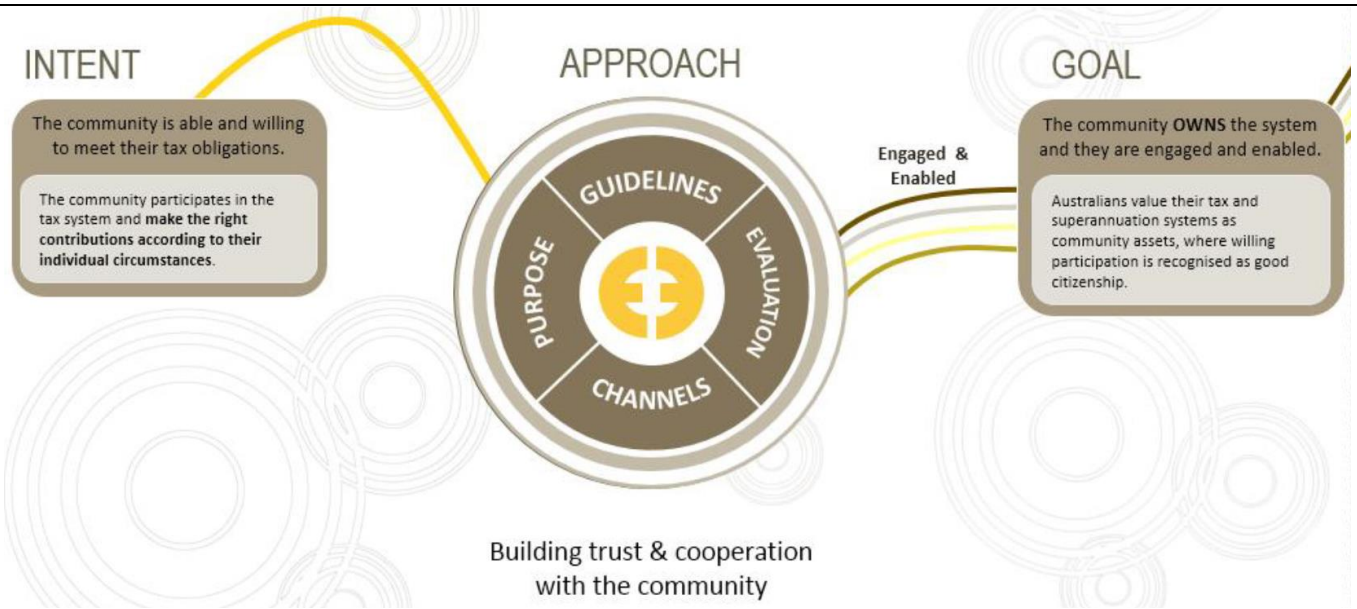
Purpose	Inform, Consult, Involve, Collaborate, Empower	The level of engagement should be clearly defined, shared and understood by all involved.
Guidelines	Shared understanding, Mutual obligations, Certainty, Getting it right, Good governance, Listening & doing	These guiding principles apply to all engagement activities to ensure a consistent and professional approach to interactions.
Channels	Online, Social Media, Phone, Paper, Face to Face	To meet shifts in the market and stay up to date with market trends, it is critical we utilise the latest communication channels favoured by the community.

Evaluation	Approach, Reach, Quality, Impact	Evaluation is critical for monitoring progress, assessing success, improving any future engagement activity.

SOURCE: LANGHAM AND PAULSEN, 2015

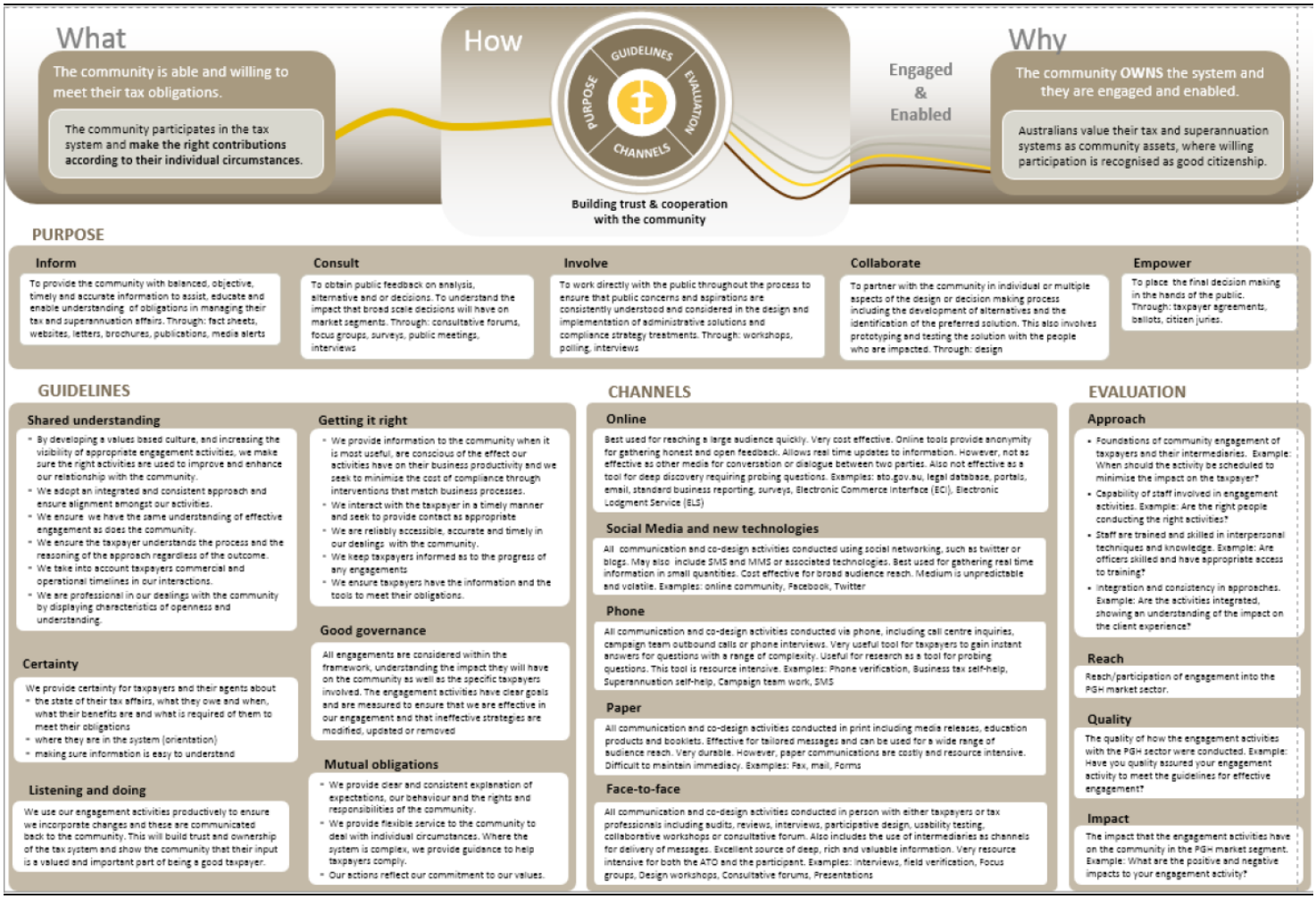
This version of the framework included a set of guidelines for applying the various components of the framework. When conducting an engagement activity with the community, or when determining how best to interact with the community to solve a problem, the guidelines encourage staff to apply the core principles of the framework during the design of any engagement activity. A 2013 version of the framework is depicted in the figures below.

FIGURE A.20 EFFECTIVE ENGAGEMENT FRAMEWORK



SOURCE: LANGHAM AND PAULSEN, 2015

FIGURE A.21 EFFECTIVE ENGAGEMENT FRAMEWORK – DETAILED VIEW OF COMPONENTS



SOURCE: LANGHAM AND PAULSEN, 2015

Program / organisation / study	**ATO compliance model** ATO ,2017
Customer focus	
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐ **Other:** The ATO compliance model segments taxpayers based on their attitudes to compliance.

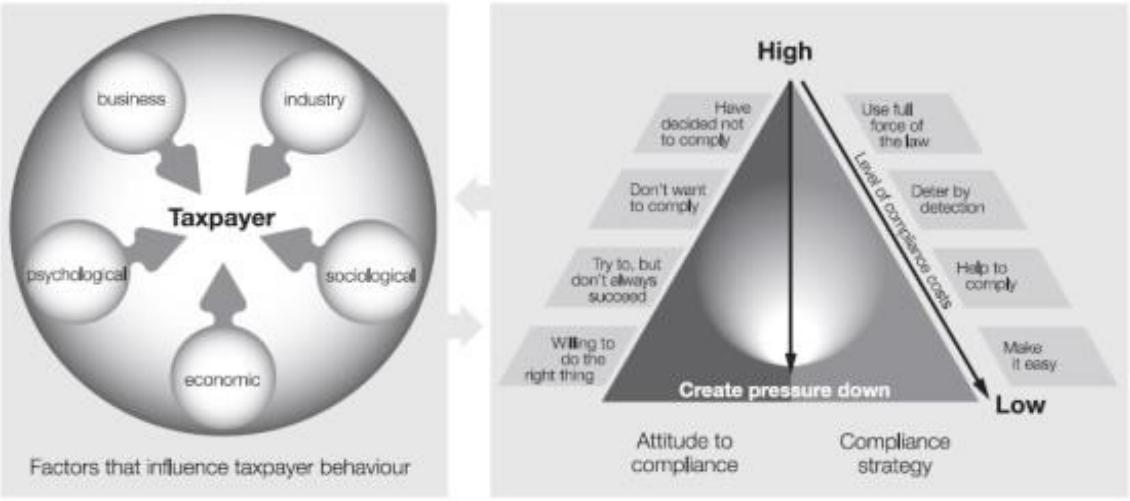
Description

The ATO compliance model is a structured way of understanding and improving taxpayer compliance. It helps ATO to understand the factors that influence taxpayer behaviour and to apply the most appropriate compliance strategy.

Taxpayer compliance behaviour is influenced by many factors - business, industry, sociological, economic and psychological (see figure below). The compliance model shows a continuum of taxpayer attitudes towards compliance. At the base of the continuum, taxpayers have the desired attitude of being 'willing to do the right thing'. At the other extreme, taxpayers have decided not to comply - choosing to evade or opt out of the tax system.

The compliance model also summarises the different sorts of support and intervention that we may need to provide to collect the required revenue. The model suggests that the ATO has the ability to influence taxpayer behaviour through their response and interaction.

FIGURE A.22 ATO COMPLIANCE MODEL



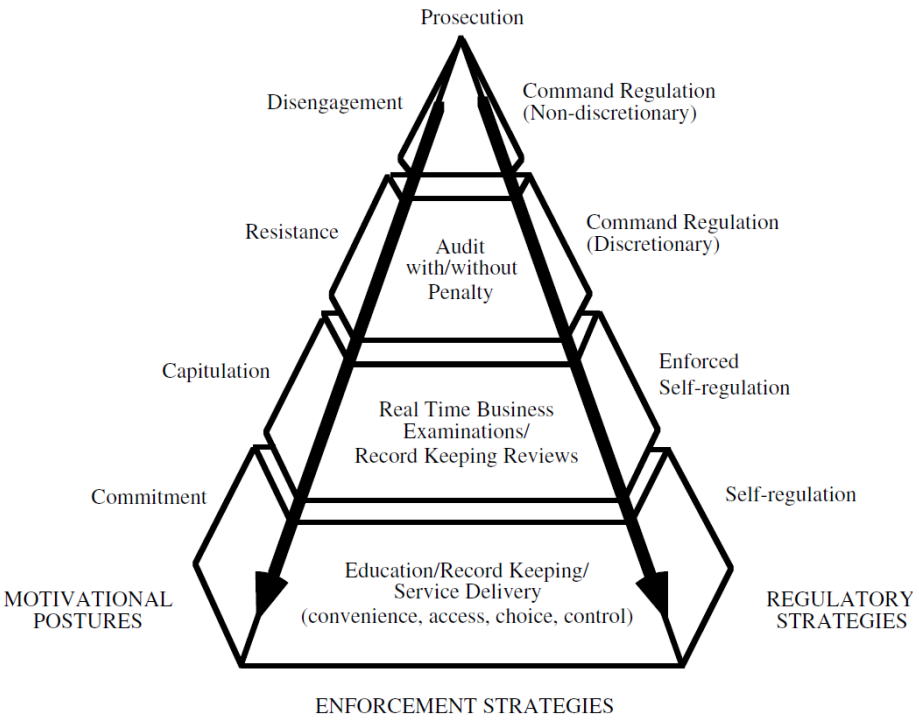
SOURCE: ATO, 2017

Program / organisation / study	**A new approach to tax compliance** Braithwaite, 2003
Customer focus	
Segmentation basis	Demographic ☐ Geographic ☐ Psychographic ☐ Behavioural ☐
	Other: No specific segmentation proposed/ provided.

Description

This paper discusses the creation and aplication of the ATO Compliance Model. Originating in the Cash Economy Task Force (1998), the Compliance Model drew on the work of regulatory scholars at the Australian National University as well as on the vast research literature on tax compliance. Consistent with this literature, the Task Force urged the ATO to better understand not only the business profiles of taxpayers, but also the nature of the industry they belong to, the economic factors that impinge on that industry and society more broadly, and the psychological and sociological factors that frame taxpayers' decisions or non-decisions about the actions they will take to meet their tax obligations (i.e. the reasons for a taxpayer's behaviour). The core of the ATO Compliance Model, as developed by the Cash Economy Task Force, is presented diagrammatically in Figure A.23.

FIGURE A.23 EXAMPLE OF REGULATORY PRACTICE WITH ATO COMPLIANCE MODEL



SOURCE: BRAITHWAITE, 2003

On the left hand side of the model are the motivational postures. These are the stances that taxpayers openly express in their relationships with the tax authority. These postures describe the way in which taxpayers controlled the amount of social distance they placed between themselves and the tax office. When taxpayers were open to admitting wrongdoing, correcting their mistakes, and getting on with meeting the law's expectations, they were likely to be displaying the postures of commitment or capitulation. The tax official's task is relatively straightforward in such circumstances. Their authority will be taken seriously, and compliance will follow as long as taxpayers know what they are supposed to do, are treated in a procedurally just manner, and are conscious of the fact that there will be follow through by the tax authority if they do not comply.

The tax official's task becomes increasingly harder as taxpayers put more social distance between themselves and the authority. The postures of resistance and disengagement reflect a conscious holding back of cooperation. The relationship is adversarial, and the tax official's approach to gaining compliance needs to be more strategic than with more cooperative taxpayers. The most difficult stance for a tax official to deal with in the model is disengagement. Here the taxpayer has such contempt for the system that the chances of persuasion working are low. In such circumstances, other strategies may be equally ineffective, leaving incapacitation as the only option (through prosecution, imprisonment, or taking away a license to practice).

The principles that guide enforcement are more stable and are represented on the right hand side of the Compliance Model.

B

ASSESSMENT OF CONSUMER SEGMENTATION MODELS

The following table assesses the consumer segmentation models that were identified in the literature search (and summarised in Appendix A) and assesses them against the design criteria identified in Chapter 3.

TABLE B.1 ASSESSMENT OF SEGMENTATION MODELS IDENTIFIED IN THE LITERATURE SEARCH

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
Driving Change: Identifying what Caused Low-Income Consumers to Change Behaviour Russell-Bennett et.al. 2017a (GEERA)	Two-stage segmentation approach. First, across the broad population base, four consumer segments were identified based on their attitude towards energy efficiency ("energy champions", "ready to engage", "I am doing everything I can do" and "resistors"). Participants in the LIEEP fell mostly in the "Ready to Engage" segment. In the second stage of consumer segmentation, four bases or dimensions for segmenting participants in the LIEEP trials were identified – by geographic, demographic (cohort, age and education level), psychographics (thoughts, opinions or attitude of a person) and behavioural indicators (physical actions and habits). Three sub-segments were identified within the broader "Ready to Engage" segment based primarily on age group, cultural background and self-efficacy.	No Low income consumers only	In part Provides insights into specific tools and services for 3 sub-segments but broader applicability limited. Focused on energy efficiency	In part Sub-segments characterised by motivation, opportunity and ability		No Study only analysed low income "ready to engage" households. May result in a large number of segments when extended across all residential consumers	No Survey needed to obtain data on attitudes about energy efficiency	N/A
Taking advantage of electricity pricing signals in the digital age: Householders have their say, A summary report. Russell-Bennett et.al. 2017b (CitySmart)	The researchers developed five personas during a qualitative research phase, which informed the identification of six consumer segments. Segments were defined by their elemental traits, being those traits that are fairly stable over time and not likely to vary when making household decisions across a range of products or services. The segments were then profiled in more depth by considering the households' surface-level traits (those that can vary by situation and are changeable over time): – attitude and preferences for using technology to manage household challenges (do they want control over management decisions or are they happy to delegate simple decisions to the technology) – attitude and preferences to gathering information (from come and talk to me to give me a dashboard and I will work it out to give me engaging apps and tools to make it easier for my	No Only considers household segments that are reachable by digital methods	In part Not able to guide policy makers on tools and services for household segments not reachable by digital methods Study focused on tariff reform and digital technology	In part Provides some insight into motivations (time) and household constraints (e.g. shared decision-making, technology capability / interest, trust / knowledge)		In part No consideration of physical constraints	No Survey needed to identify way in which households make decisions	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
	family and I to understand and engage).							
Ontario Power Authority (OPA) Ontario, Canada	Four residential segments were identified based on commitment to energy conservation, financial pressures, lifestyle, comfort, social responsibility, and level of trust with the Government:	Survey-based (Limited to those that respond to surveys)	In part Focuses on energy efficiency. Provides limited insights into appropriate tools and services	In part Provides insights into the motivations of households		No No consideration of the constraints on households	No Relies on survey	N/A
Pacific Gas and Electric Company (PG&E) Energy utility company, California	PG&E traditionally relied on sectoral segmentation of their customers to offer targeted energy efficiency programs. However, they are increasingly relying on customer's demographic characteristics, attitudes towards energy use, energy efficiency, conservation, demand response, knowledge of energy efficiency and peak demand reduction options to identify effective segmentation schemes. First by sector (e.g. agriculture, industrial, commercial, residential), then by mass (e.g. small and large commercial) and targeted markets (e.g. medical facilities, schools and universities)	Yes	No Describes markets rather than segments. Focused on energy efficiency	No Does not provide any insights into household segments		No Homogeneity of segments unclear	Yes	Yes
Southern California Edison Company (SCE) Energy utility company, California	SCE segments their markets by sector and subsectors, then targets their energy programs towards a progression of short-, mid-, and long-term actions, with a goal of transforming the way consumers use energy by targeting the principal barriers to adoption in key sectors. First by sector (e.g. residential, non-residential), then by segments (or subsectors) within these sectors (e.g. multi-family, affordable housing, manufactured housing, etc.).	Yes	No Describes markets rather than segments	No Does not provide any insights into household segments		No Homogeneity of segments unclear	Yes	Yes

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
The Preference of Romanian Consumers for Renewable Energy Alexandru, 2014	Segmented household energy consumers using a psychographic method. Segments were identified based on lifestyle components – work and relationships, recreation, health, techno-environmental, family unity and volunteering-spirituality. Six segments were identified: introverted, carpe diem, modern, solo-active, active and traditional (not described).	Small sample (227 customers) that is not necessarily representa-tive	No No insights into tools or services. Focuses on renewable energy	No Insufficient information provided		No Insufficient information provided	No Relies on survey data	N/A
The responsiveness of households to energy demand management initiatives: segmenting by household types Kleinschafer and Morrison, 2016	The study identifies seven household types: sole person, single parent, shared household, married no children, de facto no children, married with children, and de facto with children.	Survey – regional NSW only	No No insights into tools and services. Focused on energy efficiency and demand management	In part Provides some useful insights into motivations (pro-environmental and comfort) and constraints (owning vs renting, and harmony of household)		No Will be substantial variation within segments	Yes	Yes
Using a consumer-segmentation approach to make energy efficiency gains in the residential market McKinsey 2013	This paper presents a consumer segmentation approach for energy providers to deliver better energy-efficiency opportunities to the market. It divides the target audience into five segments based on attitudes and behaviours.	Survey-based (Limited to those that respond to surveys)	No Focused on outcomes with limited insights on tools and services. Focused on energy efficiency	In part Provides some insights into motivations – cost savings, interest in new technologies, environmental considerations, disengaged		No No consideration of the constraints on households	No Survey needed to identify motivations	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
Energy market segmentation for distributed energy resources implementation purposes Encinas et al. 2007	The paper proposes a three-level segmentation structure based on a top-down approach: – First level: traditional sector division (commercial, residential and industrial) – Second level: based on the economic activity of the customer (for the commercial and industrial sectors) and on type of dwelling (single family house, single family apartment and multi-family unit) and climate zone for the residential sector – Third level: based on qualitative evaluation of energy end-uses (e.g. space heating, water heating, lighting, space cooling, process cooling, etc.).	Yes	No More focused on energy use than managing energy bills. No insights on tools and services	In part Segmentation for marketing new policies and technologies, particularly DER. Useful in identifying potential (opportunity) but not motivation or ability		No May result in a large number of segments	In part Possibly by retailers but not by policy makers	In part Algorithms improving
Consumer engagement in the energy market since the Retail Market Review: 2016 Survey Findings UK Office of Gas and Electricity Markets (Ofgem) 2016	A consumer engagement index was developed, which divides consumers into four segments based on knowledge and understanding of, and level of engagement with, the energy market, extent to which they trust supplier, compare tariffs and switch suppliers.	Survey-based (Limited to those that respond to surveys)	In part Focused on switching tariffs with no insights on tools and services	In part Provides some insights on household constraints (trust and knowledge)		Yes Small number of heterogeneous segments that appear homogeneous	No Relies on survey data	N/A
Electricity Network Transformation Roadmap: Interim Program Report CSIRO and Energy Networks Association (ENT) 2015	Using global literature reviews, expert reports and structured workshops, a range of plausible 2025 representative customer segments for residential customers were developed based on a market adoption curve, which is similar to a technology adoption curve. The segments are multidimensional and no single factor can suitably differentiate the behavioural characteristics between segments.	Yes	In part To the extent that tools and services are technology based Focused on form of electricity supply	In part Provides some insights into a household's ability (technology adoption)	Based on global literature reviews	No Segments may not be homogeneous	No	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
Who puts the most energy into energy conservation? A segmentation of energy consumers based on energy-related behavioural characteristics Sütterlin et al., 2011	Consumer segments were segmented based on three psychologically different energy-saving behaviours – curtailment, energy efficiency and acceptance of policy measures, together with energy-related psychosocial variables (e.g. perceived response efficacy, perceived self-efficacy, perceived personal efficacy, awareness of consequences, ascription of responsibility, personal norms, attitudes towards loss of comfort, etc.).	Survey-based (Limited to those that respond to surveys)	In part Provides some insights into one particular tool – acceptance of regulations	In part Provides insights into motivations – financial, comfort, convenience, "making a difference", and social pressure		No No consideration of constraints	No Relies on surveys to identify motivation	N/A
A Three-Dimensional Model of Residential Energy Consumer Archetypes for Local Energy Policy Design in the UK Zhang et al., 2012	This paper proposes a three-dimensional *conceptual* model for archetyping residential energy consumers in the UK by considering three dimensions traditionally reviewed in research related to residential energy consumption in the UK: – property energy efficiency levels – the greenness of household behaviour of using energy – the duration of property daytime occupancy .	Yes	In part Identifies policy interventions by segment that are specific (current) rather than generic (adaptable to the future) Focused on energy efficiency	Yes Uses a 3-dimensional model that considers willingness to act (greenness of behaviour) and two constraints on ability (physical properties of the building and the load profile)	Yes Builds on DEFRA's 2 dimen-sional model of ability to act and willingness to act	In part Results in 8 segments that may not be homogeneous as there are more factors that may constrain households than those identified	No	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
A framework for pro-environmental behaviours UK Department for Environment, Food and Rural Affairs (Defra) 2008	To tailor interventions for specific groups, Defra segmented the public into seven clusters each sharing a distinct set of attitudes and beliefs towards the environment, environmental issues and behaviours. The clusters are mapped against their relative willingness and ability to act.	Survey-based (Limited to those that respond to surveys)	Yes Identifies emphasis of interventions by segments: High potential and willing – enable, engage Potential to do more and how – encourage, exemplify and enable Low potential and unwilling – encourage, enable	In part Identifies a 2D model that considers willingness to act and ability to act, based on a range of environmental measures in the energy, transport and waste sectors		In part As identified by Zhang, the DEFRA segmentation ignores the effects of the physical attributes of the properties and does not give sufficient insights at a household level	No	N/A
Segmenting Residential Customers: Energy and Conservation Behaviors Pedersen 2008	Based on a territory-wide end-use survey of 4,191 residential customers that was supplemented with a set of 60 attitudinal and behavioural questions in regard to electricity and conservation, this study segments the market into six segments. – Tuned-Out & Carefree – Stumbling Proponents – Comfort Seekers – Entrenched Libertarians – Cost-Conscious Practitioners – Devoted Conservationists	Survey-based (Limited to those that respond to surveys)	No Focused on energy consumption	In part Provides insights into motivations – comfort, environmental, financial and "the greater good"		No No consideration of constraints on households	No	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
Who cares about the environment? NSW DEC (now OEH) 2006	The Who Cares? 2006 research included a segmentation analysis based on demographic characteristics (age, gender, education, residential location, language and with/without children), environmental interest, knowledge and behaviours and was based on two telephone surveys with a representative sample of 1,721 people from across NSW and qualitative research with six focus groups. Energy users are segmented along a continuum according to their level of environmental attitudes and beliefs (EAB) and identified segmented consumers either as committeds, middles, privates, or reluctants, according to the respondents' level of involvement in specific pro-environmental behaviours.	Survey-based (Limited to those that respond to surveys)	No No insights into tools and services Focused on environmental consideration	Limited Provides information on one aspect of motivation only		No No consideration of a broad range of motivations or of constraints on households	No	N/A
Improving consumers' responsiveness to electricity demand management initiatives in regional New South Wales: the potential use of behavioural – based constructs for identifying market segments Morrison et al. 2013	This study aims to segment household energy consumers to facilitate better targeting of demand management programs. The focus of the study is on electricity consumption of regional NSW households. The authors employ a motive-based segmentation approach (measuring both attitudes and behaviours) based on a survey of 1,074 households and a series of focus groups with residential electricity users. Based on three behavioural constructs (price sensitive behaviour, comfort sensitive behaviour and environmental conscious behaviour) the study identifies six segments: – Lower socio-demographic (SD) non-conservers – Lower SD price and enviro-conscious – Average households – Wealthy price and enviro-conscious – Wealthy unempowered – Wealthy comfort seeking	Regional NSW survey	In part Provides some insights into the types of programs Focused on demand management	In part Provides some insights on motivation – enviro-conscious, price conscious and comfort		Limited Considers wealth, but no other constraints on households	No	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
Plugging in the consumer, innovating utility business models for the future IBM Global Business Services 2007	Study segmented residential households and small commercial customers using two main attributes: personal initiative (the willingness of a consumer to make decisions and take action based on specific goals, such as cost control, reliability, convenience and climate change impacts) and disposable income. Four segments were identified: – Passive Ratepayers – Frugal Goal Seekers – Energy Epicures – Energy Stalwarts	Yes	In part Provides insights into specific strategies and offerings that utilities could use for each segment but not able to guide policy makers on other tools and services	In part Provides some insights into willingness to change and opportunity to change (disposable income)		In part No consideration of physical constraints or other household constraints	No Survey needed to identify consumers' energy behaviour patterns	N/A
2017 State of the Consumer Report SGCC 2017	The Smart Grid Consumer Collaborative (SGCC) used an attitudinal segmentation framework to identify six consumer segments to increase consumer engagement with Smart Grid-enabled programs and technologies. An assessment of the impact of these consumer segments on the interest in, and awareness of, various smart grid offerings was undertaken and offerings by level of awareness and interest were provided. The identified segments are: – Green champions – Saving seekers – Status quo – Technology cautious – Movers & shakers Consumer preferences regarding a wide range of current and emerging Smart Grid-enabled services and technologies were based on insights from a survey of 1,500 consumers.	No Study only focuses on Smart Grid consumers	In part Provides insights into specific strategies and offerings for each segment of Smart Grid consumers but not able to guide policy makers on other tools and services	In part Provides some insights into interest and awareness		No No consideration of the broad range of motivations or of constraints on households	No Survey needed to identify consumers' values and attitudes towards Smart Grid-enabled services and technologies	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
Revealing the Values of the New Energy Consumer Accenture 2011	This study is part of a multi-year global research program by Accenture aimed at gaining a deeper understanding of consumers' attitudes, opinions and preferences toward energy management programs. The study analysed the interrelationships between consumers' responses across the full spectrum of adoption variables (namely information display, service/ set-up, usage adjustment, provider and loyalty rewards) and segmented customers according to the characteristics about adoption of in-home technologies, electricity management programs and related products and services. It identified six core consumer segments: – Self-reliants — "I prefer to manage my electricity consumption on my own" – Social independents — "I like testing new technologies" – Cost-sensitives — "I look above all for the best financial rewards" – Service-centrics — "I want the best service for my family and me." – Traditionalists— "I prefer a familiar experience" – Tech-savvys — "I value convenience and efficiency"	Yes	In part Provides limited insights into appropriate tools and services	In part Provides some insights into willingness to adopt in-home technologies, electricity management programs and related products and services and some household constraints (e.g. trust in data sharing and technology)		No No consideration of a broad range of constraints on households (e.g. physical constraints)	No Survey needed to identify consumers' attitudes toward energy management programs	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
Retail Competition Review: Understanding Vulnerable Customer Experiences and Needs AEMC 2016	This report forms part of the AEMC's 2016 annual review of retail competition in the National Energy Market (NEM). It focuses on understanding vulnerable customers, their experiences, and how they could be supported to benefit more from the energy market. The segmentation used in this study focused on residential energy consumers across the NEM, to better understand the nature and extent of vulnerability in the energy market, and whether different groups of consumers had different experiences, perceptions and preferences in terms of engaging with the market and their needs. The segmentation analysis was undertaken based on a survey of 2,333 residential consumers from across the NEM. The identified segments, from most to least vulnerable, are as follows: – Vulnerable Low Income – Vulnerable Middle Income – Vulnerable Higher Income – Low Income Retired – Busy Homemakers – Secure Retired – Secure Higher Income Based on the findings from this research, the authors offer some general advice with regards to support for vulnerable customers but this advice is not specific to the identified segments.	No Vulnerable consumers only	In part General advice with regards to support for vulnerable customers but this advice is not specific to the identified segments	In part Provides some insights into household constraints (education, income, tech-savviness, etc.)		No No consideration of household's motivations or opportunity	No Survey needed to identify vulnerable customer's experiences.	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
Evaluating communication to optimise consumer-directed energy efficiency interventions Wilson 2014	This article investigates whether existing theoretical models can usefully be combined for evaluations of message-oriented energy efficiency programmes (awareness campaigns, education and training programmes, label schemes and smart metering). No specific segmentation proposed/ provided in this paper. Its purpose is to assist policy makers, planners and evaluators in identifying a framework which might provide useful underpinning theory to assess behaviour change projects which have communication as a substantial lever. This framework has potential use to assess projects at the planning stage, at mid-term impact and for summative outcomes. The analysis revealed that when the Elaboration Likelihood Model (ELM) and the Theory of Planned Behaviour (TPB) are used together, these theories offer insight into the impact of messaging.	Yes	In part The article provides some insights useful to the design of message-oriented energy efficiency programmes	N/A		N/A	No	N/A
Rethinking social psychology and intervention design: A model of energy savings and human behaviour Ohnmacht et al. 2017	This article develops a hypothetical classification of interventions and links them to socio-psychological factors affecting the transition points of four phases of behaviour change (predecision, preaction, action, and postaction). It provides a theoretical framework to help segment the population based on the phase of behaviour change there are at and provides examples of interventions to achieve substantial behavioural change through the different phases of behaviour change.	Yes	Yes Identifies interventions for different phases of behaviour change (and the different transition points between the phases)	In part Provides insights into socio-psychological factors affecting the transition points of four phases of behaviour change		No Will be substantial variation within segments	No Survey needed to empirically detect the phase in which an individual or group is found	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
Helping "light green" consumers walk the talk: Results of a behavioural intervention survey in the Swiss electricity market Litvine and Wüstenhagen, 2011	This study develops a psychological model based on the theory of planned behaviour (TPB) linking consumer attitudes and behaviour that explains green electricity purchases. This model is then used to design a large-scale behavioural intervention survey with 1163 Swiss electricity consumers. No specific segmentation proposed/ provided in this paper. The results of the survey analysis show that by providing information targeted at the key factors influencing the intention to purchase green electricity, namely attitudes towards purchase, social norms and perceived behavioural control, a significant increase in green electricity market share can be achieved.	Yes	In part The article provides some insights useful to the design of information-oriented interventions	N/A		N/A	No	N/A
Models of Decision Making and Residential Energy Use Wilson and Dowlatabaldi 2007	This paper reviews four different perspectives on drivers of individual behaviour and models of decision making: conventional and behavioural economics, technology adoption theory and attitude-based decision making, social and environmental psychology, and sociology. One of the decision models reviewed by this article (the technology adoption and attitude-based decision model) can be used to segment the population targeted for an intervention. This segmentation is done based on the stages of the decision making process where a consumers is at — knowledge, persuasion, decision, implementation or confirmation. As individuals move through the stages of the decision process, their evaluation of the outcomes of action improves, as does their perceived ability to act. Intervention design should target the particular processes that influence change at each stage.	Yes	Limited Provides some advice for designing interventions to change behaviour.	N/A		No Will be substantial variation within segments	No	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
A comparative study of theoretical behaviour change models predicting empirical evidence for residential energy conservation behaviours Sarkis, 2016	This article compares two models of behavioural decision making — the Theory of Planned Behaviour (TPB) and the value belief norm theory (VBN) — with the specific purpose of evaluating whether a certain theory offers a better fit than the other for understanding two separate forms of residential energy purchases. The results of the analysis show that the first is better suited to understanding consumer energy efficiency behaviours; the second is preferred for behaviours related to the voluntary green power market. The differentiation is important for energy policy makers and business strategists aiming to leverage consumer demand. No specific segmentation proposed/ provided in this paper.	Yes	In part The article provides some insights about behavioural decision making that could be useful to the design of interventions	N/A		N/A	No	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
Climate change issue and theory of planned behaviour: relationship by empirical evidence Masud et al. 2016	This paper explores the pro-environmental behaviour of Malaysian citizens using the Theory of Planned Behaviour (TPB). In particular, it examines whether attitudes toward climate change, subjective norms, and perceived behavioural control have significant associations with behavioural intention to adapt to climate change and adopt pro-environmental behaviour. This paper does not provide a specific segmentation model. The key findings of this study indicate that attitudes towards climate change, subjective norms, and perceived behavioural control have a positive influence on behavioural intention to adapt/mitigate climate change. The authors suggest some mediums to increase environmental awareness, attitudes, and pro-environmental behaviour.	Survey-based (Limited to those that respond to surveys)	Limited The article provides some insights about the influence of attitudes and perceived behavioural control on behavioural intention to adapt/mitigate climate change and suggest some mediums to increase environmental awareness, attitudes, and pro-environmental behaviour	No Does not provide any insights into household segments		N/A	No	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
The energy efficiency behaviour of individuals in large organisations: A case study of a major UK infrastructure operator Zierler et al., 2017	This paper explores individuals' energy-use behaviours in organisations, in particular it investigates the structure of energy behaviours of individuals in a large organisation and aims to address the question of whether behavioural frameworks developed to understand consumer — or domestic behaviours can be successfully applied to organisational settings. The following clusters/groups were developed based on the employees' energy behaviours: – Technological Sceptic – Efficiency-Aware – Barrier-Sensitive – Organisational Barriers – Benefit Sceptic. The author suggests that, given demonstrated large variations between clusters of employees, large companies' internal energy engagement campaigns should be tailored to meet the needs of these different groups.	No Focus is on behaviours of employees	Limited General advice on how to engage with different staff clusters	No Does not provide any insights into household segments		No Does not provide any insights into household segments	No	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
Co-managing Home Energy Demand, Stage 5: Project Final Report Strengers and Nicholls, 2013	The Co-managing Home Energy Demand (CHED) Project aimed to understand how residential electricity consumers conceptualise peak demand, how they are responding to various demand management programs enabled by smart meters and smart grids, and what types of demand management incentives do and don't work. Stage 1 reviewed Ausgrid's previous demand management and dynamic pricing research. Stages 2 and 3 involved qualitative research with Ausgrid's customers on different pricing concepts (Stage 2), trust in the electricity industry (Stage 3) and household practices (Stages 2 and 3). Stage 4 involved research with Endeavour Energy's customers participating in the CoolSaver or PeakSaver demand management programs. This final Stage 5 report summarises and synthesises the research findings from all four stages of the project, and provides overall recommendations to inform the development of residential demand management programs in New South Wales. As part of Stage 4 of the CHED Project, households were divided into five segments to represent their predominant cooling practices. The five identified segments were: – Natural comfort and health – Aspiring to air-conditioned cooling – Natural cooling supplemented with air-conditioning – Liberal air-conditioned cooling – Automated climate control	Yes	No No insights into tools and services Focused on demand management	In part Provides insights into how consumers respond to various demand management programs and what types of demand management incentives do and do not work		No Will be substantial variation within segments	No	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
What do people living in deprived communities in the UK think about household energy efficiency interventions? Scott et al. 2014	This paper investigated what resident living within two deprived communities in the UK thought about a number of household energy efficiency interventions. The Theory of Planned Behaviour (TPB) was used as a framework to understand the determinants of residents' intentions to adopt home energy efficiency interventions. The study found that residents generally felt positive about the proposed interventions and expected that they would lead to financial savings, improve the appearance and warmth of their home, and sense of pride in the local community. However, while residents intended to adopt energy efficiency interventions if offered them, they were less willing to personally invest in them. Home ownership and the belief in humans' ability to tackle climate change were found to predict willingness to invest. No specific segmentation proposed/ provided in this paper.	No Focus on deprived communities	In part The article provides some insights about the determinants of residents' intentions to adopt home energy efficiency interventions which can be useful to the design of interventions	N/A		N/A	No	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
The message changes belief and the rest is theory: The "1% or less" milk campaign and reasoned action Booth-Butterfield and Bill, 2004	The "1% or less" campaign is a mass media, message-based community intervention designed to increase sales and consumption of low-fat milk as a nutritional strategy to reduce saturated fat in the diet. This paper describes the possible theoretical force behind the campaign and presents data supporting this theoretical foundation. Using the Theory of Reasoned Action (TRA), high-fat (whole and 2%) milk users were surveyed to assess milk use before and after a 6-week mass media campaign aimed at changing behavioural rather than normative beliefs. Evidence presented in this paper indicates that constructs from the TRA provide a strong explanation for the positive effects of the campaign. The data provide evidence that (1) interventions are more likely to succeed when they focus upon specific behaviours, and (2) the theory can be used prescriptively to plan and implement message-based mediated interventions. Campaign messages that focused upon a specific switching behaviour changed targeted behavioural beliefs, which changed intentions, which changed behaviour. No specific segmentation proposed/ provided in this paper.	No Focus was on milk users	In part The article provides some insights which can be useful to the design of message-based interventions	N/A		N/A	No	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
Effective engagement: Building a relationship of cooperation and trust with the community Langham and Paulsen, 2015	This paper describes the context and development of a prototype community engagement framework recently developed in the Australian Taxation Office (ATO). This framework emerged from an increased focus on improving engagement, cooperation and trust between the ATO and the taxpaying population. The framework bridges the division between enforcement and collaboration, demonstrating that engagement is a spectrum of professionalism and service delivery. The framework was intended to be flexible and not overly prescriptive, but also should enable a more co-ordinated and integrated approach to community engagement. No specific segmentation proposed/ provided in this paper.	No Focus is on taxpayers	In part Provides some insights about consumer engagement	N/A		N/A	No	N/A
ATO compliance model ATO ,2017	The ATO compliance model is a structured way of understanding and improving taxpayer compliance. It helps ATO to understand the factors that influence taxpayer behaviour and to apply the most appropriate compliance strategy. Taxpayer compliance behaviour is influenced by many factors - business, industry, sociological, economic and psychological (see figure below). The compliance model shows a continuum of taxpayer attitudes towards compliance. At the base of the continuum, taxpayers have the desired attitude of being 'willing to do the right thing'. At the other extreme, taxpayers have decided not to comply - choosing to evade or opt out of the tax system. The compliance model also summarises the different sorts of support and intervention that we may need to provide to collect the required revenue. The model suggests that the ATO has the ability to influence taxpayer behaviour through their response and interaction. No specific segmentation proposed/ provided by the ATO.	No Focus is on taxpayers	In part Provides some insights about linking interventions with behaviours	N/A		N/A	No	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
A new approach to tax compliance Braithwaite, 2003	This paper discusses the creation and aplication of the ATO Compliance Model. The model is divided into: – motivational postures — these are the stances that taxpayers openly express in their relationships with the tax authority. These postures describe the way in which taxpayers controlled the amount of social distance they placed between themselves and the tax office. The spectrum of postures varies from commitment to disengagement. – regulatory strategies — these are the tax authority's responses based on the taxpayers motivational postures. These spectrum of strategies varies from self-regulation to command regulation. No specific segmentation proposed/ provided in this paper.	No Focus is on taxpayers	In part Provides some insights about linking interventions with behaviours	N/A		N/A	No	N/A

Program / Organisation / Study	Overview of segmentation model	Design criteria						
		Covers all residential customers	Alignment with requirements	Readily applicable	Synergies	Effectiveness	Implementable	Robust
Year 3 Project Report: Transformation to Low Carbon Living - Social psychology of low carbon behavioral practice O'Brien et al. 2017	This report addresses three main subjects. – It provides a presentation of the social psychological decision-making framework for transitioning to low carbon living. – It describes the nature and predictive power of a low carbon goal measure developed to identify readiness to transition to low carbon living (the Low Carbon Readiness Index (LCRI)). – It considers how a low carbon goal will be situated within a broader mindset regarding low carbon behavior in society. The authours suggest that when designing an intervention, new technology or new policy, considering the target, the requirement and the costs and benefits of uptake and maintenance will help anticipate how readily the target will adopt the new behaviour. As part of the development of the LCRI the authors identified low carbon behavioral clusters. One of the clusters identified was a low carbon infrastructure cluster. Within this cluster three different types (classes) of people in the Australian population were identified in terms of possession of low carbon infrastructure: Advanced, Intermediate and Beginners. To understand more about the perceptions and priorities associated with having a low carbon goal, and actually pursuing it, the LCRI survey tool includes a variety of measures in addition to the core LCRI. The authors report on four measures: energy efficiency goal, descriptive low carbon norm, trending low carbon norm and community support. Using these measures, the analysis identified three different types of people who had different profiles of low carbon-related goals and perceptions: Collective mindset ,Activist mindset and Low readiness mindset.	Survey-based (Limited to those that respond to surveys)	Limited Provides some insights about factors to consider before designing an intervention, new technology or new policy	In part Provides some insights into factors affecting behaviour change		N/A	No	N/A

C ATTENDEES AT STAKEHOLDER CONSULTATION WORKSHOPS

The attendees at the stakeholder consultation workshops are listed in Table C.1.

TABLE C.1 ATTENDEES AT STAKEHOLDER CONSULTATION WORKSHOPS

Date	Name	Organisation
Workshop to discuss literature review and draft design principles		
8 March 2018	Kerry Connors	Energy Consumers Australia
	Keith Besgrove	Energy Consumers Australia
	Emily Gadaleta	Energy Consumers Australia
	Sarea Coates	Department of Energy and the Environment
	Kevin Chadwick	Department of Energy and the Environment
	Ginny Hoy	Department of Energy and the Environment
	Fiona Curley	NSW Office of Environment and Heritage
	Martin Jones	Victorian Department of Environment, Land, Water and Planning
	Tim Swinton	ERM Power
	Marteena McKenzie	Centre for Appropriate Technology
	Lauren Solomon	Consumer Policy Research Centre
	Tony Westmore	Australian Alliance for Energy Productivity
	Andrew Nance	The Energy Project
	Ravi Dutta	The Behavioural Insights Team
	Kate Letheren	Group of Energy Efficiency Researchers Australia
	Jo'Anne Langham	University of Queensland
	Yolande Strengers	RMIT
Workshop to discuss draft consumer segmentation framework		
5 April 2018	Kerry Connors	Energy Consumers Australia
	Keith Besgrove	Energy Consumers Australia
	Emily Gadaleta	Energy Consumers Australia
	Sarea Coates	Department of Energy and the Environment
	Kevin Chadwick	Department of Energy and the Environment

Date	Name	Organisation
	Ginny Hoy	Department of Energy and the Environment
	Rachel Desmond	Australian Competition and Consumer Commission
	Veronica Westacott	Australian Competition and Consumer Commission
	Fiona Curley	NSW Office of Environment and Heritage
	Martin Jones	Victorian Department of Environment, Land, Water and Planning
	James Clinch	Essential Services Commission
	Gavin Dufty	St Vincent de Paul
	Yolande Strengers	RMIT
Workshops to discuss stocktake of initiatives and recommendations		
8 May	Kerry Connors	Energy Consumers Australia
	Emily Gadaleta	Energy Consumers Australia
	Sarea Coates	Department of Energy and the Environment
	Kevin Chadwick	Department of Energy and the Environment
	Ginny Hoy	Department of Energy and the Environment
	Andrew Nance	The Energy Project
	Jo'Anne Langham	University of Queensland
	Tim Swinton	ERM Power
9 May	Kerry Connors	Energy Consumers Australia
	Sarea Coates	Department of Energy and the Environment
	Kevin Chadwick	Department of Energy and the Environment
	Ginny Hoy	Department of Energy and the Environment
	Martin Jones	Victorian Department of Environment, Land, Water and Planning
	Rebecca Knights	South Australia Department of the Premier and Cabinet
	Sue Morrison	Department of State Growth, Tasmania
	Anne Marie Poirrier	NSW Office of Environment and Heritage
	Pina Bria	South Australia Department of the Premier and Cabinet
	Carlye Sycz	Queensland Department of Natural Resources, Mines and Energy
	Ty Taylor	Queensland Department of Natural Resources, Mines and Energy
	John Skinner	NSW Department of Planning

D DETAILED STOCKTAKE OF ASSISTANCE FOR HOUSEHOLDS TO MANAGE THEIR ENERGY BILLS

TABLE D.1 SOURCES OF ASSISTANCE TO SUPPORT HOUSEHOLDS TO MANAGE ENERGY BILLS – INITIATIVES TO SHIFT TO GET A BETTER ENERGY DEAL

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Information, advice and non-financial support					
Retailer information/tips for consumers to save energy	Energy retailers	National	No eligibility restrictions	All energy usage in the home	
Your Energy Savings — a website that provides a starting point for information about saving energy, saving money and reducing impact. It includes information on programs and financial support available from the Australian Government as well as state and territory governments.	Australian Government	National	No eligibility restrictions	All energy usage in the home, water use, waste and transport	
Energy Advisory Service — provides free, independent information on a range of energy topics, including: help saving energy at home; understanding energy bills and meters; how to calculate appliance running costs; links to services that can help paying bills; general information about energy efficient home design and renewable energy technology.	SA Gvt	SA	No eligibility restrictions	All energy usage in the home	
Actsmart Sustainable Home Advice — advice provided by an experienced energy expert to reduce energy use.	ACT Gvt	ACT	Available to all ACT residents	Heating, cooling, appliances, hot water, lighting, retro-fitting (e.g. insulation and window treatments), energy-efficient home design, and suitability of house blocks	
EnergySmart Public Housing Project — this program will deliver energy efficiency upgrades to 1500 public housing properties across Victoria. As part of this program tenants are provided with information/advice about how to use less energy with their current home and appliances and about how shifting to lower cost tariffs.	VIC Gvt	VIC	Public housing dwellings in Victoria	Upgrades that may be undertaken in the properties include: replacement of energy efficient hot water system or heating system and building thermal shell upgrades (such as draught sealing and insulation). One upgrade type per dwelling provided	The EnergySmart Public Housing Project will run until 2019

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Energy Made Easy — a website to help residential and small business energy consumers to find a suitable energy offer.	Australian Energy Regulator	ACT, NSW, QLD, SA, TAS	No eligibility restrictions	All energy usage in the home	
Victorian Energy Compare — an energy price comparison site.	VIC Gvt	VIC	No eligibility restrictions	All energy usage in the home	
Energy Info Hub — energy information for Victorian community workers	Consumer Utilities Advocacy Centre (CUAC)	VIC – but some information provided is relevant to all states	No eligibility restrictions		
Energy Partners Program — offers free training to staff and volunteers to help organisations support their clients.	SA Gvt	SA	Available to organisations that provide residents and clients with energy information and advice		
Utilities literacy training courses for community workers — Uniting Care Wesley Bowden delivers training courses to community workers and volunteers in metropolitan and regional South Australia. The course covers a range of topics including: – electricity, gas and water in South Australia – reading and understanding meters and bills – using energy and water efficiently at home – how to choose an energy retailer and get a good deal – concessions, complaints, disputes and hardship – how to share these skills in the community.	Uniting Care Wesley Bowden	SA	Available to community workers and volunteers		

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Energy Efficiency Training and Knowledge Building — a pilot program by the NSW Government providing training to tenants and community service social workers who go into client's homes. Training includes information about: – how to access lower energy tariffs – why supporting tenants with energy advice is important – what tenants can do for themselves to manage their energy bills – what support and advice can be provided to tenants – what hardship programs are available to the tenants – how can energy messages can be 'championed'.	NSW Government in partnership with the Federation of Housing Associations and delivered in conjunction with the Energy & Water Ombudsman NSW (EWON) and the Public Interest Advocacy Centre (PIAC)	NSW	Available to tenants and community service social workers	As per program description	
Incentives					
Retailer information on energy bills	Various energy retailers	National	Current customers	All energy usage in the home	
Control of appliances (e.g. hot water systems and pool pumps) by electricity distributors.	Electricity distributors	Competitive retail markets	Customers in selected tariffs		
Financial support					
Payment plans		National	Offered to customers experiencing payment difficulties	All energy usage in the home	
Bill smoothing		Competitive retail markets	Some retailers offer as an option, some offer to customers experiencing payment difficulties	All energy usage in the home	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Low Income Household Rebate — helps eligible households to pay their electricity bills by providing: – $285 (excluding GST) a year to eligible customers who hold an electricity account, or – $313.50 a year to eligible long-term residents of residential communities (caravan and mobile home parks), retirement villages and strata schemes who receive electricity bills from or on behalf of their community operators.	NSW Gvt	NSW	NSW residents that: – are a customer of the retailer, or a long-term resident of an on-supplied residential community, or a resident of an on-supplied retirement village, or a resident of an on-supplied strata scheme; and whose name appears on the electricity account for supply to his or her principal place of residence; and – hold either a: Pensioner Concession Card issued by the DHS/DVA; or DHS Health Care Card; or DVA Gold Card marked with either: War Widow or War Widower Pension; or Totally and Permanently Incapacitated (TPI); or Disability Pension (EDA).	Electricity bills	
Family Energy Rebate (FER)— helps eligible households with dependent children to cover the costs of their energy bills by providing: – $180 a year to eligible customers that do not hold a DHS Concession Card or Health Care Card; or – $20 a year to eligible customers that hold a DHS Concession Card or Health Care and also qualify for the Low Income Household Rebate.	NSW Gvt	NSW	The FER is available to NSW residents who were eligible for and received the Family Tax Benefit (FTB) from DHS in the previous financial year. In addition, the resident needs to be the account holder of their electricity account with an electricity retailer or an on-supplied electricity account holder.	Energy bills	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
NSW Gas Rebate — helps eligible households to pay their gas bills by providing: – $110 (excluding GST) a year to eligible customers who hold a natural gas account with a gas retailer of their choice; or – $121 a year to eligible customers with on-supplied LPG or natural gas and living in residential communities, retirement villages and strata schemes; or – $121 a year to eligible customers that use delivered LPG (bottled gas) for basic household needs such as cooking, heating or hot water.	NSW Gvt	NSW	NSW residents that: – are the account holder of a natural gas account with a retailer; or – are a long-term resident of an on-supplied residential community, or a resident of an on-supplied retirement village, or a resident of an on-supplied strata scheme; and whose name and address appears on the gas account for individually metered consumption of natural gas or Liquefied Petroleum Gas (LPG) to his or her principal place of residence; or – purchase LPG in cylinders 45Kg/88L or greater for domestic use; and their name, address, LPG cylinder size and date of LPG purchase/refill appears on a tax invoice/receipt issued by the LPG supplier; and – hold either a: Pensioner Concession Card issued by the DHS/DVA; or DHS Health Care Card; or DVA Gold Card marked with either: War Widow or War Widower Pension, or TPI, or EDA.	Gas bills	
Energy Accounts Payment Assistance (EAPA) — helps people experiencing a short term financial crisis or emergency to pay their electricity or natural gas bill. This scheme is not available on an ongoing basis. The scheme operates through a voucher system issued by participating providers such as St Vincent de Paul, Salvation Army and Anglicare.	NSW Gvt	NSW	NSW residents (the EAPA provider assesses the customer's situation and determines each case based on individual circumstances)	Electricity or natural gas bills	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Life Support Rebate —assists people to pay their electricity bills if they are required, or have someone living with them who is required, to use approved energy-intensive medical equipment at home. The value of the rebate depends on the type of machine used by the patient.	NSW Gvt	NSW	NSW residents that: – are a customer of the retailer, or a long-term resident of an on-supplied residential community, or a resident of an on-supplied retirement village, or a resident of an on-supplied strata scheme; and whose name appears on the electricity account for supply to his or her principal place of residence where approved equipment is used by the customer or another person who lives at the same address; and – submit a valid application form duly signed by a registered medical practitioner to verify that the use of the approved life support equipment is required at his or her principal place of residence.	Electricity bills associated with approved Life Support Equipment (e.g. home dialysis, ventilators and oxygen concentrators)	
Medical Energy Rebate — assists people to pay their electricity bills if they, or someone living with them, have an inability to self-regulate body temperature when exposed to extreme (hot or cold) environmental temperatures. It provides: – $285 (excluding GST) a year to eligible customers who hold an electricity account with an electricity retailer of their choice; or, – $313.50 a year to eligible residents of on-supplied residential communities, retirement villages and strata schemes.	NSW Gvt	NSW	NSW residents that: – are a customer of the retailer, or a long-term resident of an on-supplied residential community, or a resident of an on-supplied retirement village, or a resident of an on-supplied strata scheme; and whose name appears on the electricity account for supply to his or her principal place of residence; and – submit a valid application form duly signed by a registered medical practitioner to verify that either the customer named on the bill or anyone residing at the residence has an inability to self-regulate body temperature; and – hold either a: Pensioner Concession Card issued by the DHS/DVA; or DHS Health Care Card; or DVA Gold Card.	Electricity bill	
Victorian Energy Compare $50 Bill Bonus — a bonus provided to Victorian customers who register at Victorian Energy Compare.	VIC Gvt	VIC	To be eligible for this bonus, customer should register between 1 July and 31 December 2018. One Bill Bonus per household.		

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Annual Electricity Concession — eligible concession card holders can receive a concession of 17.5% of electricity usage and service costs. The concession does not apply to the first $171.60 of the annual bill.	VIC Gvt	VIC		Electricity usage and service costs	
Controlled load electricity concession — eligible concession card holders can receive a 13% discount off their controlled load electricity bills.	VIC Gvt	VIC	Victorian electricity account holders who have one of the following eligible cards: Pensioner Concession Card, Health Care Card or Veterans' Affairs Gold Card.	Controlled load usage charges on domestic mains electricity	
Electricity transfer fee waiver — concession card holders can have their electricity service connected for free when moving into a new house.	VIC Gvt	VIC		The transfer fee that is charged by electricity retailers when account holders move house	
Excess electricity concession — eligible concession card holders can receive a concession of 17.5% of electricity usage and service costs if their electricity costs are above $2,725 per year.	VIC Gvt	VIC	Victorian electricity account holders whose annual electricity costs are above $2,725 and who have one of the following eligible cards: Pensioner Concession Card, Health Care Card or Veterans' Affairs Gold Card.	Electricity usage and service costs above $2,725 for the annual period starting 1 December 2016	
Excess gas concession — eligible concession card holders can receive a concession of 17.5% of gas usage and service costs if their whose winter gas costs are above $1,518.	VIC Gvt	VIC	Victorian gas account holders whose winter gas costs are above $1,518 and who have one of the following eligible cards: Pensioner Concession Card, Health Care Card or Veterans' Affairs Gold Card.	Domestic mains gas usage and service costs above $1,518 for the six-month winter period 1 May to 31 October 2017.	
Life support concession — concession card holders using a life support machine at home could be eligible for: – an electricity discount equivalent to the cost of 1,880 kilowatt hours (470 kilowatt hours per quarter) of electricity each year, calculated using the general domestic tariff of retailer – a water discount equivalent to the cost of 168 kilolitres (42 kilolitres per quarter) of water each year.	VIC Gvt	VIC	Victorian electricity or water account holders who: – hold an eligible concession card (Pensioner Concession Card, Health Care Card, Veterans' Affairs Gold Card) and – use an eligible life support machine or have a household member who uses an eligible life support machine.	Electricity and water accounts	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Medical cooling concession — a concession on electricity bills related to medically-required cooling.	VIC Gvt	VIC	Victorian electricity account holders who hold an eligible concession card (Pensioner Concession Card, Health Care Card, Veterans' Affairs Gold Card) and: – have a medical condition that affects their body's ability to self-regulate temperature, or – have a household member with such a medical condition.	Electricity usage and service costs between 1 November and 30 April.	
Non-mains energy concession — a concession for card holders who source non-mains energy for their heating, cooking and hot water. The concession is paid annually based on the amount paid for each energy type in that year. A separate rebate is paid for each energy type used.	VIC Gvt	VIC	Victorian account holders who have one of the following eligible cards: Pensioner Concession Card, Health Care Card or Veterans' Affairs Gold Card.	Non-mains sources of energy: Liquefied petroleum gas (LPG); firewood for domestic heating, cooking or hot water; heating oil; electricity accessed via an embedded network; and generator fuel.	
Service to property charge concession - if electricity usage bill is lower than the service charge, concession card holders can have the service charge reduced to the usage cost.	VIC Gvt	VIC	Victorian electricity account holders who have one of the following eligible cards: Pensioner Concession Card, Health Care Card or Veterans' Affairs Gold Card.	The service charge on electricity bills with very low electricity use.	
Winter gas concession – discount of 17.5% on gas bills available for eligible concession card holders to help ease the cost of living during the winter months. The concession does not apply to the first $62.40 of the six-month winter period bills.	VIC Gvt	VIC	Victorian gas account holders who have one of the following eligible cards: Pensioner Concession Card, Health Care Card or Veterans' Affairs Gold Card.	Gas usage and service costs. The concession is available over the winter period of 1 May to 31 October each year.	
Utility relief grant scheme — relief grants for paying overdue energy or water bills are available to low-income Victorians experiencing unexpected hardship.	VIC Gvt	VIC	– Victorian account holders who have one of the following eligible cards: Pensioner Concession Card, Health Care Card or Veterans' Affairs Gold Card; or – Victorian residents registered with their utility company's hardship program and part of a low-income household	Electricity, gas or water bills that are overdue due to a temporary financial crisis	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
AGL's Concession Discount — 15% discount off electricity usage charges applied to customer accounts that meet the eligibility criteria. The discount is received in addition to any applicable Victorian State Government concession, grant or rebate.	AGL	VIC	To be eligible, applicants must be on AGL's electricity Standard Retail Contract and receive a Victorian State Government energy concession on their AGL electricity account.	Electricity bills	
Electricity and gas rebates — Queensland pensioners and seniors may be eligible for: – the Electricity Rebate — $340.85 per year (GST inclusive) – the Reticulated Natural Gas Rebate — $71.30 per year (GST inclusive).	QLD Gvt	QLD	Queensland residents who are the account holder and have any of the following: Pensioner Concession Card, DVA's Gold Card (and receive the War Widow/er Pension or special rate TPI Pension), Queensland Seniors Card, Commonwealth Health Care Card (Electricity Rebate only), Asylum seeker status (Electricity Rebate only).	Electricity and gas bills	
Electricity asset ownership dividend — $200 million from the dividends of government owned corporations will be delivered as a $50 per year ($100 over 2 years) rebate for households over 2018 and 2019.	QLD Gvt	QLD	Queensland residents. Households will automatically receive their first $50 rebate from the second quarter of 2018 (it will be automatically applied to each residential electricity account).	Electricity bill	Dividend provided over 2018 and 2019
Home Energy Emergency Assistance Scheme — one-off emergency assistance to help paying home energy bills for Queensland households experiencing an unforeseen emergency or a short-term financial crisis. Pays up to $720 once every 2 years.	QLD Gvt	QLD	Queensland residents responsible for paying the outstanding bill (the bill does not need to be in their name) who: – hold a current concession card, or – have an income equal to or less than the Australian Government's maximum income rate for part-age pensioners – are part of an energy retailer's hardship program or payment plan.	Electricity and gas bills	
Electricity life support —concession for eligible people who are seriously ill and use a home-based oxygen concentrator or kidney dialysis machine.	QLD Gvt	QLD	Different eligibility requirements for different machines	Electricity bills	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Medical Cooling and Heating Electricity Concession Scheme — helps with electricity costs for people with a chronic medical condition which is aggravated by changes in temperature. Currently provides $340.85 (including GST) per year to eligible applicants.	QLD Gvt	QLD	Queensland residents who: – have a qualifying medical condition. These include: multiple sclerosis, autonomic system dysfunction, loss of skin integrity or sweating capacity, severe compromise of functioning, hypersensitivity to extremes of environmental temperature leading to increased pain or other discomfort or an increased risk of complications; and – live at their principal place of residence, which has an air-conditioning or heating unit The applicant and/or legal guardian of a minor with a qualifying medical condition must hold a current Pensioner Concession Card or a current Health Care Card and be financially responsible for paying the electricity bill.	Electricity bills	
Electricity and reticulated natural gas rebates for residential home parks and multi-unit residential premises — owners or proprietors of residential home parks or multi-unit residences are required to advise residents that electricity and gas rebates are available and claim the rebates on behalf of eligible residents.	QLD Gvt	QLD	Queensland residents living on residential home parks or multi-unit residences who have one of the following: a current Pensioner Concession Card issued by Centrelink, a current DVA Gold Card (TPI and widow/er only), a current Queensland Seniors Card, a current Commonwealth Health Care Card (issued by Centrelink) (Electricity Rebate only), asylum seeker status (Electricity Rebate only).	Electricity and gas bills	
Drought Relief from Electricity Charges Scheme (DRECS) — provides relief from supply charges on electricity accounts that are used to pump water for farm or irrigation purposes.	QLD Gvt	QLD	To be eligible for reimbursement under the scheme an applicant must: – be a farmer of a property that has been individually drought-declared or is within a drought-declared area – be experiencing disruptions to pumping water for farming or irrigation – submit a completed Drought relief from electricity charges application form and agree to the terms and conditions of the form.	Electricity bills	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Energy bill concession — concessions for eligible South Australians on low or fixed incomes to help with the cost of energy bills. For 2017-18, they could receive up to $217.90 to cover both electricity and gas payments (including LPG bottled gas).	SA Gvt	SA	South Australia residents. The address for which the concession is being claimed must be their principal place of residence and their name must appear on the electricity bill (first if electricity account is in joint names). Resident must not be living with anyone who has an income of more than $3,000 per year, unless they get an allowance from Centrelink or the DVA, or they are their spouse, domestic partner or dependent. Residents are eligible if: – they have one of the following cards: a Pensioner Concession Card, Gold Card from the DVA, TPI, EDA, War Widow, DVA Gold Card issued to a person with 80 or more overall impairment points, Low Income Health Care Card, Commonwealth Seniors Health Care Card OR – they receive one of the following Centrelink payments: Newstart Allowance, Sickness Allowance, Widow Allowance, Youth Allowance, Partner Allowance, Parenting Payment, Special Benefit, Community Development Employment Project (CDEP), New Enterprise Incentive Scheme (NEIS), ABSTUDY, Austudy, Farm Household Allowance, War widow pension under legislation of the United Kingdom or New Zealand.	Electricity and gas bills	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Residential park resident concessions — people who live in a residential park or a caravan park may be eligible to receive a single combined concession to help with their energy, water and sewerage bills. From 1 July 2017: – residents who own their own dwelling and pay for water, sewerage and energy can receive up to $516.90 per annum (paid quarterly) – tenants who pay for water and energy can receive up to $339.50 per annum (paid quarterly).	SA Gvt	SA	South Australians who live in a residential park or a caravan park and: – have one of the following cards: Pensioner Concession Card, Gold Card from DVA, TPI, EDA, War Widow, Gold Card from DVA issued to a person with 80 or more overall impairment points, Health Care Card (including Low Income Health Care Card and Commonwealth Seniors Health Card) OR – receive one of the following eligible Centrelink payments: Newstart Allowance, Sickness Allowance, Widow Allowance, Youth Allowance, Partner Allowance, Parenting Payment, Special Benefit, CDEP, NEIS, ABSTUDY, Austudy, War widow pension under legislation of the United Kingdom or New Zealand.	Energy, water and sewerage bills	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Medical heating and cooling concession — people on a fixed or low income who have a clinically verified medical condition which requires the frequent use of heating or cooling in the home to prevent the severe worsening of their condition. The concession is currently $217.90 per year and is available to eligible applicants in addition to the current energy concession.	SA Gvt	SA	South Australia residents who: – have, or are the parent or legal guardian of a child who has, a qualifying medical condition requiring cooling or heating to prevent severe worsening of their condition. – provide certification from their medical specialist that the medical condition is severely worsened by hot or cold weather – live at the address on the application form – use an air conditioning unit at that address to meet their medical heating and cooling requirements – are financially responsible for the full or part payment of the energy bill. AND – have one of the following cards: a Pensioner Concession Card, Gold Card from the DVA, TPI, EDA, War Widow, DVA Gold Card issued to a person with 80 or more overall impairment points, Low Income Health Care Card, Commonwealth Seniors Health Care Card OR – receive one of the following Centrelink payments: Newstart Allowance, Sickness Allowance, Widow Allowance, Youth Allowance, Partner Allowance, Parenting Payment, Special Benefit, Community Development Employment Project (CDEP), New Enterprise Incentive Scheme (NEIS), ABSTUDY, Austudy, Farm Household Allowance, War widow pension under legislation of the United Kingdom or New Zealand.		

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Cost of living concession — helps those on low or fixed incomes with their cost of living expenses, whether that be electricity, water, gas or medical bills. For the 2017-18 financial year, the concession amount per eligible household is: – homeowner-occupiers - $202.70 – homeowner-occupiers who are self-funded retirees with a Commonwealth Seniors Health Card - $101.40 – tenants - $101.40.	SA Gvt	SA	South Australians who: – have one of the following cards: Pensioner Concession Card, Gold Card from DVA, TPI, EDA, War Widow, Gold Card from DVA issued to a person with 80 or more overall impairment points, Health Care Card (including Low Income Health Care Card and Commonwealth Seniors Health Card) OR – receive one of the following eligible Centrelink payments: Newstart Allowance, Sickness Allowance, Widow Allowance, Youth Allowance, Partner Allowance, Parenting Payment, Special Benefit, CDEP, NEIS, ABSTUDY, Austudy, War widow pension under legislation of the United Kingdom or New Zealand. The Cost of Living Concession is payable as a maximum amount per household, and can only be made to one person per household.	Electricity, water, gas or medical bills	
Home dialysis electricity concession — patients who receive dialysis treatment at home for kidney disease can receive $165 annually to contribute to the running costs of dialysis equipment.	SA Gvt	SA	Any person undergoing dialysis treatment at home is eligible provided that the concession has been approved by a SA Health practitioner. This concession complements existing concessions administered by the SA Government and the Australian Government for the use of medical equipment at home.	Electricity bills	
Emergency Electricity Payment Scheme (EEPS) — this scheme provides $400 to householders who are experiencing significant financial difficulties or who are eligible for a Government of South Australia concession payment, and have had their electricity disconnected (or are at risk of disconnection).	SA Gvt	SA	EEPS assistance is not available to householders on retailer hardship programs or with debt greater than $2,000. EEPS assistance is only available through financial counsellors, who will assess the financial situation of the household before lodging an application. Applications can be lodged once every three years.	Electricity bills	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Energy concession discount offer — consumers that receive the energy bill concession are eligible for the SA Concession Energy Discount Offer (SACEDO) with Origin Energy. The SACEDO includes: – a guaranteed 18% off electricity usage and supply charges until at least 30 June 2019 – flexible payment options – no late payment, processing, paper bill, credit card or exit fees. People who take up the SACEDO are also eligible for a discounted gas plan that includes: – an ongoing gas plan with a guaranteed 11% off gas usage and supply charges – flexible payment options – no late payment, processing, paper bill, credit card or exit fees.	Origin Energy	SA	South Australian residents who receive the energy bill concession (outlined above)	Electricity and gas bills	
Utilities concession — an annual rebate of up to a maximum of $604 to help eligible consumers with utility bills, including water, sewerage, gas and electricity.	ACT Gvt	ACT	ACT residents who are the primary holder of one of the following concession cards: Centrelink Pensioner Concession Card (PCC); or Centrelink Low Income Health Care Card (HCC); or Veteran's Affairs Pensioner Concession Card or Gold Card Holders (Prisoner of War, War Widow or Totally Permanently Incapacitated (TPI Embossed). The primary card holder's name and address must be the same as the name and address appearing on the electricity account.	Electricity, natural gas, water and sewerage	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Home Haemodialysis Rebate — assists eligible patients accessing home haemodialysis with their energy costs, up to $1,200 per annum	ACT Gvt	ACT	ACT residents. To be eligible applicant must provide: – Evidence that he/she is the registered owner or joint owner of the property or that the person receiving treatment resides permanently with the applicant; and – A letter from a medical practitioner/professional confirming that: the applicant is receiving treatment from a home dialysis machine, or the applicant is the guardian/parent/carer of a person receiving treatment from a home dialysis machine.	Electricity bills	
Life Support Rebate — rebate on electricity account provided to eligible individuals who use electrically-operated life support equipment necessary in the treatment of a life-threatening condition. The annual rebate amount for 2017-2018 is $121.87.	ACT Gvt	ACT	ACT residents using life support equipment prescribed by an ACT medical practitioner for the treatment of a life-threatening condition.	Electricity bills and water usage charges	
ActewAGL Staying Connected Program — this program provides personalised support to help customers get back on track with electricity and water bills.	ActewAGL	ACT	To be eligible customer must be willing to agree to a personalised payment plan and to keep in regular contact. They must also have an outstanding ActewAGL account that can't be paid before their next bill for reasons which may include the following: loss of income; relationship breakdown; physical or mental illness; chronic illness of themselves or a family member; budget management issues associated with low income; business loss or failure; or an unforeseen drop in income or rise in necessary costs.	Electricity and water bills	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Hardship Utility Grant Scheme (HUGS) — provides financial assistance to people who are struggling through financial hardship and are unable to pay their utility bills (up to $962 per financial year).	WA Gvt	WA	WA residents who: – are assessed by utility providers as being in financial hardship and not in payment difficulty – have exhausted all their options with the utility provider and enter into a payment arrangement for at least 180 days to address the outstanding debt; and – after completion of the payment arrangement, if their outstanding bill is still more than $300 but less than $1,750 (or $2,500 if they live north of the 26th parallel).	Energy and water bills	
Life Support Equipment Electricity Subsidy Scheme — this scheme provides a subsidy to compensate eligible people for the electricity costs of operating life support equipment at home.	WA Gvt	WA	WA residents who are: – dependent on specified life support equipment used in their homes under specialist medical advice; and – holders of concession cards that are means tested.	Electricity bills	
Thermoregulatory Dysfunction Energy Subsidy Scheme — this subsidy helps offset the energy costs associated with temperature control at the home of eligible people or their dependents with a thermoregulatory dysfunction.	WA Gvt	WA	To qualify for a subsidy, the patient must: – be certified by a treating doctor who has been treating the patient for at least three months; and – be assessed as meeting one of the primary qualifying health conditions; and – be assessed as meeting one of the three secondary qualifying health conditions; and hold (or be a dependant of someone who holds) a concession card that is means tested.	Electricity bills	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Energy Concession Extension Scheme — provides annual payments to assist eligible people to meet their energy consumption costs in certain circumstances. The concessions include: – the Energy Assistance Payment – the Dependent Child Rebate – the Air Conditioning Rebate.	WA Gvt	WA	– To be eligible for the Energy Assistance Payment (EAP) applicants must hold one of the following concession cards: Pensioner Concession Card; Health Care Card; Commonwealth Seniors Health Card; DVA Gold Card (TPI, War Widow and Dependent Child). People who already receive an energy concession/rebate directly or indirectly from Synergy or Horizon Power, or through an arrangement with a third party are not eligible. – The Dependent Child Rebate (DCR) provides further financial assistance to recipients of the EAP who have dependent children listed on the following eligible concession cards. – To be eligible for the Air Conditioning Rebate (ACR) applicants must be: – households living in areas of high heat discomfort, defined as locations north of the 26th parallel of south latitude and/or north of the 50-day Relative Strain Index line. – be eligible for the DCR or hold both a WA Seniors Card and either a Pensioner Concession Card or Commonwealth Seniors Health Card (issued by either Centrelink or DVA).	Energy bills	
Annual electricity concession — provides a daily discount to eligible customers as a cents per day rate. The current concession is 135.208 cents per day.	TAS Gvt	TAS	Tasmanian residents who hold one of the following eligible cards: – DHS or DVA Pensioner Concession Card – DHS Health Care Card – ImmiCard (Bridging Visa E) – Tasmanian Concession Card (issued by Department of Premier and Cabinet).	Electricity bills	
Heating allowance — an allowance of $56 a year is made to eligible pensioners to assist with heating costs.	TAS Gvt	TAS	The allowance is available to people who hold a DHS or DVA Pensioner Concession Card.	Energy bills	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Life support concession — provides a daily discount to eligible customers who use an approved life support system or who live with someone who uses such a system in their principal place of residence.	TAS Gvt	TAS	Tasmanian residents who use an approved life support system or who live with someone who uses such a system in their principal place of residence.		
Medical cooling or heating concession — provides a daily discount to eligible customers who have, or who live with a person who has, a medical condition that requires the cooling or heating of the customer's principal place of residence to manage that medical condition. The current concession is 40.498 cents per day.	TAS Gvt	TAS	The applicant must: – be a resident of Tasmania, be the electricity account holder and reside at the address that requires cooling or heating in order to manage their medical condition; – hold a current Pensioner Concession Card (issued by Centrelink or DVA) or a current Health Care Card (issued by Centrelink); – have or live with a person who has a qualifying medical condition that requires cooling or heating to stop their symptoms becoming significantly worse; and – provide certification from their medical specialist that the medical condition is significantly worsened by extremes in cold or hot temperatures.	Electricity bills	
NT Pensioner and Carer Concession Scheme (NTPCCS) — provides financial subsidies to eligible members for electricity, water, sewerage, council rates, garbage rates, interstates/overseas travel, spectacles, motor vehicle registration, urban public bus travel and drivers licence renewals.	NT Gvt	NT	To be eligible for the NTPCCS, applicant must be a permanent resident of the NT and hold one of the following cards: – Gold Card embossed with 'TPI' or 'War Widow'; – Repatriation Pharmaceutical Benefits Card (Orange Card) – Pensioner Concession Card; – Commonwealth Seniors Health Card.	Electricity, water, sewerage, council rates, garbage rates, interstates/overseas travel, spectacles, motor vehicle registration, urban public bus travel and drivers licence renewals.	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Essential Medical Equipment Payment — a payment to cover the additional running costs for essential medical equipment and/or medically required heating/cooling. This payment is available in addition to any existing state and territory government schemes.	Cwlth Gvt	National	Applicant can get this payment if he/she, or the person they care for: – needs heating, cooling or certain equipment for their medical needs – has a Commonwealth Concession Card, and – pay for running costs. Dependent children can't claim this payment.	Electricity bills	
Regulation					
Mandatory support for vulnerable customers	Energy retailers	National	Current customers	All energy usage in the home	
Support services					
Positive Charge — a not for profit organisation that provides trustworthy, low cost and up-to-date energy saving advice, services and products to households, businesses, schools and community groups.	Moreland Energy Foundation Ltd (MEFL)	VIC and NSW	No eligibility restrictions		
Yarra Energy Foundation — delivers practical programs and pathways to solutions that help our community reduce energy use.	Yarra Energy Foundation	VIC	Residents of the City of Yarra		

TABLE D.2 SOURCES OF ASSISTANCE TO SUPPORT HOUSEHOLDS TO MANAGE ENERGY BILLS – INITIATIVES RELATED TO ALTERNATIVE ENERGY SOURCES

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Information, advice and non-financial support					
YourHome.gov.au — a guide to building, buying or renovating a home with low impact on the environment.	Australian Government	National	No eligibility restrictions	All aspects of building, buying or renovating a home, including design, materials, appliances and renewable energy	
Smart Blocks — a national program providing expert advice to apartment owners and their managers to improve the energy efficiency of common property in apartment buildings.	City of Melbourne and City of Sydney	National	No eligibility restrictions	Lighting, water systems, pools and amenities, heating and cooling, ventilation and solar systems.	
Your Energy Savings — a website that provides a starting point for information about saving energy, saving money and reducing impact. It includes information on programs and financial support available from the Australian Government as well as state and territory governments.	Australian Government	National	No eligibility restrictions	All energy usage in the home, water use, waste and transport	
You and Your Home — a website by Sustainability Victoria providing information about how to live more sustainably. It includes information and advice about how to save energy (including a comparison of the annual running costs for various types of hot water systems for a range of households).	VIC Gvt	VIC	No eligibility restrictions	All energy usage in the home, water use and waste	
Energy Advisory Service — provides free, independent information on a range of energy topics, including: help saving energy at home; understanding energy bills and meters; how to calculate appliance running costs; links to services that can help paying bills; general information about energy efficient home design and renewable energy technology.	SA Gvt	SA	No eligibility restrictions	All energy usage in the home	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Interactive energy-efficient house — provides information about energy efficiency opportunities around a house	VIC Gvt	VIC	No eligibility restrictions	Home insulation, heating and cooling, smart meters, weather proofing and sealing, water heating, solar panels, appliances, lighting, water saving shower heads	
Michael Mobbs' Sustainable House — an exemplar sustainable house that offers tours to the public.	Michael Mobbs	NSW	No eligibility restrictions	All energy usage in the home, water use and waste	
Centre for Education and Research in Environmental Strategies (CERES) EcoHouse — an exemplar sustainable house opened to the public.	CERES	VIC	No eligibility restrictions	All energy and water usage in the home.	
Victorian Residential Efficiency Scorecard — a home energy rating program that provides a star rating for homes. The star rating represents the running cost of the fixed appliances at home. This scorecard can be used as a guide to make home improvements efficiently and cost effectively.	VIC Gvt	VIC	Victorian households	Building shell (wall, floor and ceiling materials, insulation, windows and eaves, gaps and cracks) and fixed features (heating and cooling systems, hot water systems, lighting, curtains and external blinds, solar panels and pools and outdoor spas)	
CarbonTRACK home energy management system — a technology platform comprised of both hardware and software that allows the user to monitor energy usage and production and to manually control and/or automate the use of energy within a household.	CarbonTRACK	National	New and current customers	All energy usage in the home	
Sunulator — a free tool that helps plan for grid-connected solar power by estimating the economic feasibility of a solar-battery system. Sunulator calculates the impact on an electricity bill and projects the savings over a 30-year time frame. Financial results include payback period, net present value and return on investment.	Alternative Technology Association (ATA)	National	No eligibility restrictions		

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Solar Panels Power System Payback Calculator — helps consumers understand the factors involved in purchasing a Solar Panels PV Power System. This calculator compares the payback period between two solar systems. It can be used to compare panel quality, orientation, tilt and battery storage options.	EcoOnline	National	No eligibility restrictions		
Solar Power System Payback & ROI Calculator — allows consumers to quickly test simple assumptions and system sizes to find the best size solar system for their circumstances.	Solar Choice	National	No eligibility restrictions		
Solar Power Calculator V2.0 — provides a simple cash flow analysis of solar system options, including finance options for a mortgage or a loan.	SolarQuotes	National	No eligibility restrictions		
Solar PV Savings Calculator — an energy savings calculator for investments in solar PV.	Sun2Steam	National	No eligibility restrictions		
Online Solar Calculator — a simple tool that calculates solar production and bill savings.	Green and Gold Solar	National	No eligibility restrictions		
– Solar System Output Calculator — a tool to find out how much natural sunlight is available in the area. – Solar System Based on Roof Size — a tool to find a suitable solar system based on roof size and geographical location. – Solar Savings and Payback Calculator — a tool to compare how much different size solar systems can save a consumer on their electricity bill and what will be the Return on Investment. – Solar Income and ROI Calculator — Return on Investment calculator.	LG Energy	National	No eligibility restrictions		
Solar Power Savings Calculator — calculates and compares the potential annual energy savings and bill savings across a number of system sizes.	Chromagen	National	No eligibility restrictions		

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
– Small generation unit STC calculator — small generation unit calculator (for small-scale solar panel, wind and hydro systems) designed to assist consumers to determine the approximate number of small-scale technology certificates (STCs) that may be created under the Small-scale Renewable Energy Scheme (SRES) in relation to an installation of a solar system. – Solar water heater STC calculator — assists to determine the approximate number of STCs that may be created under the SRES in relation to an installation of an eligible solar water heater.	Clean Energy Regulator	National	No eligibility restrictions		
– Solar Power Calculator — aids users in deciding whether or not to convert to solar power. It provides information about payback period, the cost of the solar system, annual solar savings, lifetime savings, solar power generation, electricity used, cost of hybrid system (solar & battery) and savings in carbon emissions. Calculator also shows the effect a battery will have on the performance of the solar system and factors in things like the daily supply charge, shading and cost of finance. – Solar Battery Calculator — calculates the feasibility of adding battery storage to an existing solar system. – Off Grid Calculator — calculates the power requirements if considering disconnecting from the electricity grid and estimates the system size and battery bank needed to ensure a steady supply of solar energy. – System Size Calculator — calculates the size of the solar system needed to service a customer power needs. – Solar Loan Calculator — calculates monthly repayments and additional interest costs if solar purchase is financed either via an existing mortgage or through a specialist solar lender. – Solar Rebate Calculator — calculates the rebate a consumer will be entitled to when purchasing a new solar panel system. – Feed in Tariff Calculator — calculates the rate a consumer would receive with their retailer if exporting excess solar power back to the grid.	Solar Calculator	National	No eligibility restrictions		

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Energy Info Hub — energy information for Victorian community workers	Consumer Utilities Advocacy Centre (CUAC)	VIC – but some information provided is relevant to all states	No eligibility restrictions		
Incentives					
Retailer information on energy bills	Various energy retailers	National	Current customers	All energy usage in the home	
Small scale renewable energy scheme — the scheme creates a financial incentive for individuals and small businesses to install eligible small-scale renewable energy systems. It does this through the creation of small-scale technology certificates which Renewable Energy Target liable entities have a legal obligation to buy and surrender to the Clean Energy Regulator.	Liable entities and retailers, traders and installers of small-scale systems	National	For solar panels, capacity less than 100 kW and output less than 250 MWh	Solar photovoltaic (PV) panels, wind turbines, hydro systems, solar water heaters, and air source heat pumps.	
Competitive feed-in tariffs	Electricity retailers	National	As per retailer offer		
Battery storage database registration incentive — provides eligible Queensland households with a one-off $50 payment for registering eligible battery energy storage systems on the Queensland Government battery storage database.	Energex, Ergon Energy	QLD	To be eligible for this incentive, costumer must: – be aged 18 years or older and be either the registered owner of the property or the occupier of the property and have obtained the owner of the property's consent to submit an application form – have an eligible battery energy storage system installed at the property – have a battery energy storage system connection agreement submit online application form by 1 January 2019.		
Financial support					
No interest loans for solar and battery systems	QLD Gvt	QLD	No details available		Available during 2018
Rebate for solar and battery systems	QLD Gvt	QLD	No details available		Available during 2018

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Solar for Low Income Households Program — provides a subsidy of up to 60% of the total cost of a solar system (capped at $3,000) along with a three year interest free loan to pay off the difference.	ACT Gvt	ACT	To be eligible consumer must: – hold an Australian Government Pensioner Concession Card – be a homeowner in the ACT and – not already have roof top solar PV installed. There are additional eligibility requirements, for example, orientation and size of roof, shading etc. Households are assessed on an individual basis against all eligibility requirements.		
Household Battery Storage Subsidy — support for the installation battery storage systems in ACT homes and businesses. The amount of support can vary depending on the size of the system installed, but residential systems are typically eligible for around $4000 in support.	ACT Gvt	ACT	Subsidy available for eligible battery storage systems		ACT Government is providing support for the installation of up to 5,000 battery storage systems
Smart Energy Grants — help owners of residential or investment properties undertake energy efficiency measures to their homes. The grants are run through a voucher system on a 50-50 co-contribution basis for up to $1,000. For approved eligible members of the Northern Territory Pensioner and Carer Concession Scheme, the co-contribution required is 25% (instead of 50%).	NT Gvt	NT	Owners of residential property in the NT.	New residential solar power supply and installations, new residential solar hot water system installations, replacement of residential electric hot water system with solar or electric heat-pump systems, LED lighting, replacement of air conditioning system.	Applications for a voucher under the Smart Energy Grants program close on 31 January 2019 or when funds run out, whichever is sooner.

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Latrobe Valley Home Energy Upgrade Program — a solar and energy efficiency initiative that will deliver, at no cost to households, energy efficiency upgrades which could include solar installations (photovoltaic to up to 1,000) to vulnerable households in the Latrobe City, Wellington & Baw Baw local government areas.	VIC Gvt	VIC	Victorian households that are: – low-income – based on their eligibility for Health Care Cards, Pensioner Concessions or a Veterans' Affairs Gold Card OR households in energy or water retailer hardship programs, and – owner-occupied or tenanted through private rental arrangements or community housing, and – participants in a utility retailer hardship program	A selection of solar and energy efficiency upgrade packages are offered which could include: ceiling insulation, underfloor insulation, efficient water heater, efficient gas heating, servicing gas heaters/coolers and gas hot water services, efficient electric heating and cooling, servicing electric heaters/coolers and hot water services, draught proofing and window covers, installation and set-up of in-home energy consumption display, efficient lighting and shower head replacement.	Program will run during 2018 and 2019
NSW social housing upgrades (Home Energy Action Program) — through this program the NSW Government will contribute up to 50% of the funding towards energy saving measures in social housing properties. OEH and social housing providers work collaboratively and to share the costs associated with the installation of the energy savings measures.	NSW Gvt	NSW	Social housing dwellings in NSW	Upgrades include ceiling insulation, draft proofing, solar panels, LED lighting, air conditioning, ceiling fans and hot water systems	
Energy Hardship Assist — through this program, energy retailers and the NSW Government will co-contribute to install solar panels for energy hardship customers in social housing. The social housing provider will not have to pay for the solar panels to be installed, but will own and maintain them (the program is accessed through the housing provider who enters a contract with the energy retailer).	NSW Gvt	NSW	Social housing dwellings in NSW	Solar panels	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Regulation					
Regulated minimum feed-in tariffs	Electricity retailers	VIC	For solar panels less than 5kW, connected to the distribution system, at the principal place of residence		
Support services					
Positive Charge — a not for profit organisation that provides trustworthy, low cost and up-to-date energy saving advice, services and products to households, businesses, schools and community groups.	Moreland Energy Foundation Ltd (MEFL)	VIC and NSW	No eligibility restrictions		
SEE-Change — not for profit group focused on reducing Canberra's ecological footprint, improve the resilience of the ecosystem, and enhance the wellbeing of all individuals.	SEE-Change	ACT	ACT residents		
Yarra Energy Foundation — delivers practical programs and pathways to solutions that help our community reduce energy use.	Yarra Energy Foundation	VIC	Residents of the City of Yarra		
Pilot Community Power Hubs (CPHs)— this pilot program aims to support Victorian communities to access the skills and expertise required to develop and deliver community-based renewable energy projects, characterised by local ownership, participation and benefit sharing. The hubs are hosted by a local not-for-profit or a social enterprise organisation that works to coordinate and facilitate the development and expansion of community energy in a geographic area, while helping to build capacity and skills. The Victorian Government has committed over a two-year period to pilot setting up three hubs in regional areas of Ballarat, Bendigo and the Latrobe Valley.	VIC Gvt	VIC	No eligibility restrictions		

TABLE D.3 SOURCES OF ASSISTANCE TO SUPPORT HOUSEHOLDS TO MANAGE ENERGY BILLS – INITIATIVES TO IMPROVE BUILDING FABRIC AND FIXED APPLIANCES

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Information, advice and non-financial support					
YourHome.gov.au — a guide to building, buying or renovating a home with low impact on the environment.	Australian Government	National	No eligibility restrictions	All aspects of building, buying or renovating a home, including design, materials, appliances and renewable energy	
Your Energy Savings — a website that provides a starting point for information about saving energy, saving money and reducing impact. It includes information on programs and financial support available from the Australian Government as well as state and territory governments.	Australian Government	National	No eligibility restrictions	All energy usage in the home, water use, waste and transport	
Smart Blocks — a national program providing expert advice to apartment owners and their managers to improve the energy efficiency of common property in apartment buildings.	City of Melbourne and City of Sydney	National	No eligibility restrictions	Lighting, water systems, pools and amenities, heating and cooling, ventilation and solar systems	
Smarter Choice Program — provides information about the running costs and environmental performance of the appliances, hardware and lighting to help consumers make more informed purchasing decisions on appliances.	Partnership between NSW, Victoria and the Cwlth Dept of Environment and Energy	NSW and VIC	Participating retailers	Clothes dryers, computers, cooling, dishwashers, fridges and freezers, heating, hot water systems, insulation, lighting, TVs, washing machines, whitegoods	
Energy Advisory Service — provides free, independent information on a range of energy topics, including: help saving energy at home; understanding energy bills and meters; how to calculate appliance running costs; links to services that can help paying bills; general information about energy efficient home design and renewable energy technology.	SA Gvt	SA	No eligibility restrictions	All energy usage in the home	
Power to Save — a website by the NSW Government providing information about ways to reduce energy use and save on power bills.	NSW Gvt	NSW	No eligibility restrictions	All energy usage in the home	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
You and Your Home — a website by Sustainability Victoria providing information about how to live more sustainably. It includes information and advice about how to save energy (including a comparison of the annual running costs for various types of hot water systems for a range of households).	VIC Gvt	VIC	No eligibility restrictions	All energy usage in the home, water use and waste	
ACTSmart — one-stop-shop for information about ACT Government programs and assistance that can help consumers save energy and water, reduce waste and cut greenhouse gas emissions.	ACT Gvt	ACT	No eligibility restrictions		
Michael Mobbs' Sustainable House — an exemplar sustainable house that offers tours to the public.	Michael Mobbs	NSW	No eligibility restrictions	All energy usage in the home, water use and waste	
Interactive energy-efficient house — provides information about energy efficiency opportunities around a house.	VIC Gvt	VIC	No eligibility restrictions	Home insulation, heating and cooling, smart meters, weather proofing and sealing, water heating, solar panels, appliances, lighting, water saving shower heads	
Centre for Education and Research in Environmental Strategies (CERES) EcoHouse — an exemplar sustainable house opened to the public.	CERES	VIC	No eligibility restrictions	All energy and water usage in the home.	
Home energy toolkits — Home Energy Toolkits contain tools and information to help consumers find out how energy is used in their home and what they can do to make savings.	SA Gvt, ACT Gvt, TAS Gvt	SA, ACT, TAS	SA and ACT residents (toolkits are available through libraries) and TAS residents (toolkits available from councils)		

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Victorian Residential Efficiency Scorecard — a home energy rating program that provides a star rating for homes. The star rating represents the running cost of the fixed appliances at home. This scorecard can be used as a guide to make home improvements efficiently and cost effectively.	VIC Gvt	VIC	Victorian households	Building shell (wall, floor and ceiling materials, insulation, windows and eaves, gaps and cracks) and fixed features (heating and cooling systems, hot water systems, lighting, curtains and external blinds, solar panels and pools and outdoor spas)	
Actsmart Sustainable Home Advice — advice provided by an experienced energy expert to reduce energy use.	ACT Gvt	ACT	Available to all ACT residents	Heating, cooling, appliances, hot water, lighting, retro-fitting (e.g. insulation and window treatments), energy-efficient home design, and suitability of house blocks	
Actsmart Low Income Energy Efficiency Program — provides personalised education to support those most in need to reduce their energy use and make their energy bills more affordable.	ACT Gvt (delivered by St Vincent de Paul)	ACT	Any ACT resident who is on a low income and is financially disadvantaged.	Home energy efficiency assessment and education; a retrofit to improve energy efficiency; energy saving kit and heated throw rug; and other assistance as required	
Energy Rating Calculator and App — provides information about how much a new appliance will cost to run and provides comparisons of running costs between appliances.	Australian and New Zealand Governments through Equipment Energy Efficiency (E3) program	National	No eligibility restrictions	Same as Energy Rating Label.	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
NABERS Home Energy Explorer — help to understand how energy is currently used around a home. It shows where energy is being used and help consumers understand how to reduce bills and improve the comfort of their home.		National	Homes with separate meter		
Appliance Calculator — provides information about how much major appliances cost to run and compare them against more energy-efficient alternatives.	VIC Gvt	VIC	No eligibility restrictions	Lighting, fridges, TVs, washing machines, cooling, heating, computer, clothes dryer, hot water services, dishwashers	
Electrical appliance running cost calculator — calculates the quarterly running costs of appliances.	SA Gvt	SA	No eligibility restrictions	All appliances	
Energy Info Hub — energy information for Victorian community workers.	Consumer Utilities Advocacy Centre (CUAC)	VIC – but some information provided is relevant to all states	No eligibility restrictions		
Energy Partners Program — offers free training to staff and volunteers to help organisations support their clients.	SA Gvt	SA	Available to organisations that provide residents and clients with energy information and advice		
Utilities literacy training courses for community workers — Uniting Care Wesley Bowden delivers training courses to community workers and volunteers in metropolitan and regional South Australia. The course covers a range of topics including: – electricity, gas and water in South Australia – reading and understanding meters and bills – using energy and water efficiently at home – how to choose an energy retailer and get a good deal – concessions, complaints, disputes and hardship – how to share these skills in the community.	Uniting Care Wesley Bowden	SA	Available to community workers and volunteers		

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Energy Efficiency Training and Knowledge Building — a pilot program by the NSW Government providing training to tenants and community service social workers who go into client's homes. Training includes information about: – how to access lower energy tariffs – why supporting tenants with energy advice is important – what tenants can do for themselves to manage their energy bills – what support and advice can be provided to tenants – what hardship programs are available to the tenants – how can energy messages can be 'championed'.	NSW Government in partnership with the Federation of Housing Associations and delivered in conjunction with the Energy & Water Ombudsman NSW (EWON) and the Public Interest Advocacy Centre (PIAC)	NSW	Available to tenants and community service social workers	As per program description	
Incentives					
Retailer information on energy bills	Various energy retailers	National	Current customers	All energy usage in the home	
Control of appliances (e.g. hot water systems and pool pumps) by electricity distributors.	Electricity distributors	Competitive retail markets	Customers in selected tariffs		
Retailer Energy Efficiency Scheme (REES) — South Australia's energy efficiency scheme that provides incentives for households and businesses to save energy through the establishment of energy efficiency and audit targets to be met by electricity and gas retailers.	SA electricity and gas retailers and accredited certificate providers	SA	Differs depending on REES activity	Home energy audits, insulation, building sealing, glazing, heating and cooling, water heating, lighting, stand-by power, in-home display	Scheme will run until 31 December 2020

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Victorian Energy Upgrades program (legislated under the Victorian Energy Efficiency Target (VEET) Act) — scheme operates by placing a liability on large energy retailers in Victoria to surrender a specified number of energy efficiency certificates every year.	Energy retailers and accredited certificate providers	VIC	No eligibility restrictions	Water heating, space heating and cooling, space conditioning, lighting replacement, shower roses, refrigerators/freezers, televisions, clothes dryers, pool pumps, standby power controllers, in-home displays	Legislated to continue in phases until 1 January 2030
Energy Savings Scheme (ESS) — the scheme places a mandatory obligation on Scheme Participants to obtain and surrender energy savings certificates, which represent energy savings.	Energy retailers and accredited certificate providers	NSW	No eligibility restrictions	Lighting, and appliances such as refrigerators, freezers, dishwashers, washing machines, clothes dryers, televisions	The ESS is legislated to run until 2025 or until there is an equivalent national energy efficiency scheme
Financial support					
No Interest Loans Schemes (NILS) — provides individuals and families on low incomes with access to safe, fair and affordable credit to buy energy-efficient appliances. There are no fees, interest or charges. Repayments are set up at an affordable amount over 12 to 18 months. Loans are available for up to $1,500 for essential goods and services (including appliances).	Community organisations across Australia accredited by Good Shepherd Microfinance	National	To be eligible for NILS individual must: – have a Health Care Card; or – earn less than $45,000 a year (after tax) – have lived in their current residence for a minimum of three months have a willingness and capacity to repay the loan.	Fridges and freezers, washing machines and dryers and other electrical goods.	
Energy efficient appliance rebate — $200 for a 4 star or higher energy rated washing machine, $250 for a 4 star or higher energy rated refrigerator or $300 for a 4 star or higher energy rated air conditioner. Limited to 1 rebate application per household.	QLD Gvt	QLD	Queensland residents. To be eligible for a rebate, the appliance must: – have a minimum 4 star energy rating – be new and purchased on or after 1 January 2018 be for the purposes of domestic/residential use in a Queensland residence.	Air conditioners, fridges and washing machines	The scheme will end when the funding is exhausted

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Wood Heater Replacement Program — offers a financial incentive to replace an old wood heater with a new electric reverse cycle system, or upgrade an old reverse cycle system with a more efficient one. Rebates offered: – Wood heater removal - $100 – Ducted electric reverse cycle system - $1000 – Electric reverse cycle split system (min 3 star) - $500 – Upgraded electric reverse cycle system (min 3 star) - $500 Only one rebate payment is available for each premise.	ACT Gvt	ACT	ACT ratepayers with a property located within areas zoned 'residential'.	Reverse cycle electric systems	
Positive Payback Program — a program to help manage peak demand that provides financial incentives for: – installing PeakSmart air conditioners (up to $400) – connecting an electric hot water system to an economy electricity tariff (up to $200) connecting a pool pump to an economy tariff ($200).	Energex	QLD	Energex QLD customers in eligible areas.	PeakSmart air conditioners, electric hot water systems, pool pumps	
Ergon Energy Incentives — incentives include: – up to $400 for installing PeakSmart air conditioners up to $200 cashback by replacing existing fixed speed pool pump with a 5-star pool pump or $250 cashback by connecting it to an economy tariff.	Ergon Energy	QLD	Ergon Energy QLD customers in eligible areas.	PeakSmart air conditioners and pool pumps	
Smart Energy Grants — help owners of residential or investment properties undertake energy efficiency measures to their homes. The grants are run through a voucher system on a 50-50 co-contribution basis for up to $1,000. For approved eligible members of the Northern Territory Pensioner and Carer Concession Scheme, the co-contribution required is 25% (instead of 50%).	NT Gvt	NT	Owners of residential property in the NT.	New residential solar power supply and installations, new residential solar hot water system installations, replacement of residential electric hot water system with solar or electric heat-pump systems, LED lighting, replacement of air conditioning system	Applications for a voucher under the Smart Energy Grants program close on 31 January 2019 or when funds run out, whichever is sooner

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
EnergySmart Public Housing Project — this program will deliver energy efficiency upgrades to 1500 public housing properties across Victoria.	VIC Gvt	VIC	Public housing dwellings in Victoria	Upgrades that may be undertaken in the properties include: replacement of energy efficient hot water system or heating system and building thermal shell upgrades (such as draught sealing and insulation). One upgrade type per dwelling provided	The EnergySmart Public Housing Project will run until 2019
NSW social housing upgrades (Home Energy Action Program) — through this program the NSW Government will contribute up to 50% of the funding towards energy saving measures in social housing properties. OEH and social housing providers work collaboratively and to share the costs associated with the installation of the energy savings measures.	NSW Gvt	NSW	Social housing dwellings in NSW	Upgrades include ceiling insulation, draft proofing, solar panels, LED lighting, air conditioning, ceiling fans and hot water systems	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Latrobe Valley Home Energy Upgrade Program — a solar and energy efficiency initiative that will deliver, at no cost to households, energy efficiency upgrades which could include solar installations (photovoltaic to up to 1,000) to vulnerable households in the Latrobe City, Wellington & Baw Baw local government areas.	VIC Gvt	VIC	Victorian households that are: – low-income – based on their eligibility for Health Care Cards, Pensioner Concessions or a Veterans' Affairs Gold Card OR households in energy or water retailer hardship programs, and – owner-occupied or tenanted through private rental arrangements or community housing, and – participants in a utility retailer hardship program	A selection of solar and energy efficiency upgrade packages are offered which could include: ceiling insulation, underfloor insulation, efficient water heater, efficient gas heating, servicing gas heaters/coolers and gas hot water services, efficient electric heating and cooling, servicing electric heaters/coolers and hot water services, draught proofing and window covers, installation and set-up of in-home energy consumption display, efficient lighting and shower head replacement.	Program will run during 2018 and 2019

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Victorian Healthy Homes Program — a home energy efficiency program that provides free home energy upgrades to up to 1000 vulnerable Victorians who live with complex healthcare needs, and have low incomes, in Melbourne's western suburbs and the Goulburn Valley. Participants will also receive two visits from an energy liaison officer to assess their homes' energy efficiency, identify their energy/thermal comfort needs, provide them with information that may help them get a better deal from energy retailers and collect various types of energy use and health data (with their agreement).	VIC Gvt	VIC	Participants are invited to join the program if they meet some, or all, of these criteria: – they are an owner-occupier, private tenant, community and/or public housing tenant – they live in western Melbourne or the Goulburn Valley – they have a Commonwealth concession card – they receive home and community care services from their local council – they receive complex care support services from their local hospital – they have a chronic respiratory condition – they plan to reside in their home for at least 2 years – they have the ability to sign consent forms on their own behalf and to answer questions about their household energy use, thermal comfort and health and quality of life.	Upgrades can include the installation of draught proofing, ceiling or sub-floor insulation, high-efficiency heating/cooling appliances and and/or window coverings.	Recruitment began in January 2018 and upgrades are planned to be provided until late 2019.

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Tasmanian Energy Efficiency Loan Scheme (TEELS) — assists Tasmanian residents and small businesses with loans from $500 to $10,000 to purchase energy-efficient products and appliances. As part of this scheme, Westpac offers residents and small businesses the opportunity to apply for a Westpac Credit Card with 0% p.a. purchase interest for 36 months attributable only on eligible energy efficient products up to a value of $10,000.	Tasmanian Gvt, Aurora Energy and Westpac Banking Corporation.	TAS	Tasmanian home owners or tenants.	Heat pumps, solar panels, solar power battery storage, efficient wood heater, hot water system (gas, air source heat pump or solar), condensation control system, ceiling and floor insulation, double / triple glazing, block out curtains, blinds and pelmets, honeycomb blinds, draught sealing and reglazing windows, fridge, freezer or washing machines, lighting upgrades, irrigation pumps.	Open for applications until 1 May 2018 or when funds run out, whichever is sooner
Regulation					
Smart meters mandatory roll out	Energy retailers	VIC	No eligibility restrictions	Smart meters	
Retailer Energy Efficiency Scheme (REES) — South Australia's energy efficiency scheme that provides incentives for households and businesses to save energy through the establishment of energy efficiency and audit targets to be met by electricity and gas retailers.	SA electricity and gas retailers and accredited certificate providers	SA	Differs depending on REES activity	Home energy audits, insulation, building sealing, glazing, heating and cooling, water heating, lighting, stand-by power, in-home display	Scheme will run until 31 December 2020

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Victorian Energy Upgrades program (legislated under the Victorian Energy Efficiency Target (VEET) Act) — scheme operates by placing a liability on large energy retailers in Victoria to surrender a specified number of energy efficiency certificates every year.	Energy retailers and accredited certificate providers	VIC	No eligibility restrictions	Water heating, space heating and cooling, space conditioning, lighting replacement, shower roses, refrigerators/freezers, televisions, clothes dryers, pool pumps, standby power controllers, in-home displays	Legislated to continue in phases until 1 January 2030
Energy Savings Scheme (ESS) — the scheme places a mandatory obligation on Scheme Participants to obtain and surrender energy savings certificates, which represent energy savings.	Energy retailers and accredited certificate providers	NSW	No eligibility restrictions	Lighting, and appliances such as refrigerators, freezers, dishwashers, washing machines, clothes dryers, televisions	The ESS is legislated to run until 2025 or until there is an equivalent national energy efficiency scheme
Minimum energy efficiency standards in the National Construction Code	Australian Building Codes Board	National – with state variations	No eligibility restrictions	Building fabric, sealing of the building, air movement, air-conditioning and ventilation systems, artificial lighting and power, swimming pool (or spa pool) plant, facilities for energy monitoring, heated water supply and glazing	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Minimum Energy Performance Standards (MEPS) - Energy Rating Label.	Joint program of the Australian Cwlth, State and Territory governments and New Zealand Governments through Equipment Energy Efficiency (E3) program	National	No eligibility restrictions	Air conditioners; clothes washers and dryers; computer monitors; dishwashers; fridges; TVs	
Support services					
Positive Charge — a not for profit organisation that provides trustworthy, low cost and up-to-date energy saving advice, services and products to households, businesses, schools and community groups.	Moreland Energy Foundation Ltd (MEFL)	VIC and NSW	No eligibility restrictions		
SEE-Change — not for profit group focused on reducing Canberra's ecological footprint, improve the resilience of the ecosystem, and enhance the wellbeing of all individuals.	SEE-Change	ACT	ACT residents		
Baw Baw Sustainability Network — an independent not for profit group focused on helping people reduce their energy use at home and on improving health through gardening and growing food.	Baw Baw Sustainability Network	VIC	Victoria residents		
Yarra Energy Foundation — delivers practical programs and pathways to solutions that help our community reduce energy use.	Yarra Energy Foundation	VIC	Residents of the City of Yarra		

TABLE D.4 SOURCES OF ASSISTANCE TO SUPPORT HOUSEHOLDS TO MANAGE ENERGY BILLS – INITIATIVES RELATED TO MORE EFFICIENT EQUIPMENT

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Information, advice and non-financial support					
Smarter Choice Program — provides information about the running costs and environmental performance of the appliances, hardware and lighting to help consumers make more informed purchasing decisions on appliances.	Partnership between NSW, Victoria and the Cwlth Dept of Environment and Energy	NSW and VIC	Participating retailers	Clothes dryers, computers, cooling, dishwashers, fridges and freezers, heating, hot water systems, insulation, lighting, TVs, washing machines, whitegoods	
YourHome.gov.au — a guide to building, buying or renovating a home with low impact on the environment.	Australian Government	National	No eligibility restrictions	All aspects of building, buying or renovating a home, including design, materials, appliances and renewable energy	
Smart Blocks — a national program providing expert advice to apartment owners and their managers to improve the energy efficiency of common property in apartment buildings.	City of Melbourne and City of Sydney	National	No eligibility restrictions	Lighting, water systems, pools and amenities, heating and cooling, ventilation and solar systems	
You and Your Home — a website by Sustainability Victoria providing information about how to live more sustainably. It includes information and advice about how to save energy (including a comparison of the annual running costs for various types of hot water systems for a range of households).	VIC Gvt	VIC	No eligibility restrictions	All energy usage in the home, water use and waste	
Interactive energy-efficient house — provides information about energy efficiency opportunities around a house.	VIC Gvt	VIC	No eligibility restrictions	Home insulation, heating and cooling, smart meters, weather proofing and sealing, water heating, solar panels, appliances, lighting, water saving shower heads	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Power to Save — a website by the NSW Government providing information about ways to reduce energy use and save on power bills.	NSW Gvt	NSW	No eligibility restrictions	All energy usage in the home	
Michael Mobbs' Sustainable House — an exemplar sustainable house that offers tours to the public.	Michael Mobbs	NSW	No eligibility restrictions	All energy usage in the home, water use and waste	
Centre for Education and Research in Environmental Strategies (CERES) EcoHouse — an exemplar sustainable house opened to the public.	CERES	VIC	No eligibility restrictions	All energy and water usage in the home.	
ACTSmart — one-stop-shop for information about ACT Government programs and assistance that can help consumers save energy and water, reduce waste and cut greenhouse gas emissions.	ACT Gvt	ACT	No eligibility restrictions		
Your Energy Savings — a website that provides a starting point for information about saving energy, saving money and reducing impact. It includes information on programs and financial support available from the Australian Government as well as state and territory governments.	Australian Government	National	No eligibility restrictions	All energy usage in the home, water use, waste and transport	
Energy Advisory Service — provides free, independent information on a range of energy topics, including: help saving energy at home; understanding energy bills and meters; how to calculate appliance running costs; links to services that can help paying bills; general information about energy efficient home design and renewable energy technology.	SA Gvt	SA	No eligibility restrictions	All energy usage in the home	
Victorian Residential Efficiency Scorecard — a home energy rating program that provides a star rating for homes. The star rating represents the running cost of the fixed appliances at home. This scorecard can be used as a guide to make home improvements efficiently and cost effectively. Any household receiving a Scorecard assessment will also receive advice from a skilled assessor about how to make the most of their current situation, including how to use less energy with current appliances and building configuration.	VIC Gvt	VIC	Victorian households	Building shell (wall, floor and ceiling materials, insulation, windows and eaves, gaps and cracks) and fixed features (heating and cooling systems, hot water systems, lighting, curtains and external blinds, solar panels and pools and outdoor spas)	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Home energy toolkits — Home Energy Toolkits contain tools and information to help consumers find out how energy is used in their home and what they can do to make savings.	SA Gvt, ACT Gvt, TAS Gvt	SA, ACT, TAS	SA and ACT residents (toolkits are available through libraries) and TAS residents (toolkits available from councils)		
Actsmart Low Income Energy Efficiency Program — provides personalised education to support those most in need to reduce their energy use and make their energy bills more affordable.	ACT Gvt (delivered by St Vincent de Paul)	ACT	Any ACT resident who is on a low income and is financially disadvantaged.	Home energy efficiency assessment and education; a retrofit to improve energy efficiency; energy saving kit and heated throw rug; and other assistance as required	
Actsmart Sustainable Home Advice — advice provided by an experienced energy expert to reduce energy use.	ACT Gvt	ACT	Available to all ACT residents	Heating, cooling, appliances, hot water, lighting, retro-fitting (e.g. insulation and window treatments), energy-efficient home design, and suitability of house blocks	
Energy Rating Calculator and App — provides information about how much a new appliance will cost to run and provides comparisons of running costs between appliances.	Australian and New Zealand Governments through Equipment Energy Efficiency (E3) program	National	No eligibility restrictions	Same as Energy Rating Label.	
Light Bulb Saver App — identifies the best light bulbs to replace incandescent and halogen bulbs, as well as how much could be saved by switching to light emitting diodes (LEDs) or compact fluorescent lamps (CFLs).		National	No eligibility restrictions	The Light Bulb Saver App identifies the best energy-efficient light bulbs to replace old incandescent and halogen light bulbs	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
NABERS Home Energy Explorer — help to understand how energy is currently used around a home. It shows where energy is being used and help consumers understand how to reduce bills and improve the comfort of their home.		National	Homes with separate meter		
Appliance Calculator — provides information about how much major appliances cost to run and compare them against more energy-efficient alternatives.	VIC Gvt	VIC	No eligibility restrictions	Lighting, fridges, TVs, washing machines, cooling, heating, computer, clothes dryer, hot water services, dishwashers	
Electrical appliance running cost calculator — calculates the quarterly running costs of appliances.	SA Gvt	SA	No eligibility restrictions	All appliances	
Energy Info Hub — energy information for Victorian community workers.	Consumer Utilities Advocacy Centre (CUAC)	VIC – but some information provided is relevant to all states	No eligibility restrictions		
Energy Partners Program — offers free training to staff and volunteers to help organisations support their clients.	SA Gvt	SA	Available to organisations that provide residents and clients with energy information and advice		
Utilities literacy training courses for community workers — Uniting Care Wesley Bowden delivers training courses to community workers and volunteers in metropolitan and regional South Australia. The course covers a range of topics including: – electricity, gas and water in South Australia – reading and understanding meters and bills – using energy and water efficiently at home – how to choose an energy retailer and get a good deal – concessions, complaints, disputes and hardship – how to share these skills in the community.	Uniting Care Wesley Bowden	SA	Available to community workers and volunteers		

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Energy Efficiency Training and Knowledge Building — a pilot program by the NSW Government providing training to tenants and community service social workers who go into client's homes. Training includes information about: – how to access lower energy tariffs – why supporting tenants with energy advice is important – what tenants can do for themselves to manage their energy bills – what support and advice can be provided to tenants – what hardship programs are available to the tenants – how can energy messages can be 'championed'.	NSW Government in partnership with the Federation of Housing Associations and delivered in conjunction with the Energy & Water Ombudsman NSW (EWON) and the Public Interest Advocacy Centre (PIAC)	NSW	Available to tenants and community service social workers	As per program description	
Incentives					
Retailer information on energy bills	Various energy retailers	National	Current customers	All energy usage in the home	
Retailer Energy Efficiency Scheme (REES) — South Australia's energy efficiency scheme that provides incentives for households and businesses to save energy through the establishment of energy efficiency and audit targets to be met by electricity and gas retailers.	SA electricity and gas retailers and accredited certificate providers	SA	Differs depending on REES activity	Home energy audits, insulation, building sealing, glazing, heating and cooling, water heating, lighting, stand-by power, in-home display	Scheme will run until 31 December 2020

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Victorian Energy Upgrades program (legislated under the Victorian Energy Efficiency Target (VEET) Act) — scheme operates by placing a liability on large energy retailers in Victoria to surrender a specified number of energy efficiency certificates every year.	Energy retailers and accredited certificate providers	VIC	No eligibility restrictions	Water heating, space heating and cooling, space conditioning, lighting replacement, shower roses, refrigerators/freezers, televisions, clothes dryers, pool pumps, standby power controllers, in-home displays	Legislated to continue in phases until 1 January 2030
Energy Savings Scheme (ESS) — the scheme places a mandatory obligation on Scheme Participants to obtain and surrender energy savings certificates, which represent energy savings.	Energy retailers and accredited certificate providers	NSW	No eligibility restrictions	Lighting, and appliances such as refrigerators, freezers, dishwashers, washing machines, clothes dryers, televisions	The ESS is legislated to run until 2025 or until there is an equivalent national energy efficiency scheme
Financial support					
Appliance replacement offer — 40% off the cost of a fridge and 50% off the cost of a TV.	NSW Gvt	NSW	NSW residents with: – Pensioner Concession Card – Health Care Card or Low Income Health Care Card from Centrelink – Veterans' Affairs Gold Card Fridge owned should be 6 years old or older and owned TV is plasma or cathode ray tube (CRT).	Fridges and TVs	
Discounted energy efficient lighting — this program helps eligible households replace old lights with new LED bulbs. The cost of the LED bulbs and the fee for installation is subsidised.	NSW Gvt	NSW	To access the offer, households need to contact an approved supplier who will advise on their eligibility. Suppliers may require a minimum number of lights to be upgraded to qualify for the discount.	Lighting	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
No Interest Loans Schemes (NILS) — provides individuals and families on low incomes with access to safe, fair and affordable credit to buy energy-efficient appliances. There are no fees, interest or charges. Repayments are set up at an affordable amount over 12 to 18 months. Loans are available for up to $1,500 for essential goods and services (including appliances).	Community organisations across Australia accredited by Good Shepherd Microfinance	National	To be eligible for NILS individual must: – have a Health Care Card; or – earn less than $45,000 a year (after tax) – have lived in their current residence for a minimum of three months – have a willingness and capacity to repay the loan.	Fridges and freezers, washing machines and dryers and other electrical goods.	
Energy efficient appliance rebate — $200 for a 4 star or higher energy rated washing machine, $250 for a 4 star or higher energy rated refrigerator or $300 for a 4 star or higher energy rated air conditioner. Limited to 1 rebate application per household.	QLD Gvt	QLD	Queensland residents. To be eligible for a rebate, the appliance must: – have a minimum 4 star energy rating – be new and purchased on or after 1 January 2018 be for the purposes of domestic/residential use in a Queensland residence.	Air conditioners, fridges and washing machines	The scheme will end when the funding is exhausted
NSW social housing upgrades (Home Energy Action Program) — through this program the NSW Government will contribute up to 50% of the funding towards energy saving measures in social housing properties. OEH and social housing providers work collaboratively and to share the costs associated with the installation of the energy savings measures.	NSW Gvt	NSW	Social housing dwellings in NSW	Upgrades include ceiling insulation, draft proofing, solar panels, LED lighting, air conditioning, ceiling fans and hot water systems	
EnergySmart Public Housing Project — this program will deliver energy efficiency upgrades to 1500 public housing properties across Victoria. As part of this program tenants are provided with information/advice about how to use less energy with their current home and appliances and about how shifting to lower cost tariffs.	VIC Gvt	VIC	Public housing dwellings in Victoria	Upgrades that may be undertaken in the properties include: replacement of energy efficient hot water system or heating system and building thermal shell upgrades (such as draught sealing and insulation). One upgrade type per dwelling provided	The EnergySmart Public Housing Project will run until 2019

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Victorian Healthy Homes Program — a home energy efficiency program that provides free home energy upgrades to up to 1000 vulnerable Victorians who live with complex healthcare needs, and have low incomes, in Melbourne's western suburbs and the Goulburn Valley. Participants will also receive two visits from an energy liaison officer to assess their homes' energy efficiency, identify their energy/thermal comfort needs, provide them with information that may help them get a better deal from energy retailers and collect various types of energy use and health data (with their agreement).	VIC Gvt	VIC	Participants are invited to join the program if they meet some, or all, of these criteria: – they are an owner-occupier, private tenant, community and/or public housing tenant – they live in western Melbourne or the Goulburn Valley – they have a Commonwealth concession card – they receive home and community care services from their local council – they receive complex care support services from their local hospital – they have a chronic respiratory condition – they plan to reside in their home for at least 2 years – they have the ability to sign consent forms on their own behalf and to answer questions about their household energy use, thermal comfort and health and quality of life.	Upgrades can include the installation of draught proofing, ceiling or sub-floor insulation, high-efficiency heating/cooling appliances and and/or window coverings.	Recruitment began in January 2018 and upgrades are planned to be provided until late 2019.

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Latrobe Valley Home Energy Upgrade Program — a solar and energy efficiency initiative that will deliver, at no cost to households, energy efficiency upgrades which could include solar installations (photovoltaic to up to 1,000) to vulnerable households in the Latrobe City, Wellington & Baw Baw local government areas.	VIC Gvt	VIC	Victorian households that are: – low-income – based on their eligibility for Health Care Cards, Pensioner Concessions or a Veterans' Affairs Gold Card OR households in energy or water retailer hardship programs, and – owner-occupied or tenanted through private rental arrangements or community housing, and – participants in a utility retailer hardship program	A selection of solar and energy efficiency upgrade packages are offered which could include: ceiling insulation, underfloor insulation, efficient water heater, efficient gas heating, servicing gas heaters/coolers and gas hot water services, efficient electric heating and cooling, servicing electric heaters/coolers and hot water services, draught proofing and window covers, installation and set-up of in-home energy consumption display, efficient lighting and shower head replacement.	Program will run during 2018 and 2019
ActewAGL's Fridge Buyback Scheme — through this initiative ActewAGL takes away a consumers' old fridge or freezer and give them a $30 rebate on their next electricity bill.	ActewAGL	ACT	Any residential property in the ACT where the fridge/freezer is still in a working order.	Fridges and freezers	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Tasmanian Energy Efficiency Loan Scheme (TEELS) — assists Tasmanian residents and small businesses with loans from $500 to $10,000 to purchase energy-efficient products and appliances. As part of this scheme, Westpac offers residents and small businesses the opportunity to apply for a Westpac Credit Card with 0% p.a. purchase interest for 36 months attributable only on eligible energy efficient products up to a value of $10,000.	Tasmanian Gvt, Aurora Energy and Westpac Banking Corporation.	TAS	Tasmanian home owners or tenants.	Heat pumps, solar panels, solar power battery storage, efficient wood heater, hot water system (gas, air source heat pump or solar), condensation control system, ceiling and floor insulation, double / triple glazing, block out curtains, blinds and pelmets, honeycomb blinds, draught sealing and reglazing windows, fridge, freezer or washing machines, lighting upgrades, irrigation pumps.	Open for applications until 1 May 2018 or when funds run out, whichever is sooner
Regulation					
Minimum Energy Performance Standards (MEPS) - Energy Rating Label.	Joint program of the Australian Cwlth, State and Territory governments and New Zealand Governments through Equipment Energy Efficiency (E3) program	National	No eligibility restrictions	Air conditioners; clothes washers and dryers; computer monitors; dishwashers; fridges; TVs	
Smart meters mandatory roll out	Energy retailers	VIC	No eligibility restrictions	Smart meters	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Retailer Energy Efficiency Scheme (REES) — South Australia's energy efficiency scheme that provides incentives for households and businesses to save energy through the establishment of energy efficiency and audit targets to be met by electricity and gas retailers.	SA electricity and gas retailers and accredited certificate providers	SA	Differs depending on REES activity	Home energy audits, insulation, building sealing, glazing, heating and cooling, water heating, lighting, stand-by power, in-home display	Scheme will run until 31 December 2020
Victorian Energy Upgrades program (legislated under the Victorian Energy Efficiency Target (VEET) Act) — scheme operates by placing a liability on large energy retailers in Victoria to surrender a specified number of energy efficiency certificates every year.	Energy retailers and accredited certificate providers	VIC	No eligibility restrictions	Water heating, space heating and cooling, space conditioning, lighting replacement, shower roses, refrigerators/freezers, televisions, clothes dryers, pool pumps, standby power controllers, in-home displays	Legislated to continue in phases until 1 January 2030
Energy Savings Scheme (ESS) — the scheme places a mandatory obligation on Scheme Participants to obtain and surrender energy savings certificates, which represent energy savings.	Energy retailers and accredited certificate providers	NSW	No eligibility restrictions	Lighting, and appliances such as refrigerators, freezers, dishwashers, washing machines, clothes dryers, televisions	The ESS is legislated to run until 2025 or until there is an equivalent national energy efficiency scheme
Support services					
Positive Charge — a not for profit organisation that provides trustworthy, low cost and up-to-date energy saving advice, services and products to households, businesses, schools and community groups.	Moreland Energy Foundation Ltd (MEFL)	VIC and NSW	No eligibility restrictions		
SEE-Change — not for profit group focused on reducing Canberra's ecological footprint, improve the resilience of the ecosystem, and enhance the wellbeing of all individuals.	SEE-Change	ACT	ACT residents		

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Baw Baw Sustainability Network — an independent not for profit group focused on helping people reduce their energy use at home and on improving health through gardening and growing food.	Baw Baw Sustainability Network	VIC	Victoria residents		
Yarra Energy Foundation — delivers practical programs and pathways to solutions that help our community reduce energy use.	Yarra Energy Foundation	VIC	Residents of the City of Yarra		

TABLE D.5 SOURCES OF ASSISTANCE TO SUPPORT HOUSEHOLDS TO MANAGE ENERGY BILLS – INITIATIVES TO CHANGE THE WAY ENERGY IS USED

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Information, advice and non-financial support					
Information/tips for consumers on ways to save energy	Various governments and energy retailers	National	No eligibility restrictions	All energy usage in the home	
Your Energy Savings — a website that provides a starting point for information about saving energy, saving money and reducing impact. It includes information on programs and financial support available from the Australian Government as well as state and territory governments.	Australian Government	National	No eligibility restrictions	All energy usage in the home, water use, waste and transport	
Energy Advisory Service — provides free, independent information on a range of energy topics, including: help saving energy at home; understanding energy bills and meters; how to calculate appliance running costs; links to services that can help paying bills; general information about energy efficient home design and renewable energy technology.	SA Gvt	SA	No eligibility restrictions	All energy usage in the home	
You and Your Home — a website by Sustainability Victoria providing information about how to live more sustainably. It includes information and advice about how to save energy (including a comparison of the annual running costs for various types of hot water systems for a range of households).	VIC Gvt	VIC	No eligibility restrictions	All energy usage in the home, water use and waste	
Power to Save — a website by the NSW Government providing information about ways to reduce energy use and save on power bills.	NSW Gvt	NSW	No eligibility restrictions	All energy usage in the home	
Michael Mobbs' Sustainable House — an exemplar sustainable house that offers tours to the public.	Michael Mobbs	NSW	No eligibility restrictions	All energy usage in the home, water use and waste	
Centre for Education and Research in Environmental Strategies (CERES) EcoHouse — an exemplar sustainable house opened to the public.	CERES	VIC	No eligibility restrictions	All energy and water usage in the home.	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Actsmart Sustainable Home Advice — advice provided by an experienced energy expert to reduce energy use.	ACT Gvt	ACT	Available to all ACT residents	Heating, cooling, appliances, hot water, lighting, retro-fitting (e.g. insulation and window treatments), energy-efficient home design, and suitability of house blocks	
Victorian Residential Efficiency Scorecard — a home energy rating program that provides a star rating for homes. The star rating represents the running cost of the fixed appliances at home. This scorecard can be used as a guide to make home improvements efficiently and cost effectively. Any household receiving a Scorecard assessment will also receive advice from a skilled assessor about how to make the most of their current situation, including how to use less energy with current appliances and building configuration.	VIC Gvt	VIC	Victorian households	Building shell (wall, floor and ceiling materials, insulation, windows and eaves, gaps and cracks) and fixed features (heating and cooling systems, hot water systems, lighting, curtains and external blinds, solar panels and pools and outdoor spas)	
EnergySmart Public Housing Project — this program will deliver energy efficiency upgrades to 1500 public housing properties across Victoria. As part of this program tenants are provided with information/advice about how to use less energy with their current home and appliances and about how shifting to lower cost tariffs.	VIC Gvt	VIC	Public housing dwellings in Victoria	Upgrades that may be undertaken in the properties include: replacement of energy efficient hot water system or heating system and building thermal shell upgrades (such as draught sealing and insulation). One upgrade type per dwelling provided	The EnergySmart Public Housing Project will run until 2019
Household electricity calculator — compares a household electricity bill against similar households.	VIC Gvt	VIC	No eligibility restrictions	All energy usage in the home	
Smart meters and applications available on line and on smart phones.		Competitive retail markets	Smart meter installed	All energy usage in the home	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
CarbonTRACK energy and solar management system		National	New and current customers	All energy usage in the home	
Energy Info Hub — energy information for Victorian community workers.	Consumer Utilities Advocacy Centre (CUAC)	VIC – but some information provided is relevant to all states	No eligibility restrictions		
Energy Efficiency Training and Knowledge Building — a pilot program by the NSW Government providing training to tenants and community service social workers who go into client's homes. Training includes information about: – how to access lower energy tariffs – why supporting tenants with energy advice is important – what tenants can do for themselves to manage their energy bills – what support and advice can be provided to tenants – what hardship programs are available to the tenants – how can energy messages can be 'championed'.	NSW Government in partnership with the Federation of Housing Associations and delivered in conjunction with the Energy & Water Ombudsman NSW (EWON) and the Public Interest Advocacy Centre (PIAC)	NSW	Available to tenants and community service social workers	As per program description	
Energy Partners Program — offers free training to staff and volunteers to help organisations support their clients.	SA Gvt	SA	Available to organisations that provide residents and clients with energy information and advice		

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Utilities literacy training courses for community workers — Uniting Care Wesley Bowden delivers training courses to community workers and volunteers in metropolitan and regional South Australia. The course covers a range of topics including: – electricity, gas and water in South Australia – reading and understanding meters and bills – using energy and water efficiently at home – how to choose an energy retailer and get a good deal – concessions, complaints, disputes and hardship – how to share these skills in the community.	Uniting Care Wesley Bowden	SA	Available to community workers and volunteers		
Advice / non-financial support — feedback					
Retailer information on energy bills	Various energy retailers	National	Current customers	All energy usage in the home	
Control of appliances (e.g. hot water systems and pool pumps) by electricity distributors.	Electricity distributors	Competitive retail markets	Customers in selected tariffs		
Financial support					
Regulation					
Support services					
Positive Charge — a not for profit organisation that provides trustworthy, low cost and up-to-date energy saving advice, services and products to households, businesses, schools and community groups.	Moreland Energy Foundation Ltd (MEFL)	VIC and NSW	No eligibility restrictions		
Baw Baw Sustainability Network — an independent not for profit group focused on helping people reduce their energy use at home and on improving health through gardening and growing food.	Baw Baw Sustainability Network	VIC	Victoria residents		
Yarra Energy Foundation — delivers practical programs and pathways to solutions that help our community reduce energy use.	Yarra Energy Foundation	VIC	Residents of the City of Yarra		

TABLE D.6 SOURCES OF ASSISTANCE TO SUPPORT HOUSEHOLDS TO MANAGE ENERGY BILLS – INITIATIVES TO USE LESS ENERGY AT PEAK TIMES

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Information, advice and non-financial support					
Your Energy Savings — a website that provides a starting point for information about saving energy, saving money and reducing impact. It includes information on programs and financial support available from the Australian Government as well as state and territory governments.	Australian Government	National	No eligibility restrictions	All energy usage in the home, water use, waste and transport	
Interactive energy-efficient house — provides information about energy efficiency opportunities around a house.	VIC Gvt	VIC	No eligibility restrictions	Home insulation, heating and cooling, smart meters, weather proofing and sealing, water heating, solar panels, appliances, lighting, water saving shower heads	
Michael Mobbs' Sustainable House — an exemplar sustainable house that offers tours to the public.	Michael Mobbs	NSW	No eligibility restrictions	All energy usage in the home, water use and waste	
Centre for Education and Research in Environmental Strategies (CERES) EcoHouse — an exemplar sustainable house opened to the public.	CERES	VIC	No eligibility restrictions	All energy and water usage in the home.	
Actsmart Sustainable Home Advice — advice provided by an experienced energy expert to reduce energy use.	ACT Gvt	ACT	Available to all ACT residents	Heating, cooling, appliances, hot water, lighting, retro-fitting (e.g. insulation and window treatments), energy-efficient home design, and suitability of house blocks	
Applications available on line and on smart phones		Competitive retail markets	Smart meter installed	All energy usage in the home	
CarbonTRACK energy and solar management system		National	New and current customers	All energy usage in the home	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Energy Info Hub — energy information for Victorian community workers.	Consumer Utilities Advocacy Centre (CUAC)	VIC – but some information provided is relevant to all states	No eligibility restrictions		
Energy Partners Program — offers free training to staff and volunteers to help organisations support their clients.	SA Gvt	SA	Available to organisations that provide residents and clients with energy information and advice		
Utilities literacy training courses for community workers — Uniting Care Wesley Bowden delivers training courses to community workers and volunteers in metropolitan and regional South Australia. The course covers a range of topics including: – electricity, gas and water in South Australia – reading and understanding meters and bills – using energy and water efficiently at home – how to choose an energy retailer and get a good deal – concessions, complaints, disputes and hardship – how to share these skills in the community.	Uniting Care Wesley Bowden	SA	Available to community workers and volunteers		

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Energy Efficiency Training and Knowledge Building — a pilot program by the NSW Government providing training to tenants and community service social workers who go into client's homes. Training includes information about: – how to access lower energy tariffs – why supporting tenants with energy advice is important – what tenants can do for themselves to manage their energy bills – what support and advice can be provided to tenants – what hardship programs are available to the tenants – how can energy messages can be 'championed'.	NSW Gvt in partnership with the Federation of Housing Associations and delivered in conjunction with the Energy & Water Ombudsman NSW (EWON) and the Public Interest Advocacy Centre (PIAC)	NSW	Available to tenants and community service social workers	As per program description	
Incentives					
Control of appliances (e.g. hot water systems and pool pumps) by electricity distributors	Electricity distributors	Competitive retail markets	Customers in selected tariffs		
Financial support					
Energex Positive Payback Program — a program to help manage peak demand that provides financial incentives for: – installing PeakSmart air conditioners (up to $400) – connecting an electric hot water system to an economy electricity tariff (up to $200) – connecting a pool pump to an economy tariff ($200).	Energex	QLD	Energex QLD customers in eligible areas.	PeakSmart air conditioners, electric hot water systems, pool pumps.	

Initiative type	Provider	Scale	Eligibility	Items covered	Additional notes
Ergon Energy Incentives — incentives include: – up to $400 for installing PeakSmart air conditioners – up to $200 cashback by replacing existing fixed speed pool pump with a 5-star pool pump or $250 cashback by connecting it to an economy tariff.	Ergon Energy	QLD	Ergon Energy QLD customers in eligible areas.		
Regulation					
Mandatory roll out of smart meters	Electricity retailers	VIC			
Support services					
Positive Charge — a not for profit organisation that provides trustworthy, low cost and up-to-date energy saving advice, services and products to households, businesses, schools and community groups.	Moreland Energy Foundation Ltd (MEFL)	VIC and NSW	No eligibility restrictions		
Yarra Energy Foundation — delivers practical programs and pathways to solutions that help our community reduce energy use.	Yarra Energy Foundation	VIC	Residents of the City of Yarra		

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