

Supporting CALD Australians to be empowered energy consumers.

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1.0 Introduction

Energy is an essential service, integral to supporting healthy people and communities. Empowering people to be able to use energy efficiently, whilst also supporting their comfort, health and well-being is a key focus for energy policy and programs in Australia. However, there is a need for increased focus on how Culturally and Linguistically Diverse (CALD) Australian consumers can be supported regarding their energy consumption. Specifically, it has been found that people with culturally and linguistically diverse backgrounds can struggle to understand market information and make their preferences known. CALD Australians often experience poor outcomes in terms of energy affordability, comfort and convenience, and health and well-being. The question therefore becomes how we support CALD energy consumers to be responsible and efficient, but also support their health and well-being through policy, programs, and advocacy.

CALD Australian energy consumers are people who are from either a non-English speaking background or ethnic minority. Existing Australian energy policy and program materials often struggle to engage, appropriately target, and support CALD consumers (Chester, 2013). The purpose of this project is to consider how to support CALD energy consumers and empower them in the Australian energy market. Our project sought to achieve this through using a three-stage research design. First, we analysed the stories that current Australian energy policies and programs tell. Second, we conducted qualitative research with CALD energy consumers to generate insights about their everyday lived experiences of energy consumption. Third, we ran co-design workshops with stakeholders to develop guidelines and recommendations for energy stakeholders to better engage, communicate with and support CALD energy consumers, and to deliver more effective energy policies and programs in this space.

2.0 Background

Encouraging consumers to be efficient and responsible in their household energy use is a key focus in the transition to clean and sustainable energy in Australia (COAG Energy Council, 2015). However, while considerable attention has focused on the development of policies and programs targeting low-income consumers to become energy efficient, there is a need for increased focus on how CALD Australian consumers can be supported regarding their energy consumption (Ethnic Communities Council of NSW Inc., 2016; ECA, 2017). Specifically, the ECA has found that “people with culturally and linguistically diverse backgrounds struggle to understand market information and make their preferences known” (ECA, 2016).

Prior research has suggested that accounting for geographic and cultural context, taking a tailored approach, applying relevant behavioural and social science concepts and theories, good planning, and strong evaluation are essential features of successful energy efficiency interventions (Russell-Bennett et al., 2019). However, Russell-Bennett et al., (2019) also identify that there is a paucity of evidence and practice regarding how to engage with CALD communities to encourage them to become energy efficient.

Australia is a multi-cultural country with a diverse rather than homogeneous population (Australian Bureau of Statistics, 2017). The 2011 national census identified 5.3 million Australians (27% of the population) were born overseas, and there are 4.1 million Australian-born people with at least one overseas-born parent (20% of the population). Therefore, CALD consumers make up a sizeable proportion of the Australian National Energy Market (NEM).

We know that CALD consumers often have different and distinct everyday energy use practices (Poyer et al., 1997; Sovacool and Griffiths, 2020). These include for example the use of traditional cook stoves, particular bathing practices, and heating and cooling practices that align with preferred cultural and taste preferences (Stoppok et al., 2018; Sovacool and Griffiths, 2020). Energy is integral to supporting healthy people and communities (Ortiz et al., 2017; Gordon et al., 2019). However, CALD Australians often experience poor outcomes in terms of energy affordability, comfort and convenience, and health and well-being (Chester, 2013).

Worryingly, we know that there “has been little community engagement to address the understanding and concerns of culturally and linguistically diverse householders about energy consumption, conservation and the impact of higher costs” (Radermacher, 2015, p8). Therefore, we need to work to better engage CALD energy consumers with policies, behaviour change programs, and advocacy efforts to be efficient and responsible.

A useful path towards supporting CALD Australians to become efficient and responsible energy consumers, is to use the power of storytelling. Stories are central to human existence and are an integral component of social life. We grow up with stories, and they act as a transmitter of socio-cultural ideas, norms, and structures (Visconti et al., 2010). Furthermore, stories have an important place across all cultural groups. Barthes (1975) identifies that there is always narrative, and all humans, groups, and cultures have their stories which play a key role in sharing understanding. Stories engage and involve us in personal and emotional ways, which is different from how we respond to facts and figures. The emotional power of stories can be the key to igniting action by story-receivers. Devices used in stories, such as the use of metaphor and analogy can help bridge the emotional and cognitive meaning of a story. Furthermore, stories allow us to simulate and learn from events without having to live through the experience. Storytelling can also help take complex ideas and make them simpler and actionable. For example, many existing policies and communications about energy consumption feature technical jargon, and statistical information. This creates difficulties for people with language barriers, or with limited numeracy and literacy skills. Importantly, research has shown that storytelling can be a highly effective approach for influencing consumer knowledge, attitudes, and behaviours (van Laer et al., 2014; 2019a, 2019b). Therefore, storytelling may be an effective approach to engage, communicate with and support CALD energy consumers (Moezzi, Janda, & Rotmann, 2017).

In this project, we analysed the narratives contained in existing energy policies and behaviour change programs and compared and contrasted these with the everyday energy stories of CALD householders. We then considered how fit for purpose existing energy policies and program narratives are for engaging and bringing about change among CALD energy consumers. Our aim is to help inform future storytelling approaches to effectively engage CALD energy consumers. Specifically, in this context it is important that energy policy and advocacy narratives are clear, informative, and supportive, and help engage and influence

CALD consumers to effectively navigate the energy market and use energy in a productive and efficient manner. This study looks to help understand how current energy narratives take shape, influence CALD consumers, and evaluate how energy policymakers and stakeholders could shape them in a more effective manner. To reach this goal, we utilised a three-stage mixed methods research design.

First, we analysed existing Australian energy policies and programs targeting CALD consumers. During this stage of the project, we searched for, obtained, and then conducted a process of automated text and discourse analysis on the different existing stories about energy management for CALD consumers that are currently being told in the policies and programs feeding into the National Electricity Market (NEM). We analysed these existing narratives according to best practice from the narrative-transportation literature, which outlines how stories can best be used to engage, inform, and change the behaviour of consumers (van Laer et al., 2014). Our analysis here helped us to evaluate the effectiveness of existing Australian energy policy and program narratives in engaging CALD consumers and informed the subsequent stages of the project.

Second, we conducted qualitative research with CALD consumers. During this stage of the project, we conducted qualitative narrative interviews and video ethnographies with CALD consumers to gain deep understandings of their energy consumption practices and encourage them to share their energy stories. During this process, we also shared with our participants examples of existing energy policy and program narratives and ask them for their reflections. We compared and contrasted these existing energy narratives with the real-life stories and practices of CALD consumers and their feedback on existing narratives. Our analysis focused on the comparisons and contrasts between existing energy market narratives, and the everyday energy narratives of CALD consumers. We then linked our understandings to the first phases of the research process to inform the third stage of the project.

Third, we used a process of co-design, to develop a set of guidelines for energy stakeholders on how to effectively use storytelling to engage and influence CALD consumers. These guidelines present frameworks, models, toolkits, and advice on how energy policies and programs can utilise effective storytelling to engage CALD consumers and influence them to be efficient and responsible energy users whilst also supporting their health and well-being.

3.0 Research Design and project team

3.1 Research Design

Our research design combined text analysis of energy policy and program narratives, qualitative research in the form of interviews and video ethnography with CALD energy consumers, and co-design. The project consisted of three stages:

- Stage 1: Analysis of energy policy and program narratives.
- Stage 2: Qualitative interviews and video ethnography with CALD energy consumers.
- Stage 3: Co-design workshops to develop guidelines for supporting CALD energy consumers.

The research team has considerable experience in text analysis, qualitative interviews, video ethnography, and co-designing support programs and services for people – including in the context of energy. This means our team of researchers are very professionally qualified and experienced in conducting the types of research featured in this project.

3.2 Project Team

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Bio

Ross is an interdisciplinary behaviour and social change researcher who works across various topic areas including energy consumption, efficiency and hardship, climate change and environmental sustainability, gambling, alcohol, tobacco control, mental health, and workplace bullying. Ross has extensive experience in energy research and influencing policy and practice, including several funded research projects, community behaviour change programs, and the publication of several journal articles and conference papers in the area.

Ross uses interdisciplinary and multi-method approaches to his work and has extensive

experience using methodologies including longitudinal quantitative surveys, systematic reviews and meta-analyses, focus groups, depth interviews, ethnography, content analysis, and cognitive neuroscience. He also has considerable experience in research, designing, implementing, and evaluating behaviour and social change programmes.

Ross has extensive experience in working with people who may experience vulnerability, disadvantage and marginalization including problem low-income, older people, children and adolescents, Aboriginal and Torres Strait Islander, and Culturally and Linguistically Diverse groups. Ross has been a principal or named investigator on projects attracting over \$8.3m in research funding. He also has considerable experience in translating research into policy arenas and has acted an expert advisor to the Australian Government, the UK and Scottish Governments, the European Commission, the World Health Organisation, the Victorian Minister for Consumer Affairs, Gaming and Liquor Regulation, Queensland Health - and a range of other stakeholders on various topics relating to behaviour and social change. Ross is also a member of the WHO Technical Advisory Group on Behavioural Sciences and Insights for Health. He has considerable experience as a project leader, and delivering milestones on time, within budget, and making positive impact.

Ross is currently an Honorary Visiting Professor at Coventry University, and an Honorary Professor at the University of Wollongong. He has published over 100 academic journals, book chapters and conference papers including in outlets such as Energy Policy, Journal of Environmental Management, Environment and Planning, European Journal of Marketing, Journal of Business Research, Marketing Theory, Journal of Services Marketing, Journal of Macromarketing, Journal of Social Marketing, and BMC Public Health. He has also written numerous client reports and regularly gives invited presentations. Ross co-authored a leading textbook on social marketing and social change: Jeff French and Ross Gordon (2019). Strategic Social Marketing: For Behaviour and Social Change, 2nd Edition. London: Sage.

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Bio

Dr Foluké Abigail Badéjò is an award-winning Behaviour Change Researcher driven by her core values of Social Justice, Dignity and Equity as well a passion for complex problem-solving for transformative social impact. Dr Badéjò's emancipatory research agenda is evident in her systems-based, participatory research approach to addressing complex behavioural and social problems. Her work focuses on generating, co-designing, and translating multi-stream, formative research insights into sustainable social innovations that serve to empower disadvantaged groups and communities within Australia and the Global South to transform their prospects.

Dr Badéjò has led and/or contributed to several high-profile social behaviour change research projects for national and international organisations including Energy Consumers Australia, the North Queensland Primary Health Network, Queensland Health, Diabetes Queensland, and UNICEF Malawi. Dr Badéjò was also the recipient of the 2018 Healthy Active research grant from Northern Queensland Primary Health Network (NQPHN) on behalf of Life Education Queensland, Australia's largest health promotion charity for children. As the Chief Investigator and Program Manager, Dr Badéjò led the research, co-design & pilot of the award-winning Healthy Eats Program – a community-based social marketing program aimed at improving food literacy and health outcomes for disadvantaged schoolchildren and families from Indigenous and migrant communities across North Queensland.

Dr Badéjò's work has been published in national and international conference proceedings and in high-ranking peer-reviewed academic journals. She is currently a Research Fellow with QUT's Centre for Decent Work and Industry in QUT Business School, and with Woolworth's Centre for Childhood Nutrition Research where she leads a Food Literacy in Schools Program for disadvantaged communities in Queensland.

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Bio

Dr Theresa Harada is an ethnographer who works in a range of areas that are related to social justice and equity. Key research areas have been on the intersection of climate change knowledge, sustainability, and household behaviours; mobility justice and disability; energy efficiency and household energy practices. Dr Harada is an advocate of social science methods as a rich resource that can supplement quantitative research and provide more equitable outcomes for sectors of society who may receive little, if any research attention. Commonly, quantitative data are at the foundation of decisions on government policy, strategy and funding but fail to provide the insights that are essential for addressing many of today's social, economic, and environmental problems.

Dr Harada has worked on multi-disciplinary research projects over the past 7 years including ARCLP with not-for-profit partner ATSA, Energy Efficiency in the Third Age, and a range of projects for Energy Consumers Australia. Dr Harada is experienced in multiple qualitative methods including mobile methods; ethnography; audio and audio-visual praxis; co-production of knowledge as a form of power devolution; and alternative forms of representation.

Dr Harada has a strong record of academic publication in high-ranking journals and works as a Research Fellow at QUT Business School.

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Bio

Dr Tom van Laer is Associate Professor of Narratology at the University of Sydney, having previously worked at British, French, and Dutch institutions. He is an expert on how stories change reality. His papers are published in leading and highly regarded academic journals, including the *Journal of Consumer Research*, *International Journal of Research in Marketing*, *Journal of Interactive Marketing*, *Journal of Management Information Systems*, *Journal of Service Research*, *European Journal of Marketing*, *Journal of Business Ethics*, *Journal of Business Research*, et cetera. His research has been covered by the ABC, Nine Network, Network 10, SBS, the Age, the Australian, Financial Times, Guardian, Newsweek, Sydney Morning Herald, Wall Street Journal, and on national TV and radio stations in Austria, Germany, the Netherlands, and the UK, among other news outlets. Though he has won awards for his academic research, teaching, and media exposure, Tom counts winning his high school's story recital competition in 1995 as his most impressive accomplishment.

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Bio

Morgan Smith is an Honours Degree graduate, as well as having worked as a Research Assistant in the Discipline of Marketing at the University of Sydney.

4.0 Stage 1: Analysis of Energy Policy & Program Narratives

4.1 Research Context

The study examines the existence of narratives within the Australian energy sector. Australia possesses a rich array of natural resources, helping to fuel its energy sector and long-term economic growth (Geoscience Australia, 2020). In energy consumption per capita, Australia ranks 15th globally (Geoscience Australia, 2020). However, as a result of Australia's resource endowment, the sector relies heavily on fossil fuels, particularly coal (Geoscience Australia, 2020). This proves problematic compared with the growing shift towards cohesive action on climate change and the pursuit of renewable energy sources (PwC, 2019). Alongside political divisions on the sector's future growth opportunities and the influence of powerful corporate and media interests, these factors see the nation's energy sector is on a 'highly transformative path' (PwC, 2019). Given its current transitional status, Australia's energy sector is thus a major theatre for narratives on responsible consumption.

4.2 Data collection

Modelled off the approach of (Giesler & Veresiu, 2014), this study finds these narratives emerging from within a sample of publicly available documents ($n = 196$), specifically company reports, particularly annual reports, and media releases, from the stakeholders defined by the Australian Energy Regulator (AER, n.d.). The Australian Energy Regulator is the central regulator for Australia's energy networks and covered gas pipelines, working across all states and territories except Western Australia (AER, 2020). In recognition that energy is essential to the long-term vitality of Australia's economy, they monitor and report on the activities of 49 market participants, which are categorised under; government agencies and departments, energy institutions, state regulators, ombudsman, representative groups, consumer organisations, and international organisations (AER, n.d.). For our analysis, we separated these prescribed categories into three broad groups, those of government, industry, and consumer. Each stakeholder produces a broad array of documents, however the most common across categories are company reports and media releases. Given these document types tend to utilise a similar structure and linguistic mode, and audience targets, they were selected for comparable analysis.

Table 1 provides further descriptive details about the dataset, including the total number of

documents sampled per stakeholder type, average number of words per document type and, as stated previously, definitions for each category of stakeholders. The word total of the dataset is 2,528,766. The average number of words per media release is 503. The average number of words per report is 28,435.

Data was manually scraped from the websites of each stakeholder over the course of May 2020. Where organisations represented external interests outside of energy, only documents categorised under the keyword ‘Energy’ were selected into the sample. One stakeholder, the REC registry, had limited and/or no documentation included in the dataset due to researcher accessibility issues. Documents range in publication from 2015-2020, however are skewed to 2020. This time period has been selected given the UN Sustainable Development Agenda’s publication in 2015 (United Nations, 2018) as well as Australia’s signing onto the Paris Agreement this same year (Department of Foreign Affairs and Trade, n.d.). Further, Australia’s energy policy tends to operate within 5-year milestones with the most recent – the National Energy Productivity Plan 2015-2030 (COAG Energy Council, 2015) – agreed to by the Council of Australian Governments (COAG) in December 2015.

Ethical approval was not required given the use of public data and as outlined in the National Statement 5.1.22-5.1.23 (National Health and Medical Research Council, 2018).

Table 1. Descriptive information for the dataset, broken down by stakeholder category.

Stakeholder Classification	AER Categories	Number of Stakeholders	Number of Documents	Total Number of Words	Average Number of Words Per Document
Government	Government	32**	R: 57	R: 2,063,049	R: 36,194
	Agencies & Departments		MR: 61	MR: 32,356	MR: 530
	Energy Institutions				
	State Regulators				
	Ombudsman				
	International				

Industry	Representative Groups	6	R: 8	R: 113,076	R: 14,134
			MR: 23	MR: 9,729	MR: 423
Consumer	Consumer Organisations	10	R: 22	R: 297,793	R: 13,536
			MR: 25	MR: 12,763	MR: 511

n = 48

n = 196

**1 excluded.

MR = Media
Release.

R = Report.

4.3 Analysis

Study 1 takes an inductive approach using mixed methods (Creswell, 2014) of qualitative discourse analysis (Creswell, 2013) and tools of textual analysis, specifically Linguistic Inquiry Word Count (LIWC; Pennebaker, Boyd, Jordan, & Blackburn, 2015), to analyse the dataset. Using the theoretical framework developed by Campbell (1949, 2008), the emergent narratives are framed within the hero's journey thesis, which comprises three broad phases; , and twelve, mutually exclusive, stages; the ordinary world, call to adventure, refusal of the call, meeting of the mentor, crossing the threshold, tests, allies and enemies, approach to innermost cave, the ordeal, the reward, the road back, the resurrection, and the return. This twelve-step process was identified through a bottom-up, inductive approach, echoing the three-stage design of Corbin and Strauss (2015).

The analytical strategy was designed using this three-stage process proposed by Corbin and Strauss (2015). First, open coding through manual techniques were used to identify the overarching thematic account of the observed phenomena, using in-vivo labels for these emergent codes. Second, axial coding was utilised to find the relationships between first-order concepts and aggregate them to second-order themes. Third, the second-order themes have been correlated to existing research on responsible consumption and the hero's journey, heavily iterating between data and literature to derive aggregate categories that were both comparable to and distinctive from what consumer research already charts.

The dataset also incorporated visual elements, including photographs, infographics, and visual timelines, which were analysed for their narrative insight. In this, we drew on the text-interpretive approach where visual aspects of a text are considered equally relevant in conveying meaning separately from written text (McQuarrie & Mick, 1999). Modelled off the approach of Humphreys and Thompson (2014), we thus sought to analyse visual text for the story they told as a whole, following the same coding procedures as in the written text.

We supplemented the qualitative discourse analysis with quantitative automated text analysis (Humphreys, Wang, Fischer, & Price, 2018) in Study 2. We sought to validate our qualitative findings as well as understand representations across stakeholders and determine the correlation between market position and narrative focus.

To corroborate our qualitative findings, we conducted quantitative text analysis utilising both the existing and custom dictionary options of LIWC (Pennebaker et al., 2015). A popular tool for textual analysis, LIWC has been successfully used across consumer research and

psychological sciences. The program analyses text by counting the frequencies of words represented in over 70 different psychologically relevant categories, including linguistic processes, psychological processes, personal concerns and spoken categories. By scanning a text against its internal dictionary, LIWC produces the percentage of words from the text belonging to each of the categories. Alongside these internal dictionaries, users can construct custom dictionaries to analyse specific categories, relevant to their individual dataset.

We ran our dataset through LIWC utilising the internal dictionaries of LIWC2001, LIWC2007 and LIWC2015. From these dictionaries, we deduced the most relevant categories, considering their use in prior research as representative constructs. Furthermore, we analysed the dataset using categories adapted from the custom dictionaries of ‘Sustainability’ developed by Humphreys (2014) and ‘Forest’ developed by Xu and Bengston (1997). Where necessary, these categories were adapted in line with our Australian context.

We utilised the findings of Pietraszkiewicz et al. (2019) to assess our constructs of ‘empowerment’ and ‘communal market’. Based on their judgment, we determined the use of LIWC2015 categories *Family* (e.g., daughter, husband, aunt), *Friends* (e.g., buddy, friend, neighbour), *Social* (e.g., hug, honey, pa) and *Affiliation* (e.g., share, relation, social) as representative of our ‘communal market’ construct. Further, we sought the work of Tausczik and Pennebaker (2010) to include the category of first-person plural pronouns *We* (e.g. we, us, our), given its use in promoting group collaboration and interdependence.

Additionally, we used the findings of Pietraszkiewicz et al. (2019) to develop a variable for ‘empowerment’. As described in their study, agency can be represented in the LIWC2015 categories of *Cause* (e.g., create, make, effect), *Achievement* (e.g., earn, hero, win), *Reward* (e.g., approach, confident, earn), *Insight* (e.g., think, know, consider), *Power* (e.g., up, over, best) and *Work* (e.g., job, majors, team). We thus sought to create our construct of ‘empowerment’ through analysing these categories together.

To assess our construct of ‘inequality’ we used LIWC2007 category of *Exclusive* (e.g., but, without, exclude) alongside the third-person singular pronouns *Shehe* (e.g., she, her, him) and plural pronoun *They* (e.g., they, their, they’d). This was developed from the work of Tausczik and Pennebaker (2010) who see exclusive words frequently used to make distinctions between what is and what is not in a group or category. Additionally, whilst previous literature tends to focus on the use of first- and second-person pronouns to assess social hierarchies, these studies tend to focus on individual’s self-narratives, for example those

contained in personal letters (Kacewicz, Pennebaker, Davis, Jeon, & Graesser, 2014). In contrast however, our data is sourced from grey literature, which places more emphasis on structured and formal content and tends to avoid this type of pronoun usage due to its public nature. Given this, we found these categories of *Exclusive*, *Shehe* and *They* most logical in distinguishing the ‘Us vs. Them’ dynamic apparent between unequal consumer groups.

To assess our construct of ‘market inertia’, we utilised the LIWC2007 category of *Inhibition* (e.g. block, constrain, stop), which has previously been used to represent reduced cooperation between group members (Rand, Kraft-Todd, & Gruber, 2015).

Finally, to assess the existence of our fictional responsible consumer, we analysed the custom Sustainability dictionaries of *Protect* (e.g. defend, guard, protect), *Individual* (e.g. consumer, voter, purchaser) and *Humans* (e.g. human, humanity, person) (Humphreys, 2014). These custom dictionaries helped to develop a construct representative of the responsible ‘citizen-consumer’ (Coskuner-Balli, 2020). From here, we sought to use the *Life-support* (e.g. climate change, environmentally sustainable, solar energy) category derived from the custom ‘Forest’ dictionary developed by Xu and Bengston (1997) to develop this responsible consumer as distinct to energy and sustainability. Ultimately, this construct extended the existing LIWC analysis to incorporate a central theme within our dataset.

4.4 Findings

In support of existing literature, we find consumer responsabilisation as a systemic process, through which consumers transition into responsible market actors able to address the central societal issues of our time (Eckhardt & Dobscha, 2019). Due to the transitory nature of Australia’s energy market and the urgent concern of climate change, this process of consumer responsabilisation is occurring in real-time.

4.4.1 Qualitative Text Analysis Findings

Emerging from our qualitative discourse analysis of energy policy and program narratives, we identified that the process of responsabilisation of Australian energy consumers can be understood and interpreted through applying the narrative template of the hero’s journey (Campbell, 1949, 2008) to the consumer transition. Our model illustrating the hero’s journey for responsabilising energy consumers (see Figure 1) finds that actors at the meso-level

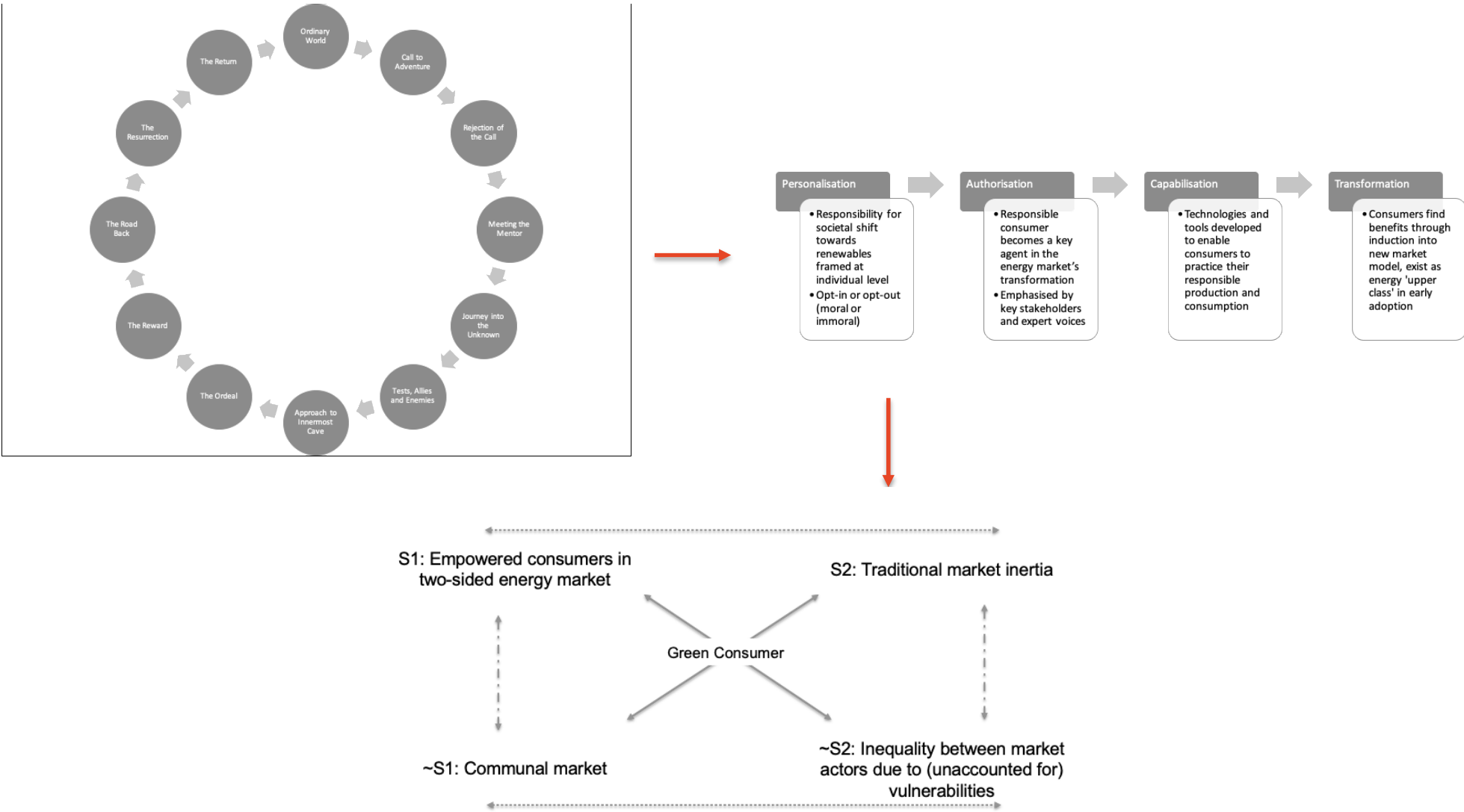
encourage consumers to undertake a transformation into responsible energy market participants through Campbell's twelve phases:

1. The ordinary world
2. Call to adventure
3. Rejection of the call
4. Meeting the mentor
5. Journey into the unknown
6. Tests, allies, and enemies
7. Approach to innermost cave
8. The ordeal
9. The reward
10. The road back
11. The resurrection; and
12. The return.

Empowered by their transition into a hero, consumers are then initiated into the responsabilisation process through Giesler and Veresiu (2014) PACT routine. In each phase of personalisation, authorisation, capabilisation, and responsabilisation, consumers find themselves thrust into the role as a central problem-solving agent (Luchs, Phipps, & Hill, 2015), an agent assigned to the role of both resolving the environmental crisis and ensuring Australia's economic future.

Finally, we contribute to existing configurations of the green consumer as we document their existence at the centre of a marketplace rife with tensions (Fontenelle, 2013). The construction of these tensions through a semiotic square contrasts with Giesler and Veresiu (2014), who position the consumer in the centre of a horizontal market of moral authorities, including NGOs, corporations, and political parties. Our identified market tensions however position the green consumer as the central market actor, a hero designed to strike a balance between naturally opposing standpoints.

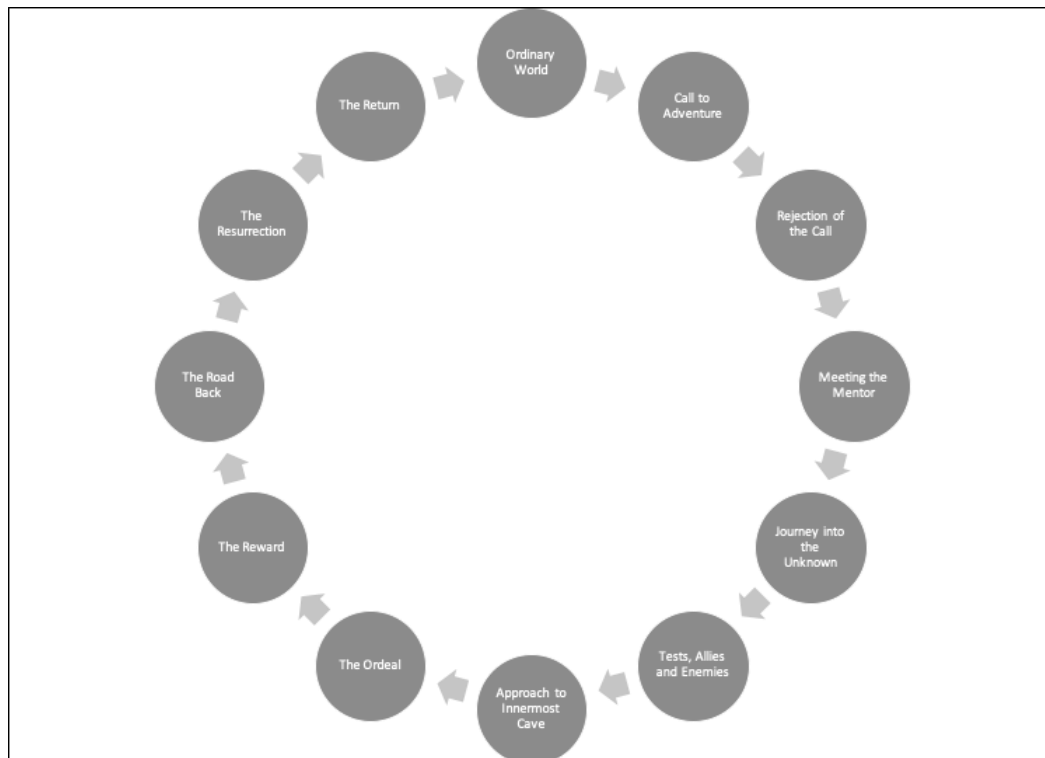
Figure 1: The hero's journey for responsabilising energy consumers



The Hero's Journey

As a central narrative template involving an individual's transformation into an enlightened state of knowledge, the hero's journey offers consumers a distinct path to responsabilisation. In this, we extend into the Australian energy context - on the work of Coskuner-Balli (2020) who argues that the citizen-consumer is cast into the role of a responsible moral hero in order to achieve the American Dream. In our findings, the hero must journey to achieve a renewable energy future. As seen in Figure 2, the hero's journey comprises 12 stages through which the protagonist travels through. However, our findings show that not every consumer is able to complete their transformation. Due to systemic forces outside of the consumer's control, not all can engage beyond a basic, rhetorical level, even if they feel a moral imperative to do so.

Figure 2: The Hero's Journey



1. The Ordinary World

In the first stage of the hero's journey, we find the individual in their ordinary world (Campbell, 1949). Within the dataset, stakeholders depict this ordinary world as the Australian energy market, which supplies an essential service to Australian households and businesses. This market however is recognised to be in a state of flux. Across stakeholders

and documents, energy is continually positioned as an ‘essential’ good in whichever form it is supplied. This is evidenced in the report ‘Consumer access to external dispute resolution in a changing energy market’ (2016) commissioned by Australia and New Zealand Energy and Water Ombudsman Network (henceforth, ANZEWON). The authors clearly describe the centrality of energy for Australians, arguing, ‘No matter how energy is supplied, it remains an essential service’ (66). The Australian Energy Market Operator (henceforth, AEMO), one of the central policymakers of the National Electricity Market (NEM), echoes this sentiment in describing ‘reliable energy supply’ as a ‘critical feature of modern life’ in its 2018-19 annual report (15). Furthermore, the consumer organisation the Consumer Action Law Centre (2016) identifies in their report ‘Power Transformed’ that this energy sector has been central to Australia’s economic and social development:

‘Australia’s energy market was established to provide Australians with reliable, low-cost energy from our abundant fossil fuel resources. Energy was consumed by households and businesses at the end of one-way transmission and distribution networks, often over long distances from where it was generated. This model was the foundation for the growth of Australia’s manufacturing industry, and has provided households with relatively cheap, secure, and reliable electricity for decades.’ (12)

The market however is recognised to be in a state of transition, due to its traditional operating model becoming increasingly unsustainable despite the benefits it has historically provided. Both economically and environmentally, the current market structure is questioned for its future success. According to a 2019 report commissioned by the Federal Department of the Environment and Energy, Australia must meet the conditions of the 2015 Paris Agreement through emissions reduction schemes:

‘The Paris Agreement established a global goal of limiting global warming to less than 2°C above pre-industrial levels. This requires significant action to reduce emissions to net zero by the second half of this century. Developed countries, such as Australia, are expected to transition to a low carbon future as soon as possible. This is reflected in Australian States’ and Territories’ emission reduction targets which include aims to achieve net zero emissions by 2050.’ (10)

Having named these global commitments, stakeholders thus present a scenario in which the energy market must transition into a more sustainable form. This is evidenced in a May 2020

media release from Energy Networks Australia (ENA), with the representative group arguing, ‘a 21st century energy system cannot continue to rely on 20th century technology’. This constructed ordinary world thus leads into the second phase of the hero’s journey.

2. Call to Adventure

The call to adventure sees the hero meet a problem, challenge or question they must solve (Campbell, 1949, 2008). Given the recognition that the current state of the market is unsustainable both economically and environmentally, consumers are instructed to increase their energy productivity and efficiency by policymakers. At a national level, the Energy Productivity Plan 2015-2030 (COAG Energy Council, 2015) calls for a 40% improvement in energy productivity by 2030, achieved via energy market reform and the creation of more informed consumers who understand how to reduce their energy consumption levels.

Stakeholders thus promote a new paradigm in the 3 D’s – decentralisation, decarbonisation, and digitalisation. These three market trends are depicted as causing a dramatic transformation within the National Energy Market (NEM). According to the Australian Competition and Consumer Commission & Australian Energy Regulator’s 2018-19 annual report, the ‘market is undergoing a significant transformation, with market dynamics changing as it transitions to a lower emissions generation mix’ (163). This narrative framing is promoted via the introduction of an extended metaphor of the energy transition. As the consumer organisation Energy Consumers Australia (henceforth, ECA; 2020) describes in its Power Shift report, the market is shifting from ‘the old world’ where consumers only interaction with their energy provider was through quarterly bills to a ‘new world of energy choices tailored to household needs’ (6).

As a result, the role of consumers in the market is shifting dramatically. The Public Interest Advocacy Centre, a consumer organisation, highlight this in their 2018-19 annual report, describing ‘a fundamental change to the energy market, shifting power from big retailers and generators to energy users’ (22). With their newfound power, consumers are positioned as potentially dominant players in the new energy market of the future.

3. Rejection of the Call

However, due to one or more of a combination of factors, consumers may be unable or

unwilling to take the call (Sanders & Van Krieken, 2018). Our findings show significant issues stemming from consumer disengagement in the marketplace, attributed to prior market and policy failures; retailer misconduct; or a general lack of capital for the complexities of the market. This is evidenced across stakeholder groups and documents.

As an example of prior market and policy failings, stakeholders point to failings in their communication and failures to provide adequate education for consumers. ECA (2020) describe the failure of policymakers to address consumer needs, instead focussing on the consumer as a rational economic agent in their ‘Power Shift’ report. Consumer disengagement has thus increased:

‘The sector’s focus on the ‘bill-payer’ as the economic agent ignores that the use of energy in the home is the result of a series of lifestyle choices made by adults and children, in the absence of any meaningful or useful information that links these decisions to energy costs.’

(9)

The report goes on to argue that market participants tend to limit communicate with consumers to ‘cents per kilowatt’ (9), instead of communicating on how energy adds value to their life through heat, entertainment, comfort and more. As a result, the Consumer Action Law Centre (2016) describes consumers who ‘are not engaged in the energy market and don’t make the decisions expected of them’ (5) in their ‘Power Transformed’ report.

Additionally, South Australia’s state ombudsman points to retailer misconduct as causing distrust, and therefore disengagement. The Energy and Water Ombudsman, Sandy Canale, highlights how the ‘the inability of some retailers to meet demand had affected how all retailers were viewed by consumers’ in an October 2018 media release. He extends this to argue that market mistrust has been created where retailers have failed to provide, particularly vulnerable, consumers with payment relief or hardship plans:

‘Difficulties in meeting these requirements meant significant and unnecessary hardships for many, especially for those planning to move into new homes and business locations who found themselves blindsided and without connections for months.’

According to a 2019 report commissioned by ANZEWO, those consumers with affordability issues subsequently find themselves ‘at a significant disadvantage’ causing them

to lose ‘trust and confidence in the energy sector, more broadly’ (4).

Furthermore, consumers may reject the call due to a disconnect between their everyday life concerns and the issues. With attention instead directed at concerns in their personal situations, including income, health issues and family issues, consumers both consciously and unconsciously choose to disengage from the energy market as a coping mechanism.

Avoidance is recognised by ECA in their ‘Future Energy’ research, arguing that for many household consumers they ‘were focused on their everyday lives and often had so much happening that energy was not top of mind. When energy was thought about, associations were often negative’ (12). This type of disconnect causes some consumers to reject the call early on, and without policymakers actively following-up these consumers for their participation they are absent from future benefits.

4. Meeting the Mentor

Those consumers who are able to continue are introduced to a supernatural aid, in the form of an experienced mentor who supplies advice, training and, in some cases, supernatural capabilities, helping them gain confidence and build the skills necessary to undertake the journey (Campbell, 1949, 2008). Above all, the mentor acts to facilitate the individual’s development into a more active participant in the journey (Busch, Conrad, & Steinicke, 2012). In our dataset, such a mentor is apparent in the presentation of case studies of regions that have successfully undertaken a transition into a renewable energy market and are reaping the benefits. South Australia is continually put forward as a ‘world-leader’ in renewables, offering consumers economic and environmental benefits as well as showing how renewable technologies can offer increasing stability despite extreme weather events. The Australian Energy Market Commission (AEMC) illustrates this in their Annual Report 2019, claiming ‘South Australia in particular is now a world-leading adopter of renewable generation’ (8).

5. Journey into the Unknown

With the confidence provided by the mentor, the hero thus begins the process of crossing the threshold, either literally or figuratively leaving behind their ordinary world to move into a new, unknown world (Campbell, 1949, 2008). In our dataset, this journey into the unknown is constructed by presenting fictitious active consumers who pursue energy efficient behaviours, and who are ready and willing to continue this with new renewable technologies

and greater information supply. Stakeholders often imagine consumers as active market participants, arguing that most already try to manage their energy usage. ECA (2020) describes a utopian consumer segment already ‘switching off appliances and lights when they’re not in use, using off-peak hot water, as well as buying more energy efficient appliances, and installing solar panels’ (11) in the ‘Power Shift’ report. Internationally, the UK’s Office of Gas and Electricity Markets 2019 State of the Market report describes idealised consumers who ‘make active choices to reduce their energy consumption for environmental and financial reasons’ (104).

6. Tests, Allies & Enemies

Now thoroughly entrenched in the unknown world, the hero faces a series of tests, with the aid of allies and the threat of enemies who challenge their potential to complete the journey (Campbell, 1949, 2008). We find within our dataset, enemies are imagined as market participants, particularly retailers, who act improperly, whilst allies are other consumers, new market entrants offering new and affordable technologies and market participants who seek to work with consumers on reforming the NEM. Alongside these enemies and allies, our dataset describes a complex series of tests the consumer must navigate based on changing regulation and uncertainty from politicians and policymakers.

In our dataset, these fictional tests take shape as practical barriers in regulatory ambiguity and resultant consumer disengagement in the market. The Energy and Water Ombudsman New South Wales finds regulation a significant hurdle in its 2018-19 annual report, as it fails to match the pace of technological innovation:

‘The consumer protection framework for energy was built around the highly centralised (and regulated) systems of the past. These protections urgently need to be updated to encompass the wide range of new energy products and services to ensure that consumers, especially those experiencing financial vulnerability, are not further at risk.’ (38)

The Council of Australian Governments further reports this hurdle in their 2019 Health of the Electricity Market report, describing a system in which ‘it is clear that the rules are barely manageable’ (43). Instead, The Council describes rules that have ‘grown to a point of incomprehension for most people and are far too prescriptive’ (43).

These regulatory failings see consumers without the correct information and resources. The Energy and Water Ombudsman for Victoria considers this a critical factor for consumer engagement in their 2018-19 annual report, particularly amongst customers in embedded electricity networks, for example large-scale apartment buildings or public housing, ‘customers in embedded electricity networks have technically been able to choose their retailer since 2018, but practical barriers remain’ (55).

Our dataset is further marked by fictional trials resulting from low consumer confidence. According to ECA, low confidence is a significant barrier amongst all consumers, with findings from their Future Energy research determining:

‘Informing consumers about alternative sources of energy is an opportunity area, demonstrated by the low awareness of sources other than solar and wind. Consumers sought more renewables into the future but were disengaged from the matter due to their lack of understanding of the topic (e.g., how it works, pros and cons, what it would cost). Not fully understanding the subject matter meant that consumers were unaware of other ways in which they could contribute to increasing the uptake of renewables.’ (105)

Facing these complex tests is further made difficult by the creation of enemies, who take shape as market participants who actively undermine positive consumer experiences. These enemies make it difficult for consumers to engage in the market. The Consumer Action Law Centre (2015) finds that ‘energy retailers are failing to provide adequate customer service generally, and hardship services more specifically, to the most vulnerable Victorians’ with hardship programs ‘not yet accepted as standard practice across the retail sector, and some retailers still do not have comprehensive models for working with vulnerable customers’ in their ‘Heat or Eat’ report (43). Findings from the Australian Competition and Consumer Commission and Australian Energy Regulator’s 2018-19 annual report further describe how enforcement is still critical to ‘address misrepresentations made by providers in the energy and telecommunications sectors’ (81).

However, despite these negative forces and regulatory hurdles, consumers do find allies in other consumers, new market entrants and a growing shift towards greater collaboration from market leaders. Household consumers are continuously praised for their high adoption rates of solar technologies, with the Australian Government’s Clean Energy Regulator (henceforth, CER) reporting, ‘One in five Australian homes now generate their own renewable energy and reduce carbon emissions through rooftop solar’ in a 2018 media release. These consumer

allies are further reinforced by the introduction of new market entrants, who seek to assist consumers on their journey through offering technological innovations. In their 2018-19 annual report, the AEMC describes a how ‘global energy battery providers like Tesla and Sonnen’ are ‘partnering with local energy entrepreneurs to provide new deals on battery and solar PV [solar photovoltaics; solar panels installed on the roof of homes and businesses that generate electricity from exposure to sun (Clean Energy Council, 2018)] options’ (9) to foster domestic innovation.

This manufacturing of allies is further evidenced as stakeholders seek to promote an ethos of collective orientation. State ombudsmen highlight the need for all market participants to promote this spirit of collaboration, with the Energy and Water Ombudsman for South Australia describing this philosophy in its 2018-19 annual report:

‘It is important that we, and all agencies, state and national, take a position that emphasises collaboration, connection and information sharing to help suppliers, providers, installers and consumers understand what the changes mean and how best to prepare for them.’ (12)

The Energy and Water Ombudsman for Victoria further describes its overall goal, ‘To foster effective, collaborative relationships and drive continued customer service improvement by the energy and water industries’ (11) in its 2018-19 annual report. Through setting this standard of positive collaboration, stakeholders actively position themselves as allies for consumers to continue their journey.

7. Approach to Innermost Cave

As the hero continues into the unknown world, they begin their approach to the innermost cave where they take a moment for organisation and self-reflection (Campbell, 1949, 2008). Within our dataset, consumers ability to continue their journey beyond the innermost cave is made difficult by affordability issues. Despite the cost benefits of renewable technology and the assistance from the allies outlined previously, vulnerable consumers tend to find themselves unable to engage in the market due to high start-up costs, as argued by the Consumer Action Law Centre (2016) in their ‘Power Transformed’ report:

‘For example, solar panels are now relatively cheap for many Australian households, and solar financing agreements are reducing the upfront costs even further. However, the cost of panels is still prohibitive for the vast majority of the most vulnerable households, who might benefit most from generating their own electricity and reducing their energy bills. In addition,

many low-income consumers are renting their homes, creating further barriers to solar installation and the uptake of other energy products and services that affect the household fabric.’ (30)

Despite preparations made in terms of education and technological development, these more vulnerable travellers are unable to continue through with the journey due to prohibitive costs or barriers stemming from their socio-economic status. As a result, only those who understand their options, can afford the initial capital and who have capacity as property owners to install these renewable technologies at home may continue.

8. The Ordeal

The ordeal is the climax, during which the hero faces their greatest challenge and vicariously experiences death, for example the death of an ally, the breakdown of a relationship or a betrayal (Campbell, 1949, 2008). The ordeal is the make-or-break point, in which the hero’s survival is uncertain. Survival however gives the hero the right to a reward and a chance to rejoice in their achievements thus far (Buchanan-Oliver & Seo, 2012). This challenge questions whether to continue, however the hero’s ability to overcome this resistance starts the passage into the journey’s final stage (Sanders & Van Krieken, 2018).

Within our dataset, the ordeal is depicted as the risk the consumer faces in engaging in the renewable market and the uncertainty that stems from a market in transition. The Consumer Action Law Centre (2016) describes how the adoption of new and innovative business models creates an inherent burden of risk on consumers, causing increasing uncertainty, in their ‘Power Transformed’ report. The Centre describes the potential for previous market allies or renewable technologies to fail consumers, despite their earlier potential:

‘As new energy products and services arise, they challenge the efficacy of traditional energy consumer protections which do not always apply to innovative business models. This creates risk for consumers who may not understand what protections apply in the event of a dispute...’ (36)

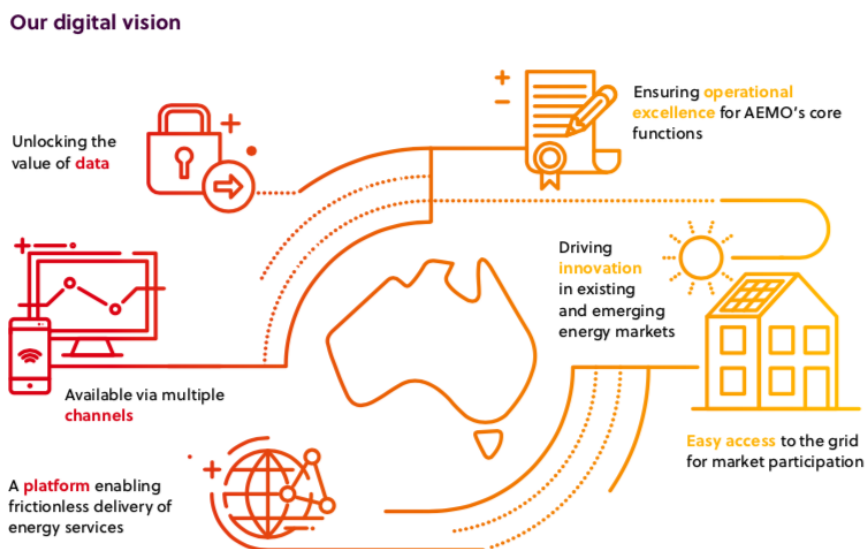
The AEMC further describes this uncertainty in its 2018-19 annual report, highlighting how efficiency may be reduced if modern technologies are adopted due to their mismatch with the existing grid structure:

‘But non-synchronous generators like wind and solar have no or low inertia. Systems with lots of non-synchronous generation are weaker and harder to control. They have less time to recover from sudden equipment failures before frequency collapses.’ (18)

As a result, only those consumers willing and able to take on this burden of risk, both in terms of economic cost and energy stability, continue their journey.

9. The Reward

As the hero enters the final stages of their journey, they are first given a reward for their progress thus far. For consumers, this reward is offered in the form of financial compensation and freedom to self-manage their energy use. Stakeholders position these rewards as an outcome of consumer adoption of renewable technologies, with these providing significant cost reductions for not just the individual consumers but the market more broadly. As described by the AEMC in their 2018-19 annual report, the consumer journey offers rewards ‘for their investments in solar, batteries and smart home systems in ways that could reduce costs for everyone through a more efficient grid’ (10). Concurrently, the AEMO provides a visualisation of the consumer reward in its 2018-19 annual report, as seen below:



Rewards are provided via ‘frictionless delivery of energy services,’ ‘operational excellence’ and ‘easy access to the grid.’ When compared to the current depiction of the energy market as

complex, confusing and highly uncertain unreliable, this reward offers consumers an ideal vision for the future energy market operations.

10. The Road Back

Whilst rewarded, the hero is still within the unknown world and thus must begin the road back (Campbell, 1949). Here, the hero faces a challenge to ensure they return to the ordinary world having confronted the original stimulus problem or solved the question first posed. Within our dataset, the road back sees the consumer confronting their responsibilities under the new energy future within the realities of the contemporary marketplace.

Caught between the vision of a clean future grid and the current state of the market, consumers are once more reminded of the market transition and their potential status as market agents. Reasserting the paradigm of the 3 D's, ENA (2020) describes the transition into a decentralised system in their 'Consumer Engagement' report, writing of the shift as 'a system that was once centralised and 'one-way' ('a small number of large things'), is increasingly decentralised and two-way ('a large number of small things')' (6). However, they remind consumers of the difficulties they face in this transition and return to the original metaphor of the old vs. new world. ENA continues to highlight the discrepancy between the existing system and the imagined energy future arguing; 'the future grid will mean connecting record levels of solar and other renewables into areas of the network not originally designed for two-way electricity flows' (1). The representative group further extends this in a May 2020 media release, with CEO Andrew Dillion asserting, 'a 21st century energy system cannot continue to rely on 20th-century technology'.

As a result, whilst stakeholders craft consumers as responsible heroes, these consumers face a delay in the ability to exercise this position given the current state of market transition.

11. The Resurrection

The road back culminates in the resurrection, an event during which the individual must apply their newfound knowledge and capabilities and showcase their abilities as a hero (Campbell, 1949, 2008). Our dataset utilises visual imagery to display this resurrection, which displays the Australian landscape as an ideal environment in which renewable energy technologies can thrive, despite the previously outlined concern over the reliability of

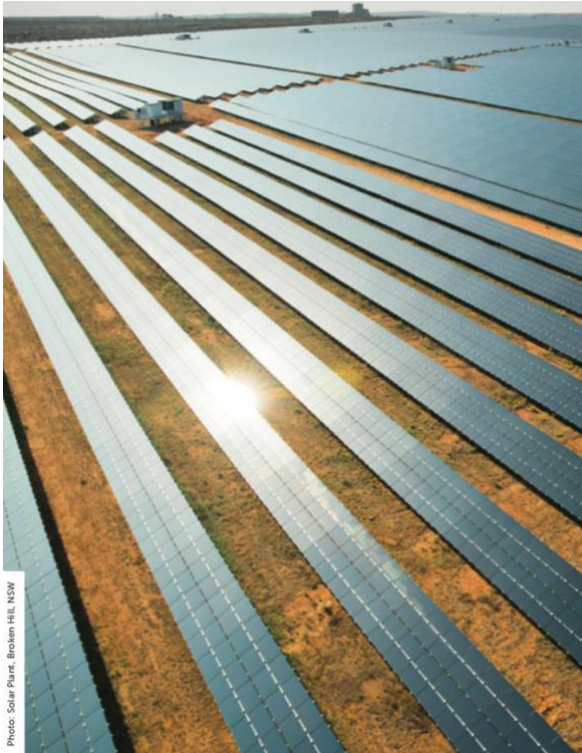
renewable technologies. As seen below, the CER celebrates renewable technologies, specifically wind and solar power, under blue skies and sunshine to emphasise the complementary climate of Australia to these innovations. With the landscape appearing endless, the potential contribution of renewables in Australia’s energy future also appears limitless. The Federal Department of Energy and Environment further presents the integration of renewable technologies within Australia’s energy grid, incorporating an aerial image of solar panels atop suburban homes in a May 2020 media release. Once more under blue skies and with bright sunshine, solar appears appear as wholly assimilated within the energy grid, lending both credibility and stability to the imagined renewable future.



Photo: Capital Wind Farm, Infigen Energy, New South Wales



Photo: Royalla Solar Farm, DIF/FRV, Australian Capital Territory



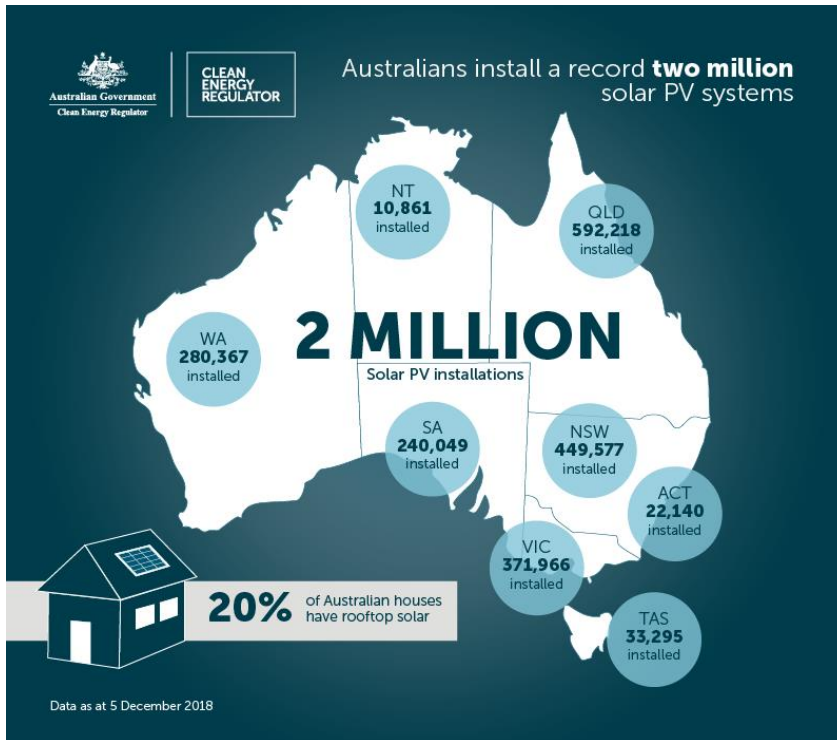
Images from Clean Energy Regulator, Annual Report 2017-18.



Image from Department of Energy and Environment media release, May 2020.

12. The Return

The return sees the hero cross back over the threshold, exiting their unknown world as a transformed individual (Fowler & Droms, 2010). In this final sequence, the hero brings back with them an imagined ‘elixir’, which serves to assist in improving their ordinary world and may constitute the knowledge, awareness and insight gained from their passage (Campbell, 1949, 2008). The CER presents consumers in this state of return through reporting the year-on-year increase in the adoption of renewable energy systems in 2018 and 2019 media releases. Featuring two distinct infographics, the media releases highlight an energy system under continuous development from consumer’s journey. In the 2018 infographic, Australians are encouraged by the notion they have installed a ‘record two million solar PV systems’, with 20% of homes now utilising rooftop solar. Featuring rates of installation per state and territory, the infographic also describes the different rates of progress achieved in each and develops a competitive spirit between these regions. In the 2019 infographic, consumers are shown to have utilised their education to extend outside of solar power and into wind and hydro power. Despite rates of adoption not having dramatically increased year-on-year, consumers are still cast as heroic leaders in trialling these newer innovations.



Clean Energy Regulator (2018).

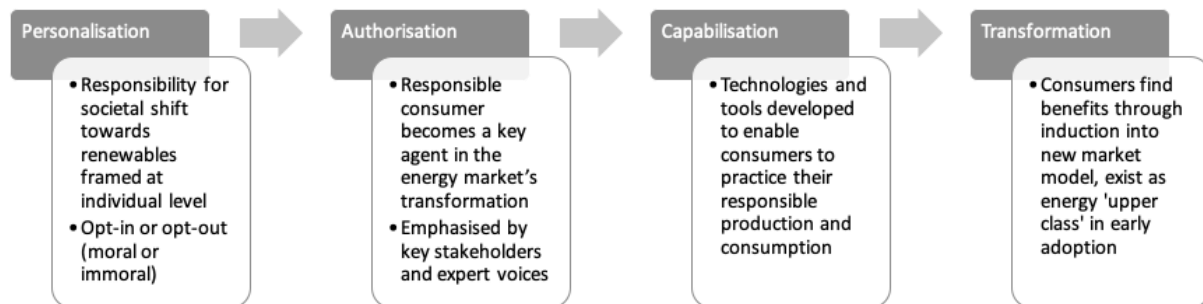


Clean Energy Regulator (2019).

Consumer Responsibilisation through the PACT Routine

Our findings indicate the hero's journey as the narrative template through which consumers are cast in their role as responsible consumers. Following this journey, consumers are then initiated through a process of responsibilisation, as described in the PACT routine proposed by Giesler and Veresiu (2014). In the same way as the protagonist in the hero's journey, consumers confront a problem before entering a process of discovery that requires them to solve this issue. By the routine's end, consumers can choose to alter their own attitudes and beliefs and their behaviours to address this problem (Luchs et al., 2015). This PACT routine has been adapted into this specific Australian energy context in Figure 2.

Figure 3: PACT Routine of consumers responsibilisation



Personalisation

As previously defined, the first phase of personalisation sees responsibility shifted from the systemic level to that of individual decision-making, with the solutions for large-scale social, political, environmental, or financial problems repositioned onto consumers (Luchs et al., 2015; Shamir, 2008). Policymakers, regulators and commercial bodies seek to establish the responsible consumer as the central problem-solving agent, developing a scenario where the choices of these individual consumers are deemed essential to avoid negative, and often irreversible, consequences (Giesler & Veresiu, 2014). Within our dataset, the fallout from the global environmental crisis looms large, with frequent alarmism highlighting the extent to which 'the cost of unaddressed climate change is projected to rise significantly over time' (133), as described by a UK Office of Gas and Electricity Market (2019) report. To address this, policymakers and market participants describe a market made up of small-scale energy users, each of whom contributes to total output and emissions through their choices to purchase household appliances, switch off lights, or install solar panels. The Council of

Australian Governments (2015) describes this personal responsibility within the policy aims of the National Energy Productivity Plan 2015-2030:

‘Australia’s total energy use is the sum of many choices of energy users, large and small. It’s made up of millions of decisions to switch equipment on and off, purchase buildings, vehicles, appliances and equipment, and select individual energy products and services.’ (14)

Individual consumers thus become central agents for change in the energy transition.

Furthermore, our dataset finds personalisation occurring at the level of advocacy, where consumers are deemed responsible for shifting the marketplace into a more sustainable future. This process of personalisation sees consumers already invested in the ‘fight against climate change’ and willing to take on an active role in avoiding further environmental damage. Market participants frequently reference a consumer-driven transformation where individuals are demanding environmentally sustainable technologies and products ahead of policy changes and market introductions. This is recognised by the Council of Australian Governments (2015) in the National Energy Productivity Plan 2015-2030, with consumers heard to be ‘changing the ways they use energy and the services they choose and are becoming the driving force in the market’ (6). The AEMC 2018-19 annual report describes an advanced consumer segment that is ‘interested in renewable energy and want to help fight climate change’ (14). ENA (2020) further describes how ‘consumers have clearly stated a desire to participate in the co-design of any new energy future’ (43) in their report, ‘Open Energy Networks Project: Energy Networks’. As a result, consumers are deemed responsible for pressuring government, policymakers, and industry bodies to pursue a sustainable transition through demand signalling and other forms of market activism.

Authorisation

Following this redefinition of the problem at the level of the consumer, responsibility must undergo a process of authorisation. This legitimises the new problem definition through use of expert voices from fields such as science and economics presenting their knowledge on the problem and recommendations for how individuals can solve it (Giesler & Veresiu, 2014). Within our dataset, authorisation also stems from a recognition that Australia’s economic future is heavily reliant on the energy industry and thus a transition into the two-sided, renewable market, in which green consumers are a key participant, is essential for future

growth and development.

The use of expert voice appears frequently throughout media releases, with various industry and non-industry voices given a platform to legitimise the energy transition and assist in the positioning of consumers within this future. Discussion revolves around how consumers will be both empowered and rewarded by their participation. The Australian Energy Market Operator uses the credibility of its CEO and Managing Director Audrey Ziberlman to promote the benefits of a two-sided market in an April 2020 media release.

‘A two-sided market will fundamentally change the way energy is traded to benefit consumers. As the energy system transitions, we have the opportunity to harness technology and establish a new market framework which empowers and rewards all energy system users, from small customers to large generators...’

Additionally, positive reinforcement is evident through the inclusion of success stories, tales of both international and domestic industry participants who have successfully taken on their given responsibility. Case studies effectively authorise consumer involvement in the energy grid, lifting such involvement out of mere policy and enabling its effectiveness in real time. As seen in the below extract, the CER engages in case studies throughout its annual report and additional progress reports titled ‘A word from the industry,’ whereby it highlights industry success stories and innovative new developments that are enabling individual participation to occur effectively. Energy Australia, one of Australia’s major energy providers, is described as successfully implementing a ‘demand response trial’ that has emerged under Australia’s emergent ‘new, modern energy system.’ Then Managing Director Catherine Tanna describes how the approach ‘puts customers in control’ and gives those taking part an economic reward via reduced costs.



This is furthered in the inclusion of case studies from international markets, particularly from UK-based stakeholders including the Office of Gas and Electricity Markets in their State of the Market report, which present the UK as having achieved 'significant reductions in greenhouse gas emissions' (7) through a shift into renewable technology and greater consumer participation in the marketplace. These exemplar models legitimise the position of individual consumers as central agents for change in the energy transition.

Capabilisation

In the third stage of capabilisation, new markets created to turn this solution into a tangible reality, providing tools for managing and monitoring individual's habits and behaviours (Giesler & Veresiu, 2014). Through the development of new technological capabilities and policy programs, consumers can take on their new responsibilities with greater ease. These tools and programs are central in our dataset, with focus specifically given to Energy Made Easy – the Australian Competition and Consumer Commission & Australian Energy Regulator's price comparative website – as well as the development of new technologies such as smart meters, solar PV, and battery storage to help consumers understand their consumption at an individual level. The Australian Energy Market Commission describes this

potential in its 2018-19 annual report. Increased participation proposes both economic freedom and practical, logistical benefits for able consumers:

‘Personalised portals, energy management systems and other digital platforms will give customers a way to buy, sell and use energy where, how, and when they want it. Smart technologies mean households and businesses can take advantage of demand response – and that means the power system can avoid the cost of more spending on poles and wires to service new peaks in electricity demand for only a few hours a year.’ (22)

These digital tools provide a key mechanism for both education and empowerment, providing consumers a way to adapt their behaviours for their personal economic benefit and to address problems within the energy grid itself. The AEMC promotes the use of smart meters to ‘help get the most out of new technologies like rooftop solar, storage and energy efficient appliances’ (65) in its 2018-19 annual report. Additionally, these tools enable consumer education through giving ‘information about energy consumed by smart appliances – making it easier for consumers to move their use to off-peak times if they choose’ (65).

At a federal level, The Energy Made Easy webpage is positioned as a central tool for consumer engagement in energy consumption, helping to ‘equip consumers with information and confidence to engage in a challenging and transforming market environment’ (163) in the 2018-19 annual report of the Australian Competition and Consumer Commission and Australian Energy Regulator. At a state level, policy such as Victoria’s Default Market Offer enables easy price comparison, empowering consumers to understand and educate themselves on the energy market and their rights and responsibilities within it. Council of Australian Government’s describes this process in its report on the Health of the Electricity Market:

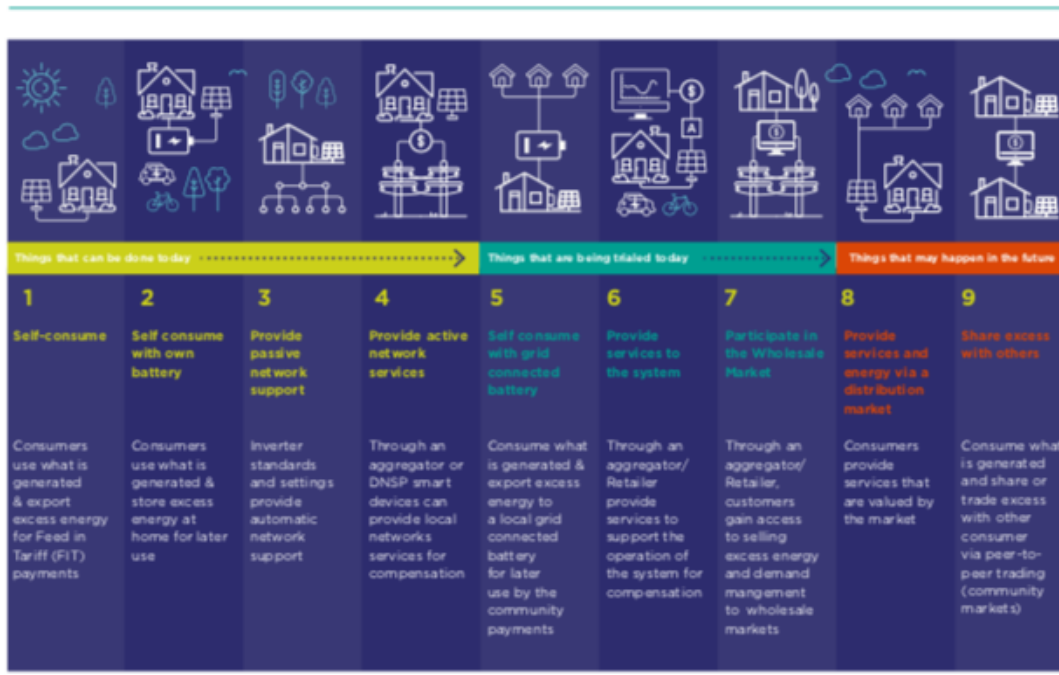
‘To identify the best deal available consumers can now more easily compare energy plans with the implementation of a Default Market Offer and the Victorian Default Offer on 1 July 2019. As well as reducing standing offer prices, these schemes provide a common benchmark price against which all prices are compared.’ (16)

In combination, these new technologies and tools for education and price comparison enable consumers to take on their responsibilities in the new market structure.

Transformation

The final phase of transformation promotes the individual consumer as an independent, rational agent. As identified by Luchs et al. (2015, p. 1460), transformed consumers will be conscientious of the fact that their behaviour affects others, believing themselves ‘morally enlightened’, and will thus engage in behaviours that match these values. The enlightened individual may be encouraged to build relationships with others in their network and act as an exemplary model of a pro-active and market-leading consumer. In our dataset, the transformation process occurs via a modelling of Australia’s energy future in which the responsible consumer is considered a fundamental economic actor, working alongside other morally enlightened market participants for the benefit of all. ENA clearly defines this role in their May 2020 report, ‘Open Energy Networks Project: Energy Networks’. In the below infographic, ‘Figure 7. How DER can operate in Australia,’ a potential future for responsible consumers is depicted. Consumers move from self-consumers to prosumers, where they become market providers and exist within a system of peer-to-peer trading. This transition exemplifies the idealised neoliberal market structure defined by Shamir (2008), where the ‘greatest possible amount of control in the hands of those closest to the problems’ under the guise of self-determination (7).

Figure 7. How DER can operate in Australia'



However, given the market's existing tensions, the responsible consumer of the present faces a complex environment and finds themselves caught between opposing standpoints. At opposite ends of the spectrum, the green consumer faces a choice between taking up the role of a prosumer, empowering themselves with new technologies and becoming an active participant in the demand-driven energy market, or continuing to operate under the traditional market, which is rife with cultural inertia and practical barriers. Additionally, the green consumer finds themselves caught between two potential futures; a communal market in which all market actors work towards equality – socially, environmentally, and politically. In this non-competitive landscape, issues of vulnerability, affordability and security are openly shared and addressed with market participants working towards a positive and collaborative landscape for all actors. In opposition to this, however, the green consumer faces an unequal market whereby market participants are weakened by pre-existing vulnerabilities, including socio-economic status, gender, living situation, cultural background, and geographical location. In this era of conscious capitalism (Eckhardt & Dobscha, 2019), the green consumer becomes the key means of resolving these tensions through the exercise of their market power. If these types of behaviours are adopted, these consumers ensure Australia's economic future and continue its historic competitive advantage within the resource sector. As described in the National Energy Productivity Plan 2015-2030 (COAG Energy Council, 2015), transformed consumers contribute not just at an individual and communal level, but also to Australia's international standing:

‘By increasing our energy productivity, we strengthen our economy and help safeguard our environment. Businesses reduce their energy costs through innovation and modernising their infrastructure – improving their output and making them more competitive. Household consumers benefit through lower energy bills and increased home comfort. At the same time, Australia reduces its carbon footprint and contributes to the global challenge of mitigating climate change. It's a win, win, win for Australia.’ (6)

The Responsible Consumer in Australia's Energy Future

From the hero's journey via the PACT routine, a responsible consumer is created. This leads into an additional finding from our dataset, which sees the constructed responsible green consumer caught within four narrative prospects, pictured in Figure 4. Based on Gremias (1966) theory of the semiotic square (Chandler & Munday, 2011), we develop a

semiotic square for the Australian energy market where contradictory realities sit at opposing standpoints, creating a dynamic system of competing voices and potential options for the responsible consumer to pursue. Accordingly, S1 and S2 and ~S1 and ~S2, sit in opposition to one another, whilst S1 and ~S1 and S2 and ~S2 complement one another (Corso, 2014). Further, S1 and ~S2 and S2 and ~S1 contradict one another, with the existence of one diminishing the potential existence of the other (Corso, 2014). In our dataset, we find two oppositional relationships – S1 vs. S2, and ~S1 and ~S2:

S1: Empowered consumers in two-sided energy market.

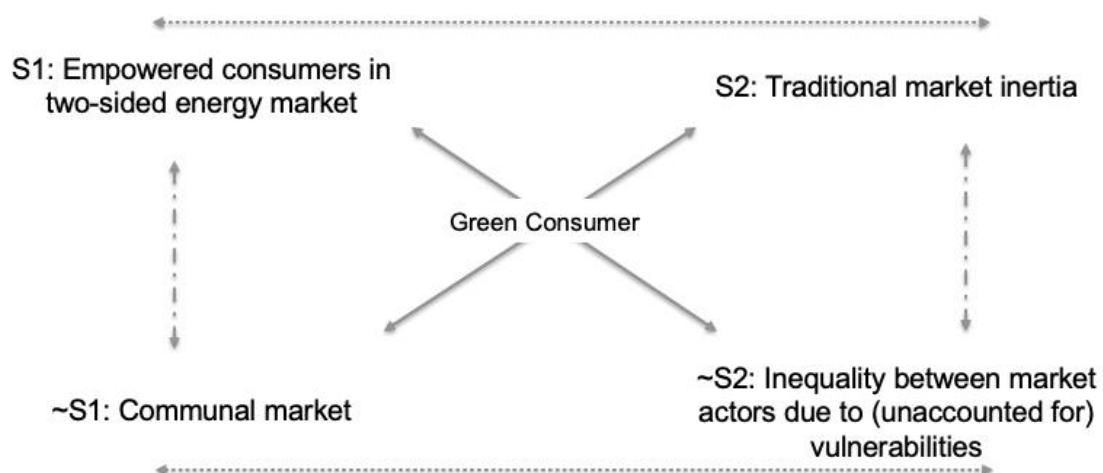
S2: Traditional market inertia.

~S1: Communal market (all market actors equal, including environment).

~S2: Inequality between market actors due to (unaccounted for) vulnerabilities.

We will demonstrate these complementary and contradictory relationships with evidence in the following sections.

Figure 4: Semiotic Square of Energy Market Narratives



S1: Empowered consumers in two-sided energy market.

Our findings emphasise a focus on developing a two-sided energy market, within which individuals play a newly developed role as not just consumers but as producers, i.e. prosumers (Jacobs, 2017). The AEMC builds this future scenario of demand-side participation, depicting a market ‘where all types of energy users actively buy and sell electricity’ in an April 2020 media release.

‘Prosumers’ utilise the benefits of new renewable technologies, such as solar photovoltaics, and are encouraged to generate and sell their own electricity to neighbours, creating small systems of microgrids in both urban and regional areas and triggering further decentralisation. ANZEWON (2016) clearly envisage this type of market in the evolution of the consumer into an active market leader in their ‘External Dispute Resolution’ report:

‘As industry changes, the role of the consumer is also evolving. Participating in the energy market increasingly means taking a more active role in choosing among products and services and understanding, monitoring, and managing consumption. Many consumers are transforming into so-called ‘prosumers’ – consuming energy, but also producing and selling it. The availability of home battery storage and... development of new trading mechanisms may soon open up ... avenues for trade, allowing producer-consumers to sell the energy ... not only back to the grid, but also to... tenants and neighbours.’ (9)

Empowered by increased education and digitalisation, the green consumer transforms into an active participant in the energy grid, able to choose when and how they take part in the marketplace. The Council of Australian Governments recognises the newfound options available to consumers and the economic freedom this provides in an April 2020 media release. The Council finds for those consumers willing and able to engage in renewable technologies and their benefits, they find themselves with significant rewards in choice, flexibility, and financial returns:

‘A two-sided market will change all that because consumers and those who participate in the wholesale market on their behalf will be active in responding to price. When prices are high, they can conserve their own use and supply electricity to the market and when prices are low, they can increase their use.’

Additionally, this market is modelled off the growth of peer-to-peer trading in recent years,

as described by the ANZEWON (2016). In their ‘External Dispute Resolution’ report, they depict an energy market similar to ‘sharing economy platforms such as ridesharing and accommodation services’ (3), for example Uber and Airbnb. These participative schemes enable increasing levels of involvement, with consumers functioning in both passive and active roles. The hypothetical two-sided energy market thus enables those consumers who are willing and able to actively engage in the energy grid, to become a central agent for change.

S2: Traditional market inertia.

However, the two-sided energy market remains in adolescence. Whilst depicted as the ideal market system of the future and towards which Australia is progressing, it continues to be halted by the cultural and practical barriers existing within the traditional market. This market inertia stems from three main factors; concern over the security and reliability of the two-way system; out-dated regulation and continuing political conflict; and mistrust in the market. Additionally, various stakeholders point to a status quo that appears unwilling to transition into this new future. Together, these factors create a high degree of uncertainty on the extent to which the new renewable market is achievable.

First, our dataset shows significant concern over the security and reliability of renewable technologies. The voices of representative groups, ombudsman and state regulators are particularly dominant in articulating this doubt, often arguing against a rapid transition into renewables before sufficient regulation has been developed and before a nationally consistent approach to climate change is established. As a state regulator, the Economic Regulation Authority of Western Australia highlights the potential inefficiencies and even failures of adding new renewable technologies into the system in their 2019 Annual Report, claiming, ‘These technologies can create network stability problems for network operators and system operators to ensure a secure and reliable power system’ (40). The anxieties around new technologies appear to stem from their perceived infancy and lack of testing for market viability, although this concern potentially conceals a larger fear the future of industry if renewables penetration continues at higher and higher rates. This fear is evident in ECA’s (2020) commentary on the market’s cultural barriers in their ‘Power Shift’ report:

‘Foremost was the role of culture. The Brattle Group found a system marked by inertia. They heard about an industry resistant to change, with a ‘can’t do’ mentality. That culture is acting as a hard brake on innovation.’ (43)

Second, alongside this technological uncertainty, political ambiguity and regulatory inefficiencies appear as a major source of tension amongst industry bodies, with multiple references made to these as practical barriers to an efficient energy evolution. As a representative group, Australian Petroleum Production and Exploration Association describe a marketplace marred by uncertainty in their 2017-18 annual report, ‘Unfortunately, the political situation offered a more mixed picture for our industry’ (5). They further highlight how ‘existing regulatory duplication, inefficiency and uncertainty are the major deterrents to investment’ (8). Additionally, they argue that uncertainties around the Federal Government’s climate policy have created ‘the hotchpotch of programs regulating greenhouse gas emissions in various jurisdictions across Australia’ (20). This uncertainty extends beyond representative groups, with the consumer organisation St Vincent de Paul Society claiming, ‘The status quo of policy uncertainty, lack of coordination and unreformed markets is increasing costs, undermining investment, and worsening reliability risks’ in a 2017 media release. With this operating environment as the backdrop, the current market appears increasingly flawed.

Third, stakeholders describe a lack of trust as halting the potential success of a renewable market. Both international and domestic stakeholders report market mistrust as a significant contributing factor towards consumer disengagement in the markets of essential services. According to the UK’s Office of Gas and Electricity Markets 2019 consumer survey, levels of trust continue to decline, amongst both engaged consumers and those that are unengaged. This is due primarily to policy failings and retailer misconduct, causing consumer confidence to fall. This is expanded by Victoria’s state regulator, the Essential Services Commission, in their 2018-19 annual report, arguing the market is impeded since, ‘people are more sceptical about the effectiveness of some markets for essential services’ (8), including those for energy, as well as telecommunications and water. The Consumer Action Law Centre (2016) argues in its ‘Power Transformed’ report that ‘consumers don’t trust, and are not engaged in, the energy market’ and tend to avoid participation in the marketplace due to perceptions it’s ‘too confusing, too much ‘hassle’ or not genuine as all products all seem the same’ (10). This ultimately ‘creates an inertia within the energy market which is hard to overcome’ (10).

In combination, these factors create an inherently flawed market, without sufficient policy direction or regulatory frameworks and facing the threat of technological innovation and a rapid decline in consumer trust. Whilst it appears industry leaders have taken important steps to recognising the need for improvements and increased collaboration, evident in the 2019 Joint Statement signed by seven key National Energy Market stakeholders; the EUAA, St

Vincent de Paul Society, Energy Networks Australia, Energy Efficiency Council, Clean Energy Council, AI Group and Australian Energy Council, there remain a variety of practical and cultural barriers actively against the establishment of a two-sided energy market, and indeed the presence of a green consumer.

~S1: Communal market (all market actors equal, including environment).

In contrast to this complex depiction of the current state of the Australian energy market, our findings also highlight an ideal future within which all market actors are considered equal, including the environment. Within this non-competitive landscape, energy providers, government, consumers, and other industry participants appear to work together for the common good and without the bickering and blaming witnessed in S2. The Independent Competition and Regulatory Commission of the Australian Capital Territory notes this balanced approach in their 2018-19 annual report, seeking to ‘promote effective competition in the interests of consumers while facilitating an appropriate balance between efficiency, environmental and social considerations’ (4). Across stakeholders, key phrasing incorporates ‘collaboration’ and ‘co-designing,’ emphasising the design of a collective movement for change where all voices are heard without motive for self-interest. The consumer organisation, Consumer Action Law Centre (2016), propose this communal market structure in their ‘Power Transformed’ report, arguing that, ‘Addressing the challenge will require a concerted whole-of-market response at the structural, regulatory and product level’ (5).

Stakeholder engagement is argued as critical under this scenario, with representation provided via open workshops, surveys, reference groups, and other similar collaborative tools. The Australian Pipelines and Gas Association, a representative group, extends this as far as creating a hashtag - #BetterTogether – designed as a collective ethos where the aim is to develop common understanding and aspirations. As reported in a 2020 media release:

‘The workshops were co-designed with customers and chaired by an independent facilitator to promote active, customer-led discussion. The focus of subsequent workshops will be working with customers to develop solutions in response to the needs identified. The #Better Together ethos is ideal for this type of exercise where the main requirement is listening to and learning from stakeholders to create a common understanding of what their needs are before trying to develop ways to address those needs.’

This collective orientation also incorporates environmental concerns, with technological innovation used to avoid irreversible damage to wildlife. The Australian Government's Clean Energy Regulator, Renewable Energy Target, provides insight in their July 2019 progress report into a Tasmanian wind farm which is negatively affecting Tasmanian Wedge-Tailed Eagles, an endangered species. In their case study extract, 'A word from industry,' the renewable energy company Goldwind Australia's Managing Director, John Titchen, discusses 'the importance of balancing the need for clean, renewable energy while protecting Tasmania's unique wildlife' (13). With the aim of a 'successful coexistence of avian wildlife and wind energy,' aerial monitoring and detection technology ensures renewables do not come at the cost of native wildlife. The communal market thus finds all market participants striving to create a system that benefits all. Additionally, with responsibility actively shared across participants, the responsibilities of central consumer figure are reduced.

~S2: Inequality between market actors due to (unaccounted for) vulnerabilities.

However, this idyllic depiction is opposed by an inherently inequitable market where systemic failures leave vulnerable consumers of the present and future generations powerless. Vulnerable consumers include those who are culturally and linguistically diverse (CALD), the elderly, renters and those living in social housing, facing physical, intellectual and/or mental health issues, lone people, single parents, those experiencing family and/or domestic violence and/or economic abuse, and those living in regional areas. With one or more of these, consumers become vulnerable to issues of affordability and disconnections, technological inaccessibility, retailer misconduct, and other factors that serve to create an 'energy divide.' Unsurprisingly, our dataset finds consumer organisations the most likely to highlight the potential hardships vulnerable consumers face in the energy market and the emergence of this 'energy divide.' ECA (2020) describe this divide as 'a divide that leaves some people behind without the energy they need while others are able to access and benefit from technology and services that make their energy more affordable' (11) in their report 'Power Shift'. For the St Vincent de Paul Society (2019), this energy divide creates a risk that 'may further split the community into an energy underclass and an energy upper-class, as transmission and distribution network costs are reallocated to benefit one group at the expense of another' (5) in a discussion paper. St Vincent de Paul Society further stresses this issue in a 2018 media release, signed by 35 additional consumer and advocacy groups:

‘The burden of rising energy costs falls mostly on low-income households, and this problem is compounded by the poor energy performance of most low-income housing. Unless there is a nationally coordinated plan that is inclusive and equitable, households already struggling will be left behind and further disadvantaged.’

As a result, despite the development of modern technologies, educational programs and increased collaboration between stakeholders, there are still critical groups of consumers left out of the energy market, both in terms of genuine recognition in policy and ability for active participation. The market thus becomes divided ‘between who can take advantage of opportunities to reduce their energy costs and those who cannot,’ according to a Queensland Council of Social Services media release.

4.4.2 Quantitative Text Analysis Findings

Our quantitative text analysis utilised both the existing and custom dictionary options of LIWC (Pennebaker et al., 2015). To test the extent to which these dictionaries were related and could be aggregated together, we conducted a Pearson’s correlation matrix, reported in **Table 2**. We first conducted a Pearson’s correlation to assess the relationships between *empowerment* and *market inertia* (S1 and S2, respectively) and *communal market* and *inequality* (~S1 and ~S2, respectively). Our findings showed a positive correlation between *empowerment* and *market inertia* ($r = .226, p < .01$) and *communal market* and *inequality* ($r = .293, p < .01$). We also conducted a Pearson’s correlation to assess the relationships between *empowerment* and *communal market* (S1 and ~S1, respectively) and *market inertia* and *inequality* (S2 and ~S2, respectively). We found a positive correlation only between *empowerment* and *communal market* ($r = .211, p < .01$).

We then conducted a regression to test the extent to which S1 and S2, and ~S1 and ~S2 contributed to the presence of the responsible energy consumer at the centre of our Figure 4. Under the regression model, the dependent variable is defined as the construct *energy consumer*. The independent variables are the narratives described in the semiotic square – *empowerment*, *inertia*, *communal market*, and *inequality*.

Table 2. LIWC Validation for Construct Categories**Pearson's Correlation to Determine LIWC Construct Validity***(N = 196)***S1 – Empowerment**

	1	2	3	4	5	6
1. Insight	1	.298**	0.66	-0.127	.152*	.221*
2. Cause	.298**	1	.242**	.013	.116	.122
3. Achieve	.066	.242**	1	.238**	.589**	.427**
4. Power	-.127	.013	.238**	1	.336**	.192**
5. Reward	.152*	.116	.589**	.336**	1	.184**
6. Work	.221**	.122	.427**	.192**	.184**	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

~S1 – Communal Market

	1	2	3	4	5
1. Social	1	.304**	.364**	.712**	.514**
2. Family	.304**	1	.007	.132	.058
3. Friend	.364**	.007	1	.349**	.204**
4. Affiliation	.712**	.132	.349**	1	.716**
5. We	.514**	.058	.204**	.716**	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

~S2 – Inequality

	1	2	3
1. Exclusive	1	.274**	0.281**
2. Shehe	.274**	1	.141*
3. They	.281**	.141*	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Responsible Citizen Consumer (*'respcustomer'*)

	1	2	3
1. Protect	1	.346**	.205**
2. Individual	.346**	.1	.045
3. Humans	.205**	.045	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Responsible Energy Consumer

	1	2
1. Respcustomer	1	.190**
2. Life Support	.190**	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

In the first step, empowerment, inertia, communal market, and inequality were entered, and they predicted 20.6% of the variance in the responsible energy consumer. The ANOVA test ($F(4) = 13.680, p < .05$) showed significant prediction of the dependent variable by the independent variables. The model found empowerment ($\beta = .20, t = 3.018, p < .05$), inertia ($\beta = .221, t = 3.334, p < .05$) and inequality ($\beta = .289, t = 4.298, p < .05$) to be significant predictors. Communal market was not a significant predictor ($t = .450, p = .653$).

To test for differences between stakeholders and narrative focus, we analysed empowerment, inertia, communal market, and inequality with a one-way MANOVA with stakeholder type as the between-subject factor. The results revealed an effect of stakeholder type on the variables ($\lambda = .82, F_{(8, 380)} = 4.86, p < .001$). Between subjects, our results find that communal market ($F(2, 193) = 6.54, p < .01$) and inequality ($F(2, 193) = 13.86, p < .001$) differ for stakeholder type. Post hoc tests using the Bonferroni correction revealed inequality to have significant differences between consumer and government (mean diff. = .24, $SE = .06, p < .001$) and consumer and industry (mean diff. = .36, $SE = .07, p < .001$). Additionally, communal market was revealed to have a significant difference between consumer and government (mean diff. = .51, $SE = .15, p < .01$).

4.5 Summary of Stage 1 key findings and insights

In Study 1, we used qualitative discourse analysis to understand the systemic narratives existing within our dataset. Our findings corroborate Giesler and Veresiu's (2014) findings on consumer responsabilisation as a systemic process, whereby consumers become responsible for broad social issues through a routine of personalisation, authorisation, capabilisation, and transformation (PACT). However, we extend this and find that for consumers to engage in this PACT routine, they are first positioned as heroes within the narratives of meso-level stakeholders. By constructing consumers as protagonists undertaking a hero's journey, consumers become the central problem-solving agents necessary for the completion of the PACT routine. Finally, our findings reveal a complicated reality for this responsible consumer, as they exist in a marketplace rife with tensions. Their existence is important to strike a balance between the contrasting narratives within the semiotic square.

In Study 2, we used automated text analysis using LIWC to validate our findings of the responsible consumer and the semiotic square, as well as differences between stakeholder type and narrative focus. In our Pearson's correlation, we found a significant positive correlation between empowerment and market inertia, and communal market and inequality, respectively. In our regression analysis, we found a significant prediction between the responsible consumer and the narratives of empowerment, inertia, and inequality. We further conducted a one-way MANOVA to test differences between stakeholder types and narrative focus.

We found significant differences between consumer and government and consumer and industry for inequality, and consumer and government for communal market.

These findings will subsequently be discussed for their relationship to previous literature and their theoretical implications outlined. Additionally, their practical implications will be recognised and discussed, seeking to understand how the tensions within the semiotic square can be resolved through the achievement of either the empowering of vulnerable consumers or the development of a communal market to remove existing market inertia.

5.0 Stage 2: Qualitative interviews & video ethnography with CALD energy consumers

5.1 Research Context

In the context of rising energy prices, cost of living pressures, and the threat of an imminent recession due to ongoing inflation, householders are increasingly under pressure to consider the way they manage the costs of energy at home. For some households this might mean changing to sustainable energy options to bring down the costs of energy over time for example, through installation of solar panels. For other households for example, those on low incomes or living in rental properties, the range of options available is extremely limited. Without assistance many households will struggle to remain comfortable at the height of both winter and summer periods. Our approach in this stage of the research project was to use qualitative interviews and video ethnographic methods to generate deep insights into the way that CALD people use energy at home and to understand what this means in terms of cultural and ethnic diversity.

5.2 Participants and sampling

Our participant sample sought to reflect diversity in lived experiences of energy among different CALD groups in Australia. Our sample of 21 households consisting of seven participants belonging to an African background, seven participants belonging to a Southeast Asian background, and seven participants belonging to a Middle Eastern background. All participants were first generation migrants, or second-generation migrants - that is children of first-generation migrants to Australia, were Australian residents or citizens, and being able to speak, read, and write in English at some level to help facilitate the research considering resource considerations. We submitted a recruitment eligibility questionnaire that was used by a reputable professional research recruitment agency, Taverner Research, to apply the sample criteria for recruitment of participants. The eligibility questionnaire required potential research participants to:

- Be the energy account holder in their household.
- 18+ years old
- Residing in the Greater Sydney, NSW region
- Belonging to an African, Southeast Asian, or Middle Eastern cultural background
- First generation migrants, or second-generation migrants
- Resident or citizen of Australia
- Able to speak, read, and write in English.

Taverner contacted potential participants usually by telephone, explaining that they were contacting them on

behalf of the research team for a project investigating everyday energy use, and then ran through the brief sampling criteria questionnaire with them. If potential participants met the sampling criteria and registered their interest in taking part in the study, Taverner then passed their details on to the research team who then contacted them within a few days and with their agreement arranged to meet with them face-to-face in a place of their choosing to explain the project in detail and issue them with the participant information sheet and consent form.

Only people who completed the consent form and provided informed consent then participated in the project. If potential participants indicated that they would like some time to consider their participation, this was granted for a period of up to one week after which the research team requested a response to indicate participation in the project or not. The sample of 21 participants were invited to take part in both rounds of Stage 2: the qualitative interviews, and the video ethnography featuring the collection of short video clips of them demonstrating everyday energy consumption practices of their choosing such as cooking laundry, cooling, and heating. Finally, all 21 participants were invited to take part in the Stage 3 co-design workshops, but their participation in Stage 3 was voluntary and of their choosing if they so wished. **Table 2** shows the participant sample for Stage 2 of the project – noting that pseudonyms have been used, and any identifiable personal information removed.

Table 2: Participant Sample for Stage 2

P no.	Name	Age	Sex	Background	Household	House	Employment
1	Abene	27	F	South Sudanese (Dinka)	Married, 1 child	Rent	Disability support worker
2	Cali	36	M	South Sudanese (Dinka)	Married, 1 child	Rent	Health promotion
3	Hà	36	M	Vietnamese	Married	Own	Local Government
4	Hozni	45	F	Syrian	Married, 3 children	Rent	Not working
5	Lan	49	F	Vietnamese	Married, 2 children	Own	Financial services
6	Ahn	38	M	Vietnamese	Married	Rent	?
7	Zia	49	M	Lebanese	Divorced, 2 children	Rent	Local council
8	Kamal	60	M	Syrian	Married, 2 children	Rent	Baker
9	Arpi	48	F	Syrian	Married, Syrian husband, 3 children	Own	Dental assistant
10	Tarline	42	F	Turkish	Married, 2 children, Portuguese husband	Rent	Student
11	Xue	26	F	Singaporean	Married, Singaporean	Rent	Not working
12	Hadiya	45	F	Armenian	Married, 3 children, Armenian husband	Own	Own business
13	Azad	36	M	Indian	Married, 1 child, Pakistani wife	Own	Hospitality
14	Hamed	49	M	Turkish	Married, Thai wife	Rent	Hospitality
15	Yu	26	M	Singaporean	Single, parental home	Own	Medical student
16	Porntip	32	F	Thai	Married, 2 children, Indian husband	Own	Student
17	Raja	39	F	Lebanese	Married, 4 children, Lebanese husband	Own	Not working
18	Oni	42	M	South African	Single	Rent	

19	Harouna	62	M	Ghanaian	Married, 4 children	Own	Retired
20	Thato	24	F	Ghanaian	Single, lives with parents and 3 siblings.	Rent	Student
21	Chioma	24	F	Ghanaian (Ashanti)	Single, lives with brother	Rent	Student + full time work

5.3 Human Research Ethics

Our research was subject to ethical approval from the QUT University Human Research Ethics Committee, and the approval number is 6598. Once ethical approval was granted, the QUT University Human Research Ethics Committee requested that an ethics variation application be submitted for the Stage 3 co-design workshops as they would be informed by the earlier stages of research.

Our research approach focused on minimising potential risks and harms to participants and researchers, data privacy and security, and management participant confidentiality and anonymity. As Stage 1 of the project involved text analysis of existing written documents, there was only a very low risk in terms of ethical issues. The key consideration for Stage 1 was to redact and anonymise any named individuals in the documents for presentation in our findings.

Every team member was briefed on potential risks and harms to participants taking part in Stage 2 and Stage 3 of the project and were fully informed on how to handle such issues before the data collection started. The research team is very experienced at working with culturally and linguistically diverse people, and in conducting research on energy consumption using the same methods as in this project. Reporting of any concerns raised were discussed immediately over email/phone or face to face and regular team meetings prioritize discussion of perceived risks to participants. It was anticipated that during the project interviews participants may experience some discomfort at sharing insights regarding their energy consumption such as financial stress from dealing with high energy bills. The researchers conducted qualitative interviews and video ethnography collection of the short video clips demonstrating everyday energy consumption practices with all participants at a time of their choosing and convenience. As interviews were conducted in private homes, which could potentially bring some risk to the researchers, for example due to abusive or aggressive behaviour from a participant. As a result, two project team members were present as much as possible, and risk assessment was carried out as necessary. Upon any such behaviour the interview would be terminated, and the behaviour reported to the relevant authorities. Researchers will also carry leaflets for various social support and care providers (e.g., counselling services for energy hardship programs) and as appropriate referred participants who raised concerns to these services.

As part of our ethical procedures, all participants in the project were provided with an information sheet about the research, including its purpose, which is to inform the support of customers experiencing vulnerabilities and harm. The information sheet also clarified that Energy Consumers Australia had funded the research – that it was being conducted by QUT – and that the research team were available to answer any questions they may have. Written informed consent was obtained from all project participants prior to data collection at each relevant stage of the project. The research was conducted in a manner that ensured that participant confidentiality and privacy were protected, for example, by deidentification of data excerpts and

the use of pseudonyms used in the write-up and dissemination of findings. Furthermore, the researchers informed participants that they were able to refrain from answering questions that may upset them and were able to withdraw from the entire project or any specific stage of the project at any time with no adverse impact on themselves. The Participant Information Sheets and Consent forms outlined the provisions for the confidentiality of data and the safe storage of data, as well as the rights of participants to not answer specific questions or to withdraw. If participants reported or the researchers observed any distress, upset, or potential risk of harm at any time from taking part in the research, the researchers paused or stopped data collection and provided appropriate information regarding appropriate support services – for example financial counselling for someone reporting challenges paying their energy bills.

Only members of the research team issued information sheets and consents forms, and they obtained written informed consent from participants face to face. We used a written participant information sheet, and verbally explained the overall project and its purposes, as well as read through the information sheet for each participant. The research team have extensive experience of this process, to ensure that the discussion and issuing of consent is undertaken in an appropriate manner - making sure not to rush, to give ample time for a potential participant to think, reflect and ask any questions they may have, and to ensure no undue pressure or duress is put on them. This approach was used during the consent process for each of the subsequent stages of the project.

There was some possibility that potential participants whose primary language is other than English, who have low levels of literacy, or who have specific cultural backgrounds or issues may be engaged during this project. The research team handled such events sensitively - for example through asking people if they wish to have a translator, family member or community representative present while discussing consent to participate, or for the research interview. We sought to ensure that any potential participant has full awareness of the project, implications of their participation, and would be able to provide fully informed written consent. If the research team identified that this may not be the case and that informed consent may be jeopardised, they thanked the potential participant for their time but advised them that their participation in the project is not required. During this process, if potential participants indicated that they would like some time to consider their participation in the project they were given a period of one week to make their considerations. After one week, a member of the research team contacted said potential participant and asked them to indicate their interest in participating.

Personal data of participants including name, age, sex, address, contact telephone number, and email address was collected by the research team for this project. Any personal data is only held by the research team to facilitate the conduct of the various stages of the project and for no other purposes. All participant personal data collected by the researchers or revealed during the project (e.g., Names/Address/Employer etc.) was de-identified during the analysis process following all stages of data collection. Data used in write up of the

project findings is de-identified, and with respect to use of direct quotations pseudonyms are used, and for video clips we have ensured that faces or identifying features are blurred and/or participant permission is sought to feature video clips, voices, and faces. Participants also signed a video release form providing permission for video footage to be used in presentations or reports. For those people agreeing to the invitation to take part in the co-design workshops, we offered the use of pseudonyms if they did not wish to disclose their real names to others attending the workshops.

5.4 Data collection

Stage 2 of the project featured qualitative interviews and video ethnography with CALD energy consumers, to explore their everyday energy stories, and to compare and contrast these with the findings regarding Australian energy market narratives from Stage 1. Stage 2 of the project adopted a short-term ethnographic approach that emphasises the use of multiple qualitative research methods and types of engagement with participants over a period of weeks and months within their own environments to produce rich data. Pink and Morgan (2013, p 359) identify short-term ethnography provides “a route to understanding alternative ways of knowing about and with people and the environments of which they are a part”. As such, there were two phases to the ethnography: qualitative interviews, and video ethnography.

The first element of data collection concerns providing information about the study to participants and gaining written informed consent for participation. All participants were provided with an information sheet and consent form prior to each round of interviews, with informed written consent obtained before collecting data. Participants were each given a \$100 Coles/Myer voucher at the end of each interview/video ethnography in recompense for their time and effort. Vouchers were provided as a token of thanks in recognition of people’s valuable time and effort in participating. This is an approach that has been used extensively in prior research by members of the research team, and acknowledges the time, effort, involvement, and engagement of participants. The value of \$100 of Coles/Myers vouchers is set to recognise the level of time given and involvement by participants but is also set so to be mindful of and avoid any undue pressure to participate being placed on people.

Once consent was obtained data collection could proceed. We conduct interviews and video ethnography in person, in participant homes and at a time and date of their choosing. In the first round of interviews which lasted approximately 60-90 minutes, we asked participants about how they use energy in the home, discussed any challenges they experience in using energy, dealing with the energy market and retailers, understanding their energy bills, and if, and how cultural practices (for example approaches to cooking) may shape their energy use. In the second round conducted a video ethnography and short interview, which lasted approximately 30 minutes. During the second round and to deepen our understanding of how CALD energy

consumers use energy in their homes we collected short video clips of approximately 5 to 10 minutes length of participants demonstrating energy use practices that they identify as important in their everyday lives - such as cooking, laundry, and heating and cooling their homes. We also discussed with participants how the text narratives identified in Stage 1 compare with their own energy narratives, and their thoughts and suggestions on how Australian energy market stakeholders and the narratives they produce could be more supportive for CALD consumers.

All interviews were digitally recorded, and the video ethnography footage was recorded on a mobile smartphone. Data was then digitally uploaded to a secure, password protected QUT server that is only accessible to members of the research team. Data for this project is managed using the QUT Data Management Planning Tool which helped to create a comprehensive data management plan, documenting how data gathered or generated during the research project is organised and stored, and how it will be archived, shared, and published. The data management planning was developed in accordance with the Australian Code for the Responsible Conduct of Research, the QUT Management of research data policy (D/2.8) and the QUT Records management policy (F/6.1). Hard copies of project data will be stored in a locked filing cabinet in lead chief investigator Professor Gordon's office and will only be made accessible to members of the research team as required. Electronic data will be stored on QUT mainframe drive, and all electronic data folders and files will be password protected and only accessed by members of the research team as required. Signed consent forms will be kept and stored for a period of 15 years as per the University Sector Retention and Disposal Schedule. All other research data will be securely stored for a minimum of 7 years, before being destroyed.

5.5 Analysis

Our analysis adopted an iterative approach, with interview data, video footage and fieldnotes being organised using open, axial, and selective coding of categories and concepts through inductive and deductive thinking (Strauss and Corbin 1990). We also toggled between the data from Stage 2, the findings from Stage 1 of the project, existing research literature, and theory to aid our analysis and interpretation. The analysis followed an iterative process of meeting, discussion, and reflection among the researchers over a period of several months, plus member checks on our emerging thematic analysis that was conducted with our participants to facilitate representation.

5.6 Findings

The findings from Stage 2 are grouped in to 5 main themes:

1. *Diverse CALD households and energy practices*
2. *Lack of energy literacy and understanding of the energy market*
3. *The importance of social support*
4. *Barriers to sustainable energy transitions*
5. *Feelings of empowerment and disempowerment*

1. Diverse CALD households and energy practices

Interviews with CALD households revealed that energy is used in ways that are influenced by past experiences, cultural practices, and traditions. For participants who were born overseas, often their past experiences of unreliable or intermittent energy services in their home countries influenced their attitude towards the everyday use of energy in their homes. Participants spoke of a conservative approach that had been ingrained through times of hardship, modelled by their parents or elders, and that emphasised the need to conserve water, food, and resources as well as domestic energy.

I guess this kind of attitude is sort of our heritage. For example, I get from my family. So, I know how important it is to use resources efficiently that you can pass it on. Sort of water - I remember when I washed the dishes, my mom all the time she turns the tap off if she doesn't use it.
Tarline, female, Turkish, 42.

Yeah, look, one thing I teach all my kids is not to waste electricity, power. When you leave a room, just switch it off. Do several things, never leave the lights on, and make sure that always, for example, don't plug maybe the electrical unit then leave it. Things like that. We try as much as possible to get everyone to make sure that at least they have to use power responsibly because it's quite expensive, very expensive.
Harouna, male, Ghanaian, 62.

Yet, despite this deep commitment to conservation of resources and responsible use of domestic energy, participants highlighted the importance of using energy in ways which they felt supported the ongoing preservation of traditional practices associated with their cultural heritage. Preparing, cooking, and eating traditional style food at home with other family members and friends was an important part of enacting what it means to be a CALD family in contemporary Australia.

My mom always says, "Oh, you need to learn because if I'm not here..." and I said "Stop talking that way. I don't want you to talk that way." She goes, "But it's the truth. And if I don't do this for you guys, your kids can't have these meals. Their kid's kids won't even be eating these meals." And she's absolutely right about that. And it'll be a shame. It's just like our culture, it's fading away. Because if we don't teach our children and others from our community, if they don't teach our children because we don't even have our country of our own, it makes it even extra hard to know who we are.
Hadiya, female, Armenian, 45.

It's important for them to be able to know with just bringing culture back into it too. This is what we eat. It's something I'd want them to feed their kids, keep it alive. My mum taught me how to roll up vine leaves, so I teach them how to do it. Keeping those flavours in the family.
Raja, female, Lebanese, 39.

For some families with mixed cultures this involved several assorted styles of cooking, often cooked in alternative ways that aimed to reproduce authentic flavours, for example using outdoor stovetops or barbeques. As well, participants narrated different cuts of meat, or ingredients that were central to their style of cooking, and the longer cooking times often required to produce dishes that were meaningful to them. Using different ingredients often meant that additional fridges or freezers were used to store bulk purchases seen as more convenient and economical. While the energy costs associated with these cooking practices were considered, more important was how these energy practices were strongly correlated to how CALD families understood their cultural identity and sought to pass it on to their children.

I cook traditional Thai food, and for my husband because we from different country, my husband Pakistani, then I have to make Pakistani food for him.
Porntip, female, Thai, 32.

We do a lot of slow cooks. You're talking about five hours of 180 degrees, this oven keeps going. So that's not very energy efficient but at the same time, I'm also thinking that "Well, that's something you want to do in life. You want to enjoy your life. Food is very important to us," so that's something I can overlook.
Sam, male, Turkish, 49.

While participants often spoke of the use of outdoor cooktops or gas barbeques to achieve a more authentic flavour, it was also to preserve the aesthetics of home. To avoid smokiness, oil, cooking smells, or mess, outdoor areas or balconies were utilized for cooking. Again, this practice was associated with traditions they

had witnessed or practiced before moving to Australia and

I believe that the way I use my energy, especially in cooking was handed down from my parents and all that kind of stuff. If I was living in a household, I'll be using LPG gas cooking outside, I would say, it doesn't dirty my kitchen, which is handed down from my parents.
Ahn, male, Vietnamese, 38.

aligned with ideas of saving resources and preserving the cleanliness of home.

Traditional practices such as using charcoal as a source of heat was another practice that CALD participants reported as a strategy to manage the costs of domestic heating. This points to potential safety

So, we use the little heater as well as my mom used to do... You know those barbecue coals, those black coals, she would put them on and then we have this... It's probably safety hazard but still. We would use the coal and then she would put it on this metal tray, and she would put it in the living room to make it warm so that sometimes we can close the heater, so the heater doesn't get the electricity bill up. So, she would use coal as a means to make the house warmer... We usually transfer it everywhere but then because of the fire alarm as well, you have to make sure that there's a bit of a window open and put it next to the window because, like my house, the fire alarm system is too sensitive so that's why I prefer using the small one and I'll put it next to the window and then open the window so a little bit of the air can go out. Or else the fire alarm will go off.

Abeno, female, South Sudanese, 27.

and health risks that CALD energy consumers may be exposed to due to their concerns about energy costs.



Consequently, the rising cost of energy was a common topic of conversation with friends and family and a source of anxiety. For many CALD householders the cost of energy was a concern that shaped their everyday behaviours to avoid ‘bill shock.’ For example, commonly the use of electrical heating, such as reverse cycle air conditioners or column radiators in winter was minimised which left households few options for being comfortable.

... just the bill shock. I think one of the concerns about using it (heating) is because you don't get your bill till the end of the month or three months, depending on what you want to do, and I just don't want to get the bill shock.
Ahn, male, Vietnamese, 38.

One of the things that we do is just increase what we wear. So, looking at my wife, sometimes has to have her gloves on at night. So, when she goes to bed, she puts gloves on, I can't do it. So, it's all through clothing really. I wear a hat or a little beanie to keep my head warm and obviously, we increase what we wear on a jumper is a must and no shorts, and long night gear, all that. So, the only way we've been able to handle it is through increasing our clothing and obviously, no doors open or anything like that. So yeah, that's the only option we have.
Hamad, male, Turkish, 49.

For those living in apartments, energy was used to promote a feeling of security. On leaving the home empty, some CALD families felt that it was necessary to give the impression of someone still being in the home. There was always a tension, a trade-off for CALD families between wanting to feel safe and comfortable in their own homes and managing the cost of energy.

I think it's probably the same, like a lot of people especially culturally, myself definitely, we get the bill shock and we're like, "Oh, why is it so much?" But then you need to think about actually what needs to be done, I guess. And then, like I said, the practice of talking about the dishwasher, or the dryer, and doing less of that. Or using less of the air con, and just sacrificing things to ensure that-You don't get that bill shock.
Hà, male, Vietnamese, 36.

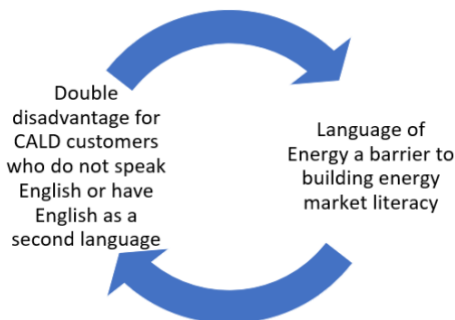
For others in larger houses, family practices to decrease energy consumption included spending time together with the entire family in one room, or parents and children sleeping in one bedroom with a small heater rather than using the ducted reverse cycle air conditioning.

2. Lack of energy literacy and understanding of the energy market

Most CALD households expressed that they had only a basic understanding of their electricity bill. Most relied on the pictorial graphs that illustrate the amount of energy used by the household for the billing period (usually 3-4 months) in comparison with the same period of the previous year. Householders were able to compare if they had used more or less energy than the previous year, yet there was little understanding of the impact of pricing options, service provider plans, energy price increases, available rebates, and concessions, or even the source of energy. Most CALD householders expressed a desire to have a better understanding of how the bill was calculated beyond kilowatt hours alone and the presentation of information in the bill was seen to be overly technical.

I don't know the good old thing that we have in Asian cultures when we leave the household, we like to leave the lights on, leave the TV on just to avoid robberies.
Duc Mann, male, Vietnamese, 36.

Because when I turn on (RCAC) for bedroom is mean all the room, all the bedroom, because we have four bedroom. But we live in only one bedroom, that why is not necessary.
Pornip, female, Thai, 32.



I think it's just more about awareness and people understanding and the difficulties that people like Vietnamese, like culturally and all that stuff. They don't understand, they don't know. They need people to translate or to explain things to them.
Duc Mann, male, Vietnamese, 36.

We heard that rental properties presented further barriers to understanding energy consumption through how bills may be calculated on estimated rather than actual cost, and electricity meters were often inaccessible or the location unknown.

What happen with a lot of, let's say, renters, people that are renting, so when you move home, you come to a new complex, you stay with complex. So, if you come to a new complex, the meter might be somewhere whereby you don't access them. So, the house is okay, you find your meter at the house just around the front somewhere there. You have access to it. But at the complex, people that renting at the complex, they have no access. You move in until you move out. So, few years later on, you never seen where the meter is. And that alone, with somebody that is new in the country or even if you have been here for some time, you have no control of what you consume because you don't know where it's located. Cali, male, South Sudanese, 36.

In the context of a privatised energy market, CALD consumers were aware that there were online websites that could be used to compare service providers. While there was widespread awareness of this facility, most reported that the sites were difficult to navigate because of a lack of English literacy and understanding of the technical language employed. There was a feeling that there was little difference between the energy service providers and though CALD families were anxious to reduce energy costs, they were often defeated in their endeavours to understand which provider or plan was most suitable for their situation. While there were many provider options in the private energy sector, only one participant told us that he tried to leverage the price inducements and promotional offers to reduce his energy costs by changing energy provider every six months. Overall, CALD families remained with the existing energy service provider connected to their homes.

Even when I look at my bill, I have different tools to understand why I'm paying this much, what is the reason, but it is still not easy to navigate. So, I sort of get a simplistic way of understand the situation, but I don't think I fully understand that. ... You feel like you have more option, but you need to choose in between so many other ones. So that makes me a bit tired and give up to look for other options. Tarline, female, Turkish, 42.

So maybe say you are with Endeavour Energy, sometimes the name will be different or something, but we are not so much concerned about the names, just the provider. They'll tell you, "Oh, this company services your area." So really, I've just given up on whoever, whatever is there, it's the same. I'll take it. Harouna, male, Ghanaian, 62.

Many wished to have more information about how much energy was used by each type of household appliance, for example hot water, service, heating or cooling, cooking, and lighting. CALD householders while understanding that more stars on an appliance indicated a more energy efficient appliance, they wanted further information about how to calculate costs based on the star ratings. CALD householders wanted to use technology to help them monitor and control their energy consumption, yet they often faced difficulties that led them to abandon their efforts.

I know there's the new thing they're kind of now promoting with the smart meter where you can actually check the usage. I actually tried to switch to a smart meter once, but they said that there's not enough space on the meter box because the meter box is outside, and it's common for all the properties. They said it's really difficult to change that one. They were not able to find the key for the meter box. I don't know what the issue was at that time. They said I cannot do it, and then they had to call strata and ask them for the keys. It was getting very difficult, so I just stopped that process midway.
Azad, male, Indian, 36.

The confusing thing is that we have so much access to information about literally everything. But why don't we have apps that can monitor our usage, that we can just see on our phone immediately?
Oni, male, South African, 42.

3. The importance of social support

Some households embraced an extended family model with inter-generational members living together or close by. We heard from participants how they would often assist older family members who had limited English capacity or little digital literacy to manage their energy costs and bills. Family and friends might discuss energy costs and concerns and there was a general awareness of the predicted increases to energy costs.

"Oh my god, my bill's going up." Yeah, we do talk about that. Especially now.
Raja, female, Lebanese, 39.

CALD families often make connections with other people from their cultural background in their communities through groups such as churches, mosques, schools, or through participating in events and

festivals. Often the experience of shared language, culture, religion, or migration experience contributed to the formation of tight knit social support groups. Vulnerable members of the community such as the elderly, those with limited English skills, or those without family support are often included in religious or social programs which use an ambassador model. An ambassador will speak the same language as the person needing support and therefore can advocate for the person to receive the help that they need. This model was seen as important and appropriate for CALD householders.

They basically have nothing, really. My auntie, for example. As far as the electricity, power, any energy, or anything for that matter, goes, what we tell her is her... reference. So, they don't really use iPads, they don't use internet. They will see on TV, most of the time they will not understand what is actually saying into the deal, that it's going to all this, kind of thing. So, they're really limited. It's all about what we tell them, so this referencing. So, my dad, we lived here with my dad until he passed away, again, same thing, he wouldn't know anything. I would have to be telling things to him.

Hamad, male, Turkish, 49.

They allocated an ambassador and a group of them to help those people where we don't need you to be on your own, left on your own, that you can't go to the shops, or you can't get family members to come and assist you. We're here to help you and to support you.

Hadiya, female, Armenian, 45.

Yet, often these communities, and social and religious groups viewed new migrants as potentially high energy consumers. Aware that new migrants who have come from a background of no or little reliable electricity may overuse heating or cooling appliances without understanding the consequences in terms of cost, in communal settings we heard that opportunities to use energy for example in churches, was constrained by organisers. “So, they take the remote controls, and they hide them” to reduce energy consumption and rely on community modelling of responsible energy use.

We found that there was a lot of confusion and scepticism over how to be energy efficient, about the different energy service providers, and little knowledge of overall government policy strategies and direction to decarbonize the Australian economy. This is an important gap when we consider the impact of CALD householders as they transition from being new arrivals to long term permanent residents and move from the rental sector to owning their own homes. While information is available to help people make informed choices about energy service providers, appliances or rebates and concessions online, for CALD families this type of information is not appropriate. Language barriers, and a level of mistrust towards energy companies and technology suppliers (e.g., solar PV, batteries, solar hot water systems), and a lack of knowledge of the policy goals of decarbonisation mean that CALD households do not feel empowered to make informed decisions in the energy market. In fact, CALD households are more likely to rely on the information and opinions of those from a similar background who are within their social networks, and expressed a desire for a more independent and impartial source of knowledge that could be funnelled down into their communities.

I just think maybe use those community events to kind of explain people more about what they can do to save energy, what are the different options available, educate them on how to better save energy, electricity, and that stuff, and just for them to providing more options to people really. I don't think with the marketing that they're doing currently, I'm not sure if it's reaching everyone. They probably have to do more to meet them personally and explain it to them. I think that will work much better, so yeah.

Azad, male, Indian, 36.

In regarding solar panels, that was the other thing that we're talking to other friends and all, it's a mixed of vibe at the moment. Some people are saying, "We've had it installed, but we feel like it hasn't helped. We've spent our money onto the solar panels, and it hasn't helped us." And some people are saying, "No, it's actually good usage." But the ones that are saying, "It's working for us," I feel like it's more like the ads that we're seeing. So, I don't know...I feel like it's not my area. I don't really understand about energy use and all that. So...if we had an ambassador from our own community and if that person was knowledgeable in that field, in that area, that's his or her expertise, that would assist us and to help us and to get us more knowledgeable and to make us more understand, this is what's available, these are what the rates are.

Hadiya, female, Armenian, 45.

4. Transitioning to sustainable energy

We found that CALD households are already minimising the amount of energy that they use at home mostly due to financial pressures and to learned practices grounded in the conservation of all types of resources. Passive heating and cooling practices were common for example, the use of window shadings and ventilation to maintain internal temperatures. All but one family dried laundry on outdoor lines and minimised the use of clothes dryers.

However, some practices such as using multiple fridges and freezers or continuing to use older less energy efficient appliances mean that CALD families do not reduce the overall amount of energy, they use despite going without heating and cooling at the expense of comfort.

Many participants recalled previous government campaigns that focused on energy efficient lighting and the provision of free energy efficient light bulbs to encourage the shift away from older and less efficient lighting options. They questioned why there were no new home insulation programs to help with better thermal retention at home. There is an openness to decreasing domestic energy consumption yet there is a knowledge gap about how to shift their homes to higher levels of energy efficiency or a decarbonised society. CALD energy consumers feel little responsibility to participate in the shift to decarbonisation even though they may have environmental concerns and there is an underlying assumption that the society wide shift is to be achieved through government rather than through individual household actions.

But there's an advantage in a winter because of heating because of that big glass. When he opened the blind. So, the sun come in and then it's a bit warm, but in summer we have to close the blind and then you close the windows in the morning. You don't open them if like a hot day. So, you look at tomorrow, forecast. If the forecast is hot, then in the morning I don't open them. And then that way it helped to keep it a bit cold.
Cali, male, South Sudanese, 36.

I guess speaking from my own family, I think we do not take any responsibility in finding the steps to sort of decarbonize our energy. Because number one, probably we're not aware of the fact that we are actually able to take steps to decarbonize our source of energy that's powering this house. And number two is truth be told, I don't think we have really considered or thought about it at all.
Yu, male, Singaporean, 26.

There was a general awareness of the shift to sustainable energy futures and CALD consumers talked to us about what they saw around them as a push to consider sustainable energy for their homes. For example, many mentioned the increasing number of Tesla cars now driving on Australian roads, they observed neighbours with electric car charging stations and worried that all cars would soon be electric. While CALD families may have more options to upgrade privately owned homes, there was a sense of confusion and frustrations around how to plan for a sustainable future in relation to apartment living.

The environmental concern is there but I'm definitely not an environmental activist... But I think where possible, we just try our best and we just use what we need to live and then we don't have to... There's no need, really, for us to consume more than what we need even if we have the money for it because I think no amount of money would make up for the finite resources that this earth has.

Xue, female, 26, Singaporean.

I'm part of the strata committee for the building that I am part of and we're currently exploring how to put in charge stations for people that buy a battery powered car. I do see some things that the government are doing on how to get to that stage, but I feel like it's very confusing and I wish there was a lot more handholding involved because it is quite new, especially in Australia. How do you manage it in a strata scheme? I find that quite difficult... The second thing we are going to explore into is how to put solar panels into the rooftop garden somewhere and do that. I wish there was a lot more involvement and handholding to make sure we do it right. That would definitely help. I can see that can save a lot of energy for us because we as a big building, use quite a lot of owner's corporation energy.

Ahn, male, Vietnamese, 38.

5. Feelings of empowerment and disempowerment

CALD energy consumers expressed disappointment and dissatisfaction with the amount and type of information that is currently available to them. There was a sense of frustration that more appropriate communication channels are not available to suit the multiple CALD groups that are part of the domestic energy landscape. They expressed a desire for communicating with someone from their own cultural background and in their own language. For CALD householders a consultative approach that included face-to-face interactions was seen as one of the most valuable and effective ways to provide appropriate ways to educate their communities about energy efficiency, sustainable energy pathways and underlying government strategies and policies.

We also thought that for those groups of people who are not very proficient in English or who are not digitally literate, we could try to, I don't know, disseminate information to them through community groups in order to really get the information out there... sometimes it just feels so unfair that we already feel like we're trying our best to minimize energy usage and yet, our bills are still reaching such sky-high amounts. How is that even happening? I think everyone wants to know that.
Xue, female, 26, Singaporean.

CALD householders also reported that they felt disempowered in controlling their energy usage in several ways. First, often CALD families in Australia begin their journey in low quality rental housing and must manage their energy costs on a low income. In rental properties energy costs included in bills were estimated rather than actual meter readings. Often there was no access to meters to check the actual usage in terms of meter readings. Additionally, CALD families wanted more tools to be able to monitor their energy use. They argued that if they could isolate the energy usage of particular appliances in the home, then they would be encouraged to consider reducing either usage, or the number of appliances (in the case of multiple fridges for example) or upgrading to more energy efficient models if older models were understood to consume more energy. Energy appliance star ratings were also mentioned as challenging to understand for some CALD members.

Not everyone can understand energy consumption label... How much in the dollar, like that? We call in that one is show in kilowatt. But what is kilowatt? Not everyone will understand this. Yeah...in another way for people can understand easy.
Porntip, female, Thai, 32.

Not understanding where their energy was being directed to within the household resulted in a feeling of disempowerment for CALD families. Most of the cohort reminisced about pre-paid energy cards that were used in their home countries for gas, water, and electricity. They appreciated that way that this system allowed them to understand and monitor the costs of their energy. Likewise, they told of how in their home countries, the use of an app enabled them to track and monitor their energy costs. For example, Harouna, who lives in Australia, can monitor the energy use of his family and relatives at their home in Ghana from Sydney, but not able to monitor his own home in Sydney.

If they can do it in a poor African country, I don't know why they can't do it here, to tell you how much are going and how much money in dollar sense that this month, your bill is going to be \$400. So, if you know you don't have \$400, you cut your power consumption down.
Harouna, male, Ghanaian, 62.

While some participants were more tech-savvy and were able to navigate websites and online information to take advantage of discounts and deals for energy provision, this was often undertaken at the cost of considerable time and energy. This on the one hand provided a sense of satisfaction and feelings of empowerment at being able to successfully find their way through complex comparison websites and calculations. But on the other hand, this significant burden does not really empower the CALD householder to make long term decisions that will impact on their financial and physical comfort and wellbeing. As well, CALD householders were mistrustful of information provided by energy companies and suppliers because they recognised the underlying corporate aims of generating a profit and feared that they would become victim to unscrupulous practices.

For example, electricity and gas and this kind of resources, they shouldn't be based on business. Because we pay lots of tax to government, right? So, they shouldn't cover up their expenses. I think the government should be the one provider for this kind of resources to provide everyone take the expenses. It shouldn't be based on the business sort of thing, idea.
Tarline, female, Turkish, 42.

I don't think an energy company should be the company that is trying to help us with saving energy because that's counter intuitive. They definitely want us to use more energy so they can make more profits.
Ahn, male, Vietnamese, 38.

This was especially so in cases where CALD householders wanted to take advantage of Solar PV installation when living in their own properties. Often the marketing tactics of sales representatives were intense, intrusive, and persistent. This caused a level of confusion and anxiety. The installation of Solar PV is a large investment in the home and CALD consumers felt that they were put under pressure by the sales strategies and misinformation. For example, one consumer was informed that her household did not consume enough energy to qualify for a rebate on solar PV installation and therefore should increase the level of energy consumption. This approach of aggressive marketing and sales puts pressure on CALD householders and may in fact cause them to abandon their plans to switch to sustainable energy generation.

I'm still looking and searching information about this thing (Solar PV). But I think one month ago, I had become to know if, for the consumer, because my bill is lower than \$300, then I could not get any benefit if I want to install the solar panel for my home. Then I surprised because then someone say, "If you want to install the solar panel and get some rebate from the government like that, and you should try to use more energy... Also, to get the real information, this company will say like that because the first company, the guy came into my home and they say, "Okay, you can have it." They calculate and they say, "For your house, just only 5.5 kilowatt or something." I forgot. When I say, "Okay, let me have a chat with my brother-in-law." Then they asking me, "What do you want to talk with him about? Why you cannot sign the contract now because this information is in front of you."
Porn tip, female, Thai, 32.

At the moment, we're in the mercy of the energy companies and what it is, and I think our full focus, the consumer's full focus, at the moment is to get the cheapest energy possible. I don't think we're empowered to be able to make a decision based on what you would like such as green energy or such as other factors that you were looking at. We're only making our decisions based on how much money can be saved or how it's going to be affecting us in the next year or so. So, you're trying to lock in a rate that is good because you don't want be hit by large energy increases. Plus, the media continuously going on about energy problems and all that happening, I feel that we are not empowered at all to be able to make decisions.

Hamad, male, Turkish, 49.

6.0 Stage 3: Co-design workshop

Stage 3 involved running a co-design workshop in May 2023, held online using Zoom video conferencing software, to workshop ideas to support the development of programs, strategies, and policies to better support CALD energy consumers to enable them to use energy efficiently and sustainably whilst also maintaining their comfort, health, and well-being. The multi-cultural nature of this project ensured that the lived experiences of energy hardship come from different groups within the broad community of CALD energy consumers. The rationale for using a range of cultures to think through energy hardship is to help unpack the standardized narratives that view CALD energy consumers as a homogenous group that have few internal differences.

6.1 Co-design approach

The co-design phase brought together participants from CALD households into an engaging, collaborative workshop setting. The co-design workshop enabled participants to discuss relevant insights from the research and then brainstorm and validate ideas together as a group to uncover and confirm user insights regarding appropriate support program features for customers experiencing energy-related vulnerabilities and harm. Co-design is invaluable for ensuring that relevant stakeholders take ownership of insights and can see the relevance to themselves and their sphere of interest. Co-design ensures that insights are not forgotten within the confines of final reports and presentations but instead are brought to light and acted upon to serve end-users.

The advantages of our co-design approach are that it is user-led and facilitates stronger buy-in by involving people in developing solutions. Co-design enables creativity through drawing from diverse and authentic experiences and leads to polyvocal and better-quality decision-making. Importantly, our co-design approach collates better knowledge of user experience and increases satisfaction and support from end-users (Steen et al. 2011). These factors result in co-design, increasing the likelihood of the success of solutions. The main output from the co-design workshops was a toolkit presenting a strategy, set of core objectives, activities, and design features for programs and services for CALD customers experiencing energy-related vulnerabilities and harm. This can inform energy service providers and other relevant sectors of government planning and provision for the design and delivery of an energy support program for their customers that is user informed and fit for purpose.

6.2 Participants and sampling

Our co-design workshop involved eight participants plus two facilitators who were members of the research team.

Participants were recruited for the co-design workshops by the QUT research team. Invitations were sent via email to those indicating an interest during Stage 2 interviews. The co-design workshops were thoroughly

explained, and prospective participants were given adequate time to consider the information before deciding on participation. Participants each received a \$100 Woolworths Wish Gift Card. However, gift cards were not provided to QUT researchers as taking part in the workshops was counted as part of their paid employment.

Table 4 Co-design Workshop Sample Composition

Pseudonym	Age	Background	Gender	Lifestyle Characteristics
Foluké	39	Nigerian	F	Research fellow
Theresa	61	Australian	F	Research fellow
Harouna	62	Ghanaian	M	Retired journalist, 4 children and 3 grandchildren living at home. Solar PV, own home.
Xue	26	Singaporean	F	Not working, lives with partner, rental home
Oni	42	South African	M	Employed full time, single, lives alone, rental home
Tarline	42	Turkish	F	Working and studying, married, 2 children, rental home
Cali	36	South Sudanese	M	Working full time, Married, 1 child, rental home
Ahn	38	Vietnamese	M	Working, married, rental home
Yu	26	Singaporean	M	Student, lives alone, own home (parental)
Porntip	32	Thai	F	Student, married, 2 children, own home

6.3 Workshop facilitation and data collection

The co-design workshop was facilitated by two members of the research team. To foster easy access, and convenience the workshop was run using Zoom. The workshop lasted for a maximum of two hours. Participants' access to the workshops on Zoom was facilitated via an emailed link and password. There was the potential that Zoom participants may be overheard by others in their households during the co-design workshop; therefore, we discussed this with potential participants as required and scheduled the workshops at a time when they could be afforded greater privacy or were able to use headphones and/or access a more private space in their household. A schedule for the workshops is provided in Table 5.

The key purpose of the co-design workshops was to work collaboratively to explore the provision of appropriate support services for CALD energy consumers. Therefore, activities during the co-design workshops focused on uncovering and confirming user insights and developing ideas regarding appropriate support program features for CALD energy consumers. During the ‘understanding the research so far’ element of each co-design workshop, the research team shared a brief overview and insights from the empirical research. We acknowledged that participant welfare may have been impacted when we shared the findings from Stage 2 – such as feelings of anxiety, distress, discomfort, shame, guilt, or a sense of a lack of privacy when discussing energy use. We addressed this by ensuring that the insights shared from Stage 2 of the research were kept at a general level and that no personally identifying information was shared.

Table 5: Co-design Workshop Schedule		
Activity	Time	Details
<i>Commencement</i>	2 mins	Whole room: Introduction to research team, advise of Zoom recording, thank participants for donation of time.
<i>Acknowledgement of country</i>	2 mins	Whole room: QUT acknowledges the Indigenous and Torres Strait Island people as the original inhabitants of the many lands where we stand and pays respect to Elders, past, present, and emerging.
<i>Overview</i>	2 mins	Whole room: Brief overview of the process: what we are here to do. -help develop energy support measures -hear about what we have learnt so far from the research -exploring what is true for you -coming up with ideas about what energy support should look like -what should be delivered, how, who can support it and who will benefit
<i>Who's in the room- ice breaker for participants</i>	3 mins	Whole room: 5-point introduction worksheet – all participants - helps understand the variety of CALD energy consumers i.e., who the program needs to serve
<i>Commonalities- Trust building</i>	15 mins	Breakout groups of 3. Introductions: Find out something that you may have in common with others in the group.
<i>Whole room introduction</i>	15 mins	Whole room introductions: 1 min to introduce new friend. 3 mins per group-5 groups. Understanding the rich potential in the room.
<i>Understanding the research so far</i>	10 mins	Whole room: Summary of key findings from Stage 1 & 2 (2-3 PPT slides visual and high level) What are the barriers to transitioning to responsible and sustainable energy use?
<i>Workshop ideas</i>	10 mins	Breakout groups of 3. What kinds of support do people need? Padlet
Coffee break	5-7 mins	Halfway point
<i>Finding common ground</i>	15 mins	Whole room: come up with a set of criteria that is needed to deliver an energy support program. Padlet summary
<i>Sense check</i>	10 mins	Breakout groups of 3: Rate the ideas suggested-identify which is more important or less important
<i>Exploring potential initiatives</i>	15 mins	Whole room: deeper discussion of the suggested ideas Who should/could help design these programs? Who should help deliver them? Who could they partner with? What should be avoided?

<i>Reflection: Talking stick</i>	15 mins	<p>Whole room: what is the most important thing that energy providers need to get right when they design/deliver these programs?</p> <p>Online poll to vote on most popular forms of support.</p>
<i>Next steps</i>	2 mins	Closing: QUT research team and thanks.

6.4 Co-design data analysis

The co-design workshop was audio-recorded and transcribed, with participants provided the opportunity to check and amend the transcripts. During the workshop, participants were invited to note down insights developed during the workshops in the chat function, and these were available to the research team as transcripts.

The QUT research team then combined the data from the workshop transcripts, their own fieldnotes, and observations to conduct data analysis and develop recommendations for the toolkit of recommendations to better support CALD energy consumers. Our analysis of the co-design workshop data adopted an iterative approach, with audio transcripts, notes, and fieldnotes being organised using open, axial, and selective coding of categories and concepts through inductive and deductive thinking (Strauss and Corbin 1990). During the analysis, we also conducted member checks to mitigate biased interpretations and representations of data emerging from the co-design workshop. The analysis was conducted as a collective endeavour involving all project team members through a process of meeting, discussion, and reflection, followed by further discussion and reflection among the researchers over a period of several weeks. The recommendations emerging from the co-design workshops are presented in section 7 of this report, as well as in the separate toolkit of recommendations.

7.0 Recommendations and Guidelines for supporting and empowering CALD energy consumers

7.1 How should energy market stakeholders intervene?

In this first section of our recommendations, we focus on key things that Australian energy market stakeholders should focus on in terms of how they can better support CALD energy consumers. In this context we consider Australian energy market stakeholders as any organisation or actor that can have an influence on consumer experiences of accessing and using energy including issues relating to hardship from a policy, regulatory, infrastructure or service provision perspective. This would include most obviously energy retailers and network distributors, energy customer advocates, and social support service providers - but should also concern energy policymakers from the Commonwealth and State Government Energy Departments, as well as regulators such as the Australian Energy Regulator, the Australian Energy Market Operator the Clean Energy Regulator, and State and Territory Ombudsmen and Competition Authorities. All these stakeholders in their own ways shape the current Australian energy market which CALD consumers need to navigate. We then identify our priority recommendations for what to do to intervene in the subsequent section.

7.1.1 Whole-of-organisation approach

Our first recommendation on how Australian energy market stakeholders can better support CALD energy consumers is that they adopt a whole-of-organisation approach. A whole-of-organisation approach would involve all parts of an organisation working together collaboratively, coherently, effectively, and sustainably to ensure that CALD energy consumers are receiving appropriate support. This could mean different things to different energy market stakeholders – for retailers this may include ensuring all product development and design, call centre service provision, and credit collection is fully informed around the needs of and appropriately serve CALD energy consumers. For non-profits, advocacy, and community support providers this might involve ensuring all program design is fit for purpose and that all their staff are appropriately trained regarding the needs of CALD energy consumers and to achieve cultural competency.

I think they need to have large community consultations. I would say, I would ask them, "How are you going to make sure the programmes you come up with, which you need to come up with, going to be delivered? In what way are you going to be delivered?" Because on pen and paper that might sound great, but you need people behind it, and how those people going to access it? How are we going to do that? Is it through the families?
Hamad, male, Turkish, 49.

For government this might mean ensuring all policy makers and program administrators including those for energy grants, concessions and rebates are aware and acknowledge the experiences of CALD consumers and design policy and energy interventions with this in mind. To achieve a whole-of-organisation approach, there would be a need to upskill all staff across the entire organisation to ensure that all parts of the business and staff working within each unit are knowledgeable about the lived experiences and challenges that CALD energy consumers face, and that they are empowered and enabled to provide appropriate support at the point of need. As one of our research participants noted, there is a need for energy market stakeholders to try different and more appropriate forms of outreach to engage with CALD energy consumers:

Energy market stakeholders could be supported in this endeavour by providing training to all existing staff, perhaps working in partnership with customer advocates and community service providers and researchers, adapting policies and procedures to facilitate appropriate support, engage in internal marketing to raise awareness, familiarise staff, clearly identify this as a priority area for the business, provide training to new staff members when joining the organisation, as well as updating training knowledge as appropriate.

7.1.2 Acknowledge the complexities.

CALD people experiencing energy hardship often have complex lives and experience other issues which interrelate and overlap. It is important to see the whole person and to also consider their significant others. Life can be messy and complex; there are no easy fixes and there will often be multiple underlying issues, meaning that energy customers require wraparound and holistic support. The importance of acknowledging such complexities was communicated by our interview research participants.

I believe the energy providers should teach consumers how to read their meters. Because we read the meter, I can see the figures there, but I don't know how to interpret them. And before you realize, you are hit with a huge bill. When I put solar panels on my roof for almost probably more than a year, I would say, I didn't have to pay initially. I was always in surplus. I didn't have to pay anything. My bill was always zero. And I also had credit for probably more than a year. I went overseas late last year. I came back, all of a sudden, I've been paying huge bills and I just don't understand when nothing much has changed in my house. So, until the energy providers tell us how the meter is read and how consumers can assess their meters and read them intelligently to make sure that they are consuming more or not, I don't know. Nothing has changed.
Harouna, male, 62, Ghanaian.

What will be key here is that energy market stakeholders recognise they are not simply trying to support customers experiencing challenges understanding or managing their energy use or in energy hardship, but they will often be dealing with people who have complex lives, with multiple and often coinciding challenges. For such customers it may also be necessary to provide them access to language and translation services, community support, financial counselling, legal advice, and other forms of support. Furthermore, the progress of customers in navigating through such difficulties may be slow and, therefore, a long-term

and sustained approach to support will be required.

7.1.3 Do not exacerbate the situation.

A further important consideration for Australian energy market stakeholders in providing support to CALD energy consumers will be to avoid exacerbating the situation for those experiencing challenges or hardship. People experiencing energy hardship are in a vulnerable position, and energy market stakeholders – especially retailers - should avoid compounding the situation of those customers who are behind on their payments by disconnection of their supply. This issue was identified as a key concern in the narrative interviews and during the co-design workshops, as the following quote articulates.

And if they estimate, let's say, about \$1,000 and the budget for that house sometime could not be within that three month, then they'll be threatened that your energy will be cut. And it happened sometime, some of the energy providers just came and just cut it. And then the family will be left with nothing but to run around to go to the services for them to support them.
Cali, male, South Sudanese, 36.

Energy retailers have an opportunity here to address this negative perception of not being supportive by pausing disconnection orders for customers experiencing energy hardship and instead offering help and support. This might also involve retailers improving their processes for identifying those customers who might need additional help, and offering them appropriate assistance, including in language, early on – as a means of preventing severe energy hardship rather than simply responding to it once it occurs. If such customers can be successfully supported to manage their energy use more efficiently and sustainably, it may then be possible later to negotiate a reasonable repayment plan. However, the role of energy policy makers and regulators can also be important and careful consideration should be taken when designing energy policies and programs as well as regulatory systems to account for the lived experiences and needs of CALD consumers. Ideally, such policies, programs and regulatory frameworks would consult with, and be co-designed with CALD energy consumers, and ideally there would be CALD representation within these market actors. Overall, the key will be for energy stakeholders to demonstrate they are acting with care and consideration for CALD energy consumers rather than adding to their considerable concerns.

7.1.4 Adopt an intersectionality approach.

Intersectionality is an approach for understanding how people’s personal, social, and political identities, including class, gender, race, ethnicity, language, culture, sexuality, ability, physical appearance, or political beliefs, might intersect and overlap to produce and reproduce multiple levels of power, privilege, oppression, and social injustice (Crenshaw 1989; McCall 2005). An intersectionality approach understands that a person’s demographic, social, and cultural characteristics (e.g., gender, class, race, ethnicity, (dis)ability) might intersect to compound the challenges CALD energy consumers may experience. As exemplified in the following stakeholder interview quote, everyday energy consumption often intersects with factors such as cultural background and ethnicity.

It's how they handle issues like, the way they treated people that are less knowledgeable about energy consumption, are less knowledgeable about the policy, or about consumer rights. Let me put it that way, it's not the same way in this country, as somebody in the Northern suburb or Eastern Suburbs, or a sense of that, because of the knowledge about this thing, and the same with the deal that they offer, and I'm talking because of my own experience as a caseworker supporting people from migrant backgrounds. And so, my assumption is, they don't value my time, they should have to tell them, this is what is going to happen. This is what you're expecting, what they know, they have no knowledge about that.

So, they take advantage of them, most providers. And the same when they make a complaint. So, when somebody realized that the person on the other end, they realize the accent or the way they responded that kind of thing, would be different the way they respond to you and I. When I jumped into their call and tell them, "Look, this is what this person is talking about. You, as a provider, have an obligation to do this." And I feel that he did not do it. And under also consumer whatever, the customer or consumer protection, you could respond to them in a nice way. Then from there, you go on, they're nice, and dialogue. So, I feel that there has to be a lot of education on that to educate a lot of providers by the communication with the CALD communities.
Cali, male, South Sudanese, 36.

The first participant quoted here has a background in working for an agency that supports newly arrived migrants in Australia. He points to the different experiences that arise for people from a CALD background when they deal with energy providers and identifies that people from CALD backgrounds are often not treated in the same way as someone from the ‘northern or eastern suburbs’ (typically a wealthy, well-educated population). This means that energy providers will need to be sensitive to how various factors may intersect in the case of their customers to influence their experiences of energy-related hardships. We recommend that energy providers provide training to all staff, not just those involved in supporting customers experiencing hardship but to acknowledge, understand and address intersectionalities.

7.1.5 Provide multiple touchpoints & don't make it hard for people to access support.

Our next recommendation to Australian energy market stakeholders, and in particular retailers, advocacy and community support service organisations, government policymakers, and to a lesser extent distributors, that are customer facing is to provide multiple touchpoints and pathways open for CALD energy consumers to receive support. The key here is to make support easy and accessible, rather than hard to access – which our participants suggested was currently the case. Furthermore, people have diverse needs, different expectations, and different requirements in how they might be identified, communicated with, engaged with, and access or be referred for support. It is important that energy market stakeholders provide multiple touchpoints and pathways for customers to access holistic support. This was a crucial point raised by participants in our interviews.

Especially someone like for my dad, with things like that, he won't really understand. He'll say, "Please try and speak slowly so I can understand it." Or he'll ask if they can call later to get more information or to pass on the message to his children...I feel like it's not my area. I don't really understand about energy use and all that. So, I like was saying too, like last time, if we had an ambassador from our own community and if that person was knowledgeable in that field, in that area, that's his or her expertise, that would assist us and to help us and to get us more knowledgeable and to make us more understand, this is what's available, these are what the rates are.

Hadiya, female, Armenian, 45.

I think most of them, especially for people who have come in the last eight to 10 years like me, they are kind of from middle class families as well so that's kind of really important to save money for us as well and for the next generation. I think all the migrant population, people from the subcontinent, Arabs, Middle East people, all of them, they want to save if possible, and they're kind of very conscious about that, so yeah. If they have probably the more tools and options available, then they'll continue doing that more often.

Azad, male, Indian, 36.

I suppose number one is to communicate through the channels they have to be able to get some messages through to them. I know water was doing it. When we had the drought, Sydney Water had every type of language out to tell people stop using water in 100 languages, but I don't think I remember any of that done by electricity or any power supplying companies whatsoever. So, they need to go down to the route, they need to go down to the level where people have no access to a lot of information and they're only going through their families. So, they need to be able to find this medium to be able to reach the people who are somehow disadvantaged through their cultural backgrounds or linguistic barriers.

Hamad, male, Turkish, 49.

Our participant quotes shared here demonstrate the importance for energy market stakeholders to ensure that there are different entry points and pathways for accessing support in-person, digitally/online, and over the phone. Furthermore, some customers may self-present for support, but often it will be incumbent on the stakeholders such as retailers to identify customers and offer support to them. What is clear is that there is no one-size-fits-all approach, and that various mechanisms and channels will need to be used to ensure that customers who need support are able to receive it.

7.1.6 Language framing and messaging

Our final consideration in relation to how should Australian energy market stakeholders intervene to better support CALD energy consumers concerns language framing and messaging. Language framing and messaging refer to the context and approach used to construct and communicate information (Keren 2011). The use of preferred language for CALD energy consumers, and the framing of messaging should consider the needs and desires of its intended audience to generate a positive response rather than be demanding or insistent. Language and messaging can use emotion, logos, ethics or core motivations of people or a group to generate influence on attitudes and behaviours (Chong and Druckman 2007). Any efforts to support CALD energy consumers in Australia through communication and the provision of information would need to carefully consider the appropriate use of in-language services, concerning language framing and messaging, and channels of delivery. This was an issue that was identified by our interview research participants, who identified the lack of language framing and messaging that energy retailers use to communicate with customers.

As I am a migrant, everyone have the breakdown about the way they consume the electric or the energy in their country. Of course, very different from here. For this thing is good idea about if people share to know about this thing easy because when they moved to this country, I think they're still used to the way they consume the energy. Maybe same design or same style like their country. But to learn about new thing for Australia, I think it should be the easy way for the people like me, a migrant, to get the information easy from the TV, from the Facebook. Maybe because nowadays, people use social media, but to be honest with you, I did not see much about this thing except the advertisement from the solar company like that.

Porntip, female, Thai, 36.

Our first participant quoted here demonstrates the opportunities for energy stakeholders to consider how delivery and framing of energy efficiency can improve awareness and engagement with householders. Here, this participant recalls the delivery of energy monitoring apps in their home country as a familiar and convenient way to monitor their energy use. This was reiterated in the Co-design workshops where it was the preferred option for helping CALD householders to feel in control of their energy consumption and costs. Yet further the participant identifies that the only marketing material that she has come upon has been sales marketing for retailers of Solar PV. Social media appeals that invite consumers to save money, be

energy efficient or provide independent comparisons, advice or reviews could have a wide reach for CALD communities who may have lower levels of digital competency. Similarly, wider energy policy objectives and goals could be communicated through television or social media promotions or programs.

Participants called for energy market stakeholders to use carefully considered language that is friendly, supportive, non-judgemental, and clear about the intention to help those needing it. This is supported by existing literature, which suggests that effective communication strategies can help overcome stigma and increase empathy, particularly if messages about energy are bundled up with broader matters of health and wellbeing (Gordon et al., 2018a; 2022). This strategy is recommended as part of a sensitive approach to ensuring customers are not stereotyped or marginalised by inappropriate language framing and messaging.

8.0 Recommendations and Guidelines for supporting and empowering CALD energy consumers

8.1 What can Australian energy market stakeholders do to intervene?

In the following section, we identify the justification, aim and rationale, feature and characteristics, timeline, resources required, target segment(s), and value benefits of six priority recommendations for the provision of better support for CALD energy consumers to enable them to use energy efficiently and sustainably while also maintaining their comfort, health, and well-being. While we have not ranked our eight recommendations in order, we have assessed that the following proposals represent key priority areas for consideration.

8.1 Priority recommendation 1: Develop representative energy narratives.

Justification

Narratives in the energy market literature tend to overlook the diversity of experiences that underpin how householders value, manage, and use energy in their homes. Dominant ideas depict the energy consumer as a rational, responsible person who has the capability and capacity to utilize online tools and platforms to understand and manage energy usage and costs with minimal or no significant effort, and without impacting on their well-being and comfort. Yet, in our research we found that a number of CALD households have limited English language proficiency, find it difficult to interpret the technical information in energy bills, may not have access to digital devices (phones, laptops, iPad, PCs) or the internet, may not have the requisite digital skills to use websites or platforms effectively, and may be discouraged from engaging with energy market stakeholders because of language or cultural barriers that impede fair and equitable treatment.

As the following quote demonstrates, the justification for supporting this recommendation is the idea that entry to the Australian energy market is often significantly different to energy provision in the home countries of CALD consumers.

I think they need maybe a culturally appropriate... I don't know. There's the wider Australian community or society or whatever, but then they need to keep in mind there's also different people in the wider Australia that are migrants, and don't even know... Let's say coming from Africa, people are used to generators. You know what I mean? And you pay for your generator, they don't know that you pay for your bills for the electricity and stuff like that. So, if there was some sort of a culturally appropriate information session for newly arrivals, or for migrants to understand how energy works and for families to understand how energy works. And to know exactly what provider will be best for your financial situation as well. It will be really beneficial.

Abeno, female, South Sudanese, 27. Co-design workshop participant.

Aim and rationale.

Appropriate framing in energy market literature is essential to ensure engagement with CALD communities and can assist with managing energy consumption, energy costs, and the transition to sustainable energy futures.

Features and characteristics

Use effective storytelling to communicate with CALD energy consumers. Integrate the four important key elements (van Laer et al., 2014; Gordon et al., 2018a):

1. Use identifiable characters: Share stories that are culturally competent, that feature people identifiable with CALD community members, are in-language, reflect the everyday lived experiences of energy use of CALD people.
2. Feature an imaginable plot: role model CALD energy consumers who have received support and benefitted from this – and/or are successfully managing their energy use efficiently and sustainably, while also supporting their comfort, health, and well-being.
3. Verisimilitude (believability): Stories should reflect everyday energy experiences, frustrations, tensions, and challenges between managing energy costs and managing comfort.
4. Situated knowledge: stories should depict CALD consumers in their own homes and in the context of their communities.

Be respectful and non-judgemental.

Avoid stigma or judging people's actions. Instead create a sense of safety and reassurance that it is okay to talk things through.

Use sensitive and approachable language.

Avoid referring to people as being at fault for struggling to manage their energy use or experiencing vulnerability to or entering energy hardship. Instead, relate to them as a person who happens to be experiencing issues or difficulties, or who may benefit from some support. Avoid calling people

vulnerable – better to say that someone may be experiencing vulnerabilities.

Listening is key.

Make people feel heard and then act in support.

Reassurance

Assure customers that your organisation is here to help not to judge, punish or compound the issue.

Understand the context.

Check with customers about other complex issues (e.g., language barriers, cultural assimilation, mental health, financial stress) that may coincide with issues in managing their energy use and refer for appropriate wraparound support.

Acknowledge intersectionalities.

Customers' experiences may be shaped by intersections of gender, class, race, (dis)ability etc. These factors should be acknowledged in communication. Consider in-language communications for people from CALD backgrounds and employing more people from CALD communities in Australia in your organization.

Timing

Given the importance of this priority recommendation, we would recommend that this suggestion be actioned within the next 1–2 years.

Resources required.

We anticipate that resources required to deliver on this recommendation would include funding for the development of cultural competency training programs for staff; staff training on intervention touchpoints and support pathways; employment of more multi-lingual staff; the development of an external stakeholder engagement strategy (migrant information centres, community organizations or religious groups); and culturally appropriate information and resources to support CALD energy consumers.

Target segment

The target segment for this recommendation is multiple cultural groups and workplace training.

Value benefit

Energy market stakeholders can more proactively and effectively engage with and support CALD customers to manage their energy use and costs, and to help avoid energy related harms.

8.2 Priority recommendation 2: Community engagement & partnerships

Justification

To assist CALD energy consumers to access information that can support energy efficiency, help manage energy costs, and enable the transition to a sustainable energy future. CALD householders often are part of important cultural networks within their local communities, and these are a source of both social support and trusted information. A strong identification with others in the community who come from the same or a similar cultural background or migration experience is often a key feature for a smooth assimilation into Australian ways of life. These organizations also provide a safety net for more vulnerable members of CALD communities through material, financial or social support. Thus, the information provided by these trusted organizations is often held in juxtaposition with corporate information that emanates from energy market stakeholders. This has resulted in a shared mistrust of energy service and equipment providers.

Aim and rationale.

The aim of this recommendation is to acknowledge the additional challenges and barriers for CALD communities to become successful, energy efficient consumers who can maintain important cultural practices and manage the cost of energy. A clear rationale for this recommendation emerged during the project because our participants consistently told us that they were unaware of support services for CALD consumers, had limited access to multi-lingual information, and in fact had high levels of distrust of information provided by energy market stakeholders.

You got to have someone talking in her own language. Yeah, my mother-in-law's illiterate so she can't read or write and she's in her eighties. So, what would she know? If you weren't there face to face to talk to her in Arabic, guess what? You're getting nowhere with her.
Hamad, male, Turkish, 49.

I think the other things they could do is send people out to inspect people's houses who might be interested because one of the things is my parents who aren't that great in English, they're not going to know anything about energy or anything like that. I would like if someone who's really knowledgeable about energy and how to save energy could be sent out to my parents' house to have a look and inspect, "You are doing this, you could potentially save if you switch to this appliance or that appliance or something like that." And someone who's multilingual. Again, because I would think that they're an expert in it and that would definitely at least put them in the right direction.

Anh, male, Vietnamese, 38. Co design workshop participant.

Our project participants strongly identified that a strategy that supported and worked within the established social networks would be the most effective way to ensure that accurate information is disseminated within the wider CALD community. A willingness to explore pathways for non-conventional ways of knowledge sharing (e.g., through events, training opportunities for local cultural leaders, engagement with schools or

churches etc.) would demonstrate a commitment to inclusion and an understanding of the need for tailored and appropriate customer care.

Features and characteristics

CALD communities need access to information that is tailored for their needs. This means that they are better able to understand how to manage their energy consumption, to amend their practices to reduce their energy bills without sacrificing comfort. Because of the strong reliance on community relations, energy service providers need to engage with CALD communities in ways that help to develop relationships of trust. Typically, this may involve direct engagement with community leaders (churches, mosques, schools etc.) to develop pathways to more effective communication channels. Many participants emphasised the importance of language for providing an ethical and effective means of information dissemination.

The features and characteristics of this recommendation include funding to support the development of community relations strategies, staff training and employment to implement the strategies, and more public facing interactions with CALD communities through cultural events, festivals, or social collaborations.

Timing

This recommendation is considered essential and should be implemented as soon as possible and remain ongoing.

Resources required.

Multilingual information, plain language information in a variety of formats e.g., printed brochures, videos, video books, audio etc., information about energy efficiency, appliances and star ratings, support, and subsidies available. Information on the benefits of solar PV and battery storage options. Independent information about retailer services and suppliers (e.g., Australian owned, source of energy). Targeted social marketing behaviour change programs for CALD consumers. Training programs for CALD community leaders. A co-ordinated strategy to promote CALD community engagement.

Target segment

This recommendation would target leaders and mentors in CALD communities, community support groups and service providers.

Value benefit

This strategy provides a pathway for the establishment and maintenance of partnerships between key stakeholders and service providers, and CALD community groups. Ongoing partnerships that involve workshops/ meetings have the potential to strengthen trust between the two groups; provide opportunities for CALD input into the development of programs, strategies and policies to support energy efficiency; create alternative information dissemination pathways and methods; demonstrate an ethics of care for vulnerable groups in the transition to sustainable energy futures; and a commitment to implement equitable and just adjustments that provide a more level playing field for CALD energy consumers.

8.3 Priority recommendation 3: Energy billing, monitoring & tracking

Justification

CALD families employ a range of strategies to manage the cost of energy in their homes. They often make decisions that draw on traditional or cultural knowledge and that they understand as working to reduce domestic energy costs. Using outdoor cooking methods (gas cooktops or charcoal barbeques) or coals to heat the home were ways of controlling energy consumption. Many participants referred to practices in their home countries where the domestic energy service is offered by way of a prepaid card. This was viewed as a way to control energy practices to align with affordability. Thus, a lack of understanding of the bill, energy consumption levels of appliances, or how costs are calculated left CALD householders guessing and or experimenting.

I just don't really know because of the (hot water) heater, it kind of keeps running throughout the day. It's water control as I said. As soon as the water drops to a certain level, it fills it again and it warms the water even if you don't need it. It still kind of continuously runs. I tried turning it off during the night, so in the meter, the electricity box, you have the option of turning it off. I tried doing that, but I didn't notice a big difference in my energy bill after that, so I stopped doing it afterwards.
Azad, male, Indian, 38.

Aim and rationale.

CALD consumers need to better understand their energy consumption patterns and how their energy costs are calculated. Billing information needs to be presented in a form that promotes greater understanding of how energy is used, how to achieve energy efficiency and reduce energy costs. Options for monitoring and tracking energy usage empower CALD energy consumers to control their energy consumption.

Features and characteristics

Energy bills need to provide more information in plain language and rely less on less technical information. Visual aids such as graphs or charts can convey information more simply and dollar values are more easily understood than Kilowatt hours. Bills should include categories of energy usage (e.g., hot water, lighting etc.) so that energy consumers can understand which household practices consumer more or less energy. Bills should be calculated as actual rather than estimated costs and CALD customers who live in rental housing should be given access to their energy meters. This should be negotiated with rental associations and bodies. More options need to be provided for monitoring and tracking energy use (e.g., in the form of apps that allow connection to energy meters, or in home devices). Exploration of options for some form of prepayment system for energy use.

Timing

As soon as possible and ongoing.

Resources required.

The required resources for this recommendation will include funding for developing improved communication tools to convey energy consumption information; development of a strategy to improve access to energy meters through engagement with rental bodies or associations; explore options for provision of free in-home energy monitoring devices to CALD energy consumers; and provide access to apps which allow consumers to monitor and track energy consumption. Consider providing information or training at migrant resource centres or community organizations to assist CALD consumers to understand household consumption and energy efficiency options.

Target segment

Energy providers, real estate organizations, community groups.

Value benefit

A lack of understanding of how bills are calculated leads to CALD disengagement with energy service providers and limits their potential to manage their energy usage in a responsible way. The value benefit of this recommendation is that it will enable energy service providers to build capacity across more groups in the community, provide customers with appropriate support to participate in a transition to a sustainable energy future, and will help advance knowledge and capabilities in the energy hardship sphere, for example, through the provision of staff training by appropriate partners.

8.4 Priority recommendation 4: Familiarization and targeting of energy policy & programs.

Justification

Our fourth priority recommendation is for energy market stakeholders to develop pathways to ensure greater understanding and awareness of government energy policies that aim to encourage energy consumers to transition to sustainable energy sources and a decarbonised economy. Given Australian federal policy is to achieve net zero carbon emissions by 2050, consumers are going to be asked to make changes to their homes and appliances, as well as their energy behaviours, at a time they haven't necessarily chosen. The justification for this recommendation emerges from the realisation that some sectors of the community are less empowered to be able to participate in the energy transition than others. CALD energy consumers in this project expressed that they had little to no knowledge of government energy policies or how they aimed to facilitate a transition to a sustainable energy future. CALD energy consumers however expressed a desire to participate in this shift, were amenable to ideas of personal responsibility. They identified social trends that they observed in their suburbs, for example the increasing numbers of Tesla electric vehicles and electric vehicle charging stations, or the need for more energy efficient measures in new housing. We suggest that as migrants become established and shift from rental properties into home ownership, they should be assisted to benefit from government subsidies and schemes that support home energy efficiency, home insulation, heat pump hot water systems, and greater uptake of renewable energy sources and battery schemes.

I think policy, it is a big thing, so not everyone into it or not everyone knows about it. So, if you don't know, how you're going to apply to yourself or how you going to get benefits?
Tarline, female, Turkish, 42.

We were saying that if we knew that we could be subsidized to do anything, I think we would be most inclined to... We would want to have government subsidies that help us install energy saving infrastructure or even maybe receiving subsidies to install solar panels, for example.
Xue, female, Singaporean, 26. Co-design workshop participant

In a new home, I have seen a lot of new home in Sydney, they had nothing (RCAC) completely. And then, how I going to talk about all the thing, yet you allowed all the building companies to do all their thing with no sustainable energy in mind? I would love to see more policy around that if government will be able to do that.
Cali, male, South Sudanese, 36. Co-design workshop participant

As our participant quotes shared here illustrate, CALD energy consumers may have general understandings of the future direction of energy efficiency and sustainable energy at a market level, yet with little knowledge of the support and subsidy packages currently available.

Aim and rationale.

To assist CALD energy consumers to understand the direction and detail of government energy policies. To enable participation in the transition to sustainable energy futures as CALD energy consumers move from rental to privately owned properties. Energy Policy should be developed in consultation with CALD communities to ensure inclusion. Greater knowledge of energy programs and policies need to be targeted to CALD consumers.

Features and characteristics

Provide plain language information about energy policies and strategies, subsidies, rebates, or schemes which support a sustainable energy transition. Familiarize CALD customers through relevant support services and pathways (e.g., migrant resource centres, churches, mosques). And through energy social marketing programmes for CALD communities that go beyond basic demographics such as age or gender but reflect different lifestyle and cultural practices.

Timing

As soon as possible and should be maintained ongoing once developed.

Resources required.

Multilingual information in a range of formats. Aligned promotional material that can support energy efficiency (e.g., home insulation schemes, solar heat pump hot water systems, energy efficient lighting).

Target segment

All CALD energy consumers.

Value benefit

Programs to encourage energy efficiency measures which align with government policy will enable CALD communities to better understand how to manage their energy consumption. More awareness of the support and benefits of renewable energy options will encourage greater uptake and reduce energy consumption costs. Improving home energy efficiency through home insulation can reduce energy costs and decrease overall levels of energy consumption, while improving comfort levels and decreasing billing anxiety.

8.5 Priority recommendation 5: Cultural competency

Justification

Our next recommendation is for energy service providers to take action to ensure they are culturally competent and appropriately equipped to support CALD energy consumers. This would require the delivery of staff training to people working across the entire business regarding the nature, complexities, and characteristics of energy harm and CALD customers who may be experiencing it; how to identify customers experiencing energy hardship; how to intervene appropriately; and what policies, pathways, and processes to follow when a customer requires support. This would also require knowledge acquisition and upskilling for ensuring that the very best level of appropriate support and care can be provided to customers; and learning about how to identify and engage with appropriate partners who can provide the support and care required by energy hardship customers. The importance of staff training for energy service providers seeking to support customers experiencing energy-related vulnerabilities and harm was raised repeatedly in this project during our narrative interviews and co-design workshops, as illustrated in the following quotations.

I had issues with a couple of them. I had issues with them before AGL and then I had issues with Energy Australia. And Origin, because when they tell you an estimate- When you estimate you double it, I will not accept it. That's where the issue come in. And then I ask them, why are you not sending somebody? You employ people to come and read my meter. And then if you're not sending people, then it means that you guys did not employ people, which is not good...So then become argument that we argue always. So, until we settled with any year, it was AGL. I sent them to our report, them to ombudsman. I think two time. And I won the case...They couldn't listen to you, they come to you. They said, look, let's see a way we can settle it.
Cali, male, South Sudanese, 36.

So, what happened is, I don't know why, but I paid it manually so, it gone to their account, but still, they direct debit again. So basically, I paid the same bill twice. And I give them a call and explain, but it took ages at least every day, two hours phone calls. And I was like... And at the end I was so angry. I spoke to one of the representatives and I asked her could I just please talk to your supervisor or manager. Anyway, because what they said so we could pay your money back in eight to 10 business days. I was like, if I pay my bill eight to 10 business days later, what happens? We fine you. So why you don't pay fine towards your attitude, why I have to pay you fine? And then that's why I expect supervisor, I said Look, if you guys, so what happens if I pay 10 days later, she said maybe we will fine you \$20. Okay you going to pay me \$20 back or otherwise I going to cancel my membership. And they did pay.
Tarline, female, Turkish, 42.

CALD energy consumers often felt that their voices were not heard, or their requests were not taken seriously. With the appropriate training, energy service providers may be able to have greater insights into the challenges that face CALD families in relation to negotiating with energy service providers, and the

elevated level of stress and anxiety that can be caused through interactions that do not provide satisfactory outcomes.

Aim and rationale.

It is important for energy market stakeholders to develop their cultural competency to support CALD consumers. This would involve training staff and adopting a whole-of-organisation approach, regarding the nature, complexities and characteristics of energy harm and CALD customers who may be experiencing it.

Features and characteristics

Training to understand the needs of CALD community, staff who are from multicultural backgrounds. Respectful and appropriate communication available in a range of languages. More detailed information about billing calculations and energy costs to be provided by an independent source. More transparency of energy providers credentials and ownership, energy sources, and green energy uptake. Provision of ongoing support for CALD customers that purchase and install energy efficient devices, solar PV, battery storage, or car charging stations.

Timing

As soon as possible and every 1–2 years after.

Resources required.

Facilitated expert trainers drawing on stakeholder partnerships, funding to pay for training resources (e.g., information and activity packs), and budget for staff hours spent on training.

Target segment

All energy market stakeholder staff.

Value benefit

The value benefits of this recommendation are improved customer care provision, an ethical approach to energy harm reduction, and higher levels of staff with appropriate socially responsible training. Improved reputation and credibility for energy market stakeholders, improved outcomes for CALD energy customers in terms of satisfaction with energy providers' customer service, reduced levels of financial and emotional stress, as well as potentially lower energy bills and improved capacity to participate in transition to sustainable energy futures.

8.6 Priority recommendation 6: Social marketing

Justification

Our final priority recommendation is for energy market stakeholders to use social marketing as part of their commitment to supporting CALD customers, enabling the clean energy transition, and tackling energy-related vulnerabilities and harm. Social marketing involves the use of marketing concepts and principles, along with other approaches, to bring about behaviour and social change that benefit people, communities, society, and the planet (French and Gordon 2020). Social marketing can offer a powerful tool for facilitating behaviour change to use energy more efficiently, as well as to minimise energy related hardship and harm (Gordon et al., 2018a, b). Marketing and communications can also increase awareness and support uptake of future policies and programs and improve brand image. As the following interview quotes demonstrate, our research participants identified that energy service providers can use social marketing to raise awareness, share information, shift attitudes, and influence behaviours in relation to energy.

As these participant quotes illustrate, CALD consumers are interested in and keen to participate in the transition to a sustainable energy future, yet often the lack of clear information, transparency, or trust prevents them from effectively implementing measures which will provide direct benefit to the household. Social marketing programmes have the capacity to make clear the available steps that energy consumers can make which are aligned with a whole-of-society shift.

I want to compare more; I need more information... I want to save money for my pocket, but for the solar panel, this is another choice for me to use the energy in the future and to save my budget. Why should I use more to get the benefit because then who will guarantee after I consume more that I will get this thing? No one guarantee and for the quality because they say, "Oh, be careful. They have so many quality in the market. Some solar panel maybe they keep in the stock for many years and maybe they take from the old stock, install for you, then how will you know?"

Porntip, female, Thai, 32. Co-design workshop participant.

Through government mandated policy, we have much better infrastructure around us overall. For example, insulation of properties. Or what we were sharing, installing electric vehicle charging stations. We hope that that will be something that will be pushed by the government so that the shift is much greater.

Xue, female, Singaporean, 26. Co-design workshop participant.

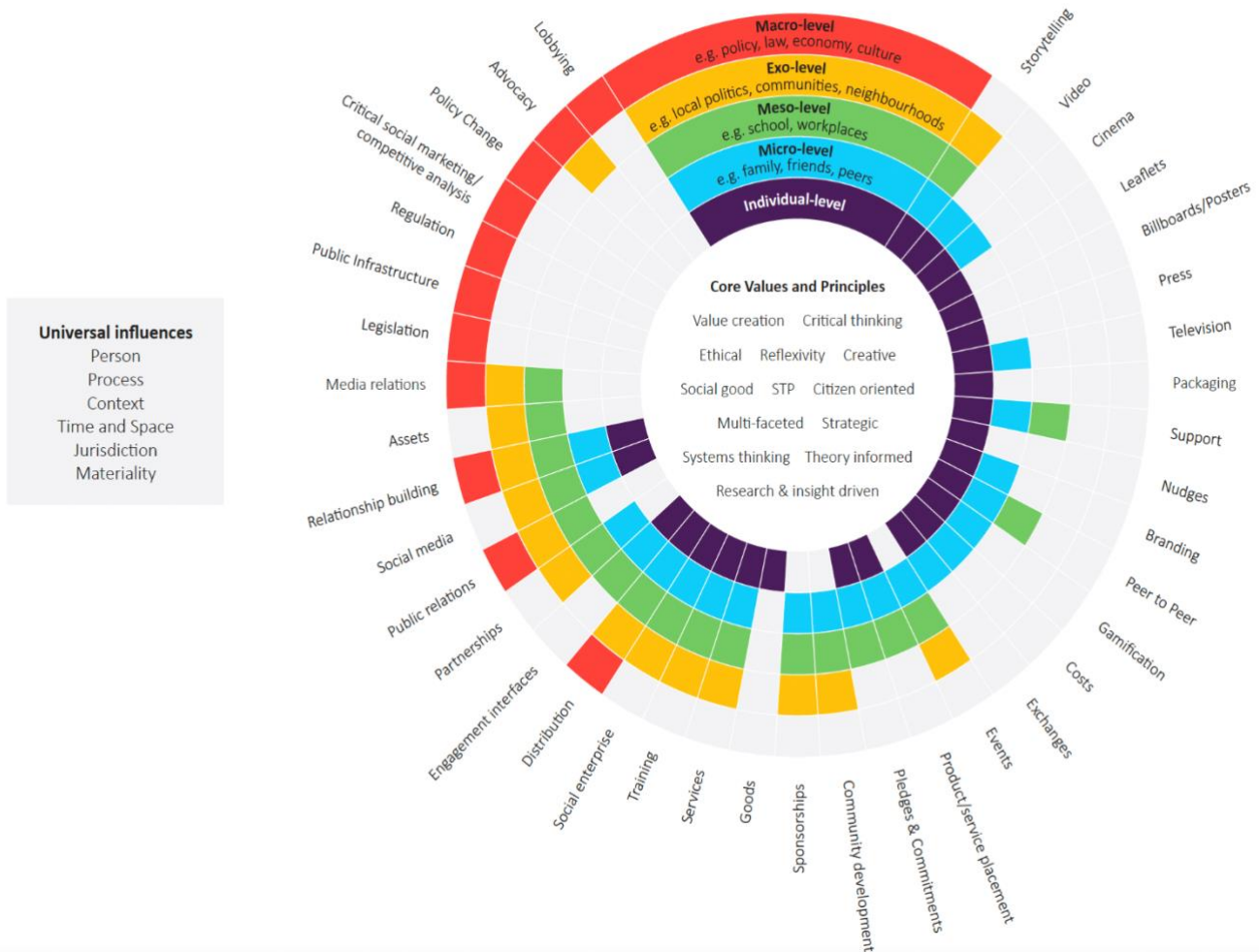
Aim and rationale.

The aim of this recommendation to use social marketing to achieve behavioural change through targeted programmes with CALD energy customers that feature strategies, tools, and options for energy efficiency. Building on our recommendations above this needs to be culturally appropriate.

Features and characteristics

Social marketing is a systematic, strategic, and multi-level approach to behaviour change (French and Gordon 2020). Key features of a strategic social marketing approach for the energy market to address energy hardship and harm would include consumer research to inform strategy and tactics, segmentation analysis, use of appropriate behaviour change theory, the development of clear value propositions for people to change behaviour, and integrated use of the social marketing intervention mix (see Figure 5), which can include combinations of promotion, product development, pricing strategies, place-based marketing, policy change, service design and delivery, storytelling, and a range of other activities.

Figure 5: The Strategic Social Marketing Intervention Mix



Timing

Given the importance of this priority recommendation, we would recommend that this suggestion be actioned within the next 1–2 years.

Resources required.

Funding and commissioning of social marketers.

Target segment

All customers, the general Australian community.

Value benefit

The value of employing social marketing is that it would raise the energy market's profile as being active in the energy support and customer hardship space, improve brand value, build ethical and social responsibility reputation, raise awareness, destigmatise energy hardship, improve uptake of energy support provision, and reinforce all our other recommendations.

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Appendix 1 – Data Sources for Text Analysis of Energy Policy & Programs

Source	Type
Government agencies and departments	
Australian Competition and Consumer Commission	<ul style="list-style-type: none"> – ACCC & AER Annual Report 2018-19 – Restoring Electricity Affordability & Australia’s Competitive Advantage, Final Report June 2018 – 3x media releases
Clean Energy Regulator	<ul style="list-style-type: none"> – Annual Report, 2017-18 – 5x media releases, 2018-20
Clean Energy Regulatory – Renewable Energy Target	<ul style="list-style-type: none"> – The Renewable Energy Target 2018 Administrative Report, July 2019 – Progress in 2017: Delivering Australia’s 2020 Renewable Energy Target, May 2018 – Tracking Towards 2020: Encouraging renewable energy in Australia, March 2017
REC registry*	Inaccessible – must provide log-in details
COAG Energy Council	<ul style="list-style-type: none"> – National Energy Productivity Plan 2015-2030 – National Energy Productivity Plan Annual Report 2018 – The Health of the National Electricity Market 2019 <ul style="list-style-type: none"> - Volume 1: The ESB Health of the NEM Report - Volume 2: Major Reports 2019, AEMC, AEMO and AER – 3x media releases, 2020

- Department of Environment and Energy
- Department of the Environment and Energy Annual Report 2018-19
 - Department of Industry, Innovation and Science Annual Report 2018-19
 - Achieving Low Energy Existing Commercial Buildings in Australia Final Report, October 2019
 - 4x media releases, 2020

- National Competition Council
- Annual Report 2018-19

- Productivity Commission
- Annual Report 2018-19
 - Shifting the Dial: 5 Year Productivity Review, August 2017
 - Digital Disruption: What do governments need to do? Research Paper, June 2016
 - 3x media releases, 2015-20

Energy institutions

- Australian Energy Market Operator
- Annual Report 2019
 - 3x news articles, 2020

- Australian Energy Market Commission
- Annual Report 2018-19
 - 3x media releases, 2020

State regulators

- Essential Services Commission of Victoria
- Annual Report 2018-19
 - Victorian Energy Market Report 2018-19
 - 3x media releases, 2020

- Essential Services Commission of South Australia
- Annual Report 2018-19

Independent Competition and Regulatory Commission of ACT	– Annual Report 2018-19
Independent Pricing and Regulatory Tribunal of NSW	– Solar Feed-In Tariffs 2020/21 Final Report, April 2020 – Performance and Competitiveness of the NSW Retail Gas Market 2018/19 Final Report, November 2019 – Performance and Competitiveness of the NSW Retail Electricity Market 2018-19, November 2019 – 3x media releases, 2016-20
Economic Regulation Authority of WA	– Annual Report 2018-19 – 3x media statements, 2017-20
Queensland Competition Authority	– Annual Report 2018-19
Office of the Tasmanian Economic Regulatory	– Annual Report 2018-19 – Energy in Tasmania Report, 2018-19 – 3x media releases, 2019-20
Utilities Commission of the Northern Territory	– Annual Report 2018-19
Ombudsman	
ACT Civil and Administrative Tribunal	– Annual Review 2018-19
NSW Energy and Water Ombudsman	– EWON Annual Report 2018-19 – Queen Margaret University: EWON NSW Independent Five-Year Review 2019 Report, October 2019 – KPMG: EWON Expanded Jurisdiction Final Report, May 2018 – Rising Inequality in the Energy Market: Safeguarding

Consumer Protection Report, September 2016

- Australia and NZ Energy and Water Ombudsman Network reports (coalition of ombudsman, collected via EWON)
 - University of Sydney: What will energy consumers expect of an energy and water ombudsman scheme in 2020, 2025, and 2030? October 2019
 - External Dispute Resolution (EDR) Access Report, June 2016
- 4x media releases, 2017-20

NT Ombudsman

- Annual Report 2018-19
 - Part 1
 - Part 2

Queensland Energy and Water Ombudsman

- Annual Report 2018-19
- 3x media releases, 2018-19

South Australian Energy and Water Ombudsman

- Annual Report 2018-19
- 3x media releases, 2018-20

Tasmanian Energy Ombudsman

- Annual Report 2017-18

Energy and Water Ombudsman Victoria

- Annual Report 2019
- Affordability Report July-December 2019, March 2020

Western Australia Energy and Water Ombudsman

- Annual Report 2018-19
- 3x media releases, 2018-19

Commonwealth Ombudsman

- Annual Report 2018/19

Representative groups

Australian Energy Council

- Solar Report: First Quarter 2020

- Acil Allen Consulting: Wholesale Electricity Costs Victorian Default Offer 2020 Report, October 2019
 - KPMG: Coordinating Electricity Market Reform Report, October 2019
 - 3x media releases, 2020
- Australian Gas Association
- 3x news flashes, 2020
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- Consumer organisations**
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 - Energy Assistance Report, July 2019
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	– Heat or Eat Report, August 2015
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COTA Australia	– COTA Energy Survey 2014, February 2015
	– 2x media releases, 2018
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	– Experiences of Energy Consumption for CALD Communities, Research Report, April 2016
	– 1x Energy Advocacy News, 2015
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	– PIAC Evaluation of Consumer Engagement by NSW DNSPs, 2017-18, August 2018
	– Close to the Edge – a Qualitative and Quantitative Study, November 2018
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	– Shifting Power Report, November 2018
	– Community Energy in Queensland Report, August 2018

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Appendix 2 – Qualitative Interview Discussion Guide

Supporting CALD Australians to be empowered energy consumers.

Qualitative interview discussion guide

You have kindly agreed to take part in this research project that focuses on empowering culturally and/or linguistically diverse residents and citizens of Australia regarding their energy consumption.

Your Background

- Q1. So, can we start with your age? What year were you born in?
 - Q2. What is your position in the family e.g., oldest, youngest?
 - Q3. Do you identify with any specific cultural background?
 - Q4. Can I ask if you are single, married or partnered, separated, or divorced?
 - Q5. Do you have children?
 - If yes - how many?
 - Ages?
 - Stages of development? e.g., childcare, pre-school, school etc.
 - Q6. So how long you have lived here in this house/Sydney?
Who do you live with?
 - Do you enjoy living in this house/Sydney?
 - Do you see yourself staying here?
 - Why or why not?
 - Q7. Who else lives here with you? Or has shared this house with you over the last several years?
-

Your Heating and Cooling Practices

- Q1. Overall, would you say that you feel comfortable in this home?

Prompt – Please explain your answer?

- Q2. Can you tell me about how you heat the house in winter?

Probes - Is this house easy to keep warm?

What are the challenges?

Can you talk about the appliances that you use (e.g., portable electric heaters, RC air conditioners, gas heaters, strip heaters)?

How long have you had them?

Do they work well?

Are they expensive to run in your opinion?

Q3. How did you learn about the heating practices you should use in your home?

Q4. Can you tell me about how you cool the house in summer?

Probes - Is this house easy to keep cool?

What are the challenges?

Can you talk about the appliances you use to keep cool (e.g., desk fans, pedestal fans, misting fans, ceiling fans, RC Air conditioners)?

How long have you had them?

Do they work well?

Are they expensive to run in your opinion?)

Q5. How did you learn about the cooling practices you should use in your home?

Q6. Can you tell me about the other major electrical appliances you have in your home?

(Prompts e.g., fridges, stoves, ovens, televisions, dishwashers, washing machines, clothes dryers etc.).

Probes - Can you remember when you purchased them?

What were the reasons for choosing the type of appliance?

Did you consider things like energy star ratings, cost, and brand at the time of purchase?

How energy is consumed in your home

Q1. What things do you think about and consider when you use energy in the home?

Probes – e.g., billing costs, comfort, caring for family and self, the environment, being a responsible consumer?

Q2. Is there much discussion about energy use among the people living in your home?

Q3. What room or rooms do you spend most of your time in?

Probe - What do you do?

Q4. Are there any rooms you avoid? Why?

Probe - Are they too hot or cold for example?

Q5. Can you tell me on an average day what appliances/materials you use that consume energy?

(e.g., fridge, cooker, TV, computer, phone, other appliances).

Q6. What do you think about how much energy YOU use personally?

Probes – is it a lot, a little, about average?

Q7. What do you think about how much energy that people from your shared cultural background living in Australia use?

Probes – is it a lot, a little, about average?

Knowledge about energy consumption

Q1. How much energy do you think a fridge uses?

(a lot, a little – how would you describe this?)

Q2. What about lighting?

Q3. Televisions? (Reminder to enquire about entertainment)

Q4. Music/sound systems

Q5. Dishwashers

Q6. Other kitchen appliances

(e.g., toasters, microwaves, food processors, blenders, coffee makers) (Reminder to enquire about entertaining people)

Q7. How about a dryer?

Q8. Air conditioner?

Q9. Heater?

Q10. Video games/computers

Q11. Hair dryers, straighteners? (Reminder to enquire about grooming)

Q12. Irons?

Q13. Are there any other appliances or things that use energy in your home?

If so, how much energy do you think this appliance uses?

Energy use among people from your cultural background

Q1. Is there much discussion about energy use among people of your cultural background living in Australia?

Prompt - What sort of things do people talk about?

Q2. Among people from your cultural background - can you tell me about any traditional cultural practices that you are aware of that involve using energy?

Prompts – e.g., cooking practices, bathing rituals, use of specific appliances such as traditional cook stoves, ways of heating and cooling the home etc.

Q3. What value do you think people get from performing these traditional cultural practices?

Q4. Where, how and from whom do people learn about these practices?

Q5. How do you think that these traditional cultural practices affect the energy consumption and energy bills of people?

Q6. Do you perform any traditional cultural practices that involve using energy in your own home?

Prompts – If so, can you please tell me about this?

Q7. What value do you think people get from performing these traditional cultural practices?

Q8. Where, how and from whom did you learn about these practices?

Q9. How do you think that these traditional cultural practices affect your own energy consumption and energy bills?

Q10. What do you think responsible energy use means to people from your cultural background living in Australia?

Q11. What does responsible energy use mean to you?

Q12. What are some of the main challenges you face when thinking about using energy?

Q13. How do you negotiate those challenges?

Q14. What do you think are some of the main challenges that people from your cultural background face when thinking about using energy?

Q15. How would you say your energy use has changed as you have lived in Australia for longer?

Q16. How would you say your energy use has changed since the COVID-19 pandemic?

Views on Australian energy policy

Q1. What do you know and think about Australian energy policy for culturally and linguistically diverse residents and citizens of Australia?

Q2. Can you tell me how you feel about it?

Probe – Do you feel supported? Do you feel empowered?)

Q3. What do you know and think about any programmes to support culturally and linguistically diverse residents and citizens of Australia with their energy use?

Probe – Are you aware of any? Have you accessed any? How was your experience? Did you feel supported? Did you feel empowered?)

Q4. If you could tell the government one thing about energy use among culturally and/or linguistically diverse residents and citizens of Australia, what would it be?

Q5. If you could ask the government, or anyone else, to do something to help culturally and/or linguistically diverse residents and citizens of Australia manage their domestic energy use, what would it be?

Q6. Finally, do you have any other things you would like to say about your own energy use, or energy use among culturally and/or linguistically diverse residents and citizens of Australia?

Thank you for your time and responses today.

Appendix 3 – Video Ethnography Protocol

Supporting CALD Australians to be empowered energy consumers.

Video Ethnography Protocol

You have previously kindly agreed to take part in this research project that focuses on empowering culturally and/or linguistically diverse residents and citizens of Australia regarding their energy consumption.

Today we are inviting you to participate in a brief video ethnography tour of your home. During the video ethnography you will be asked to demonstrate to us your energy use practices that are important in your household.

This may involve cooking, washing, heating, and cooling practices.

We will also ask you to demonstrate any culturally specific energy use practices that you perform in your household. This will be video recorded by the researcher using an iPhone.

We will then ask you a couple of questions about how the energy narratives produced by the Australian energy market (such as retailers and policymakers) compare with your own energy narratives. We will also ask you for your suggestions on how Australian energy market stakeholders and the narratives they produce could be more supportive for CALD consumers.

No secretive use of video recording will take place, and you are free to request that the video recording is stopped at any time. The whole thing should take around 30 minutes or so.

Video clips will not be used beyond the research team for scholarly purposes without your permission and can be de-identified through blurring of faces, photographs, and views from windows upon your request. All data files will be password protected, stored in a safe and secure location at the University of Study, and any data will only be accessible to the project team. Information collected during the video ethnography will potentially be used for a research paper and possibly other published studies for the University.

Can I just check – are you okay to proceed?

Introduction

Okay, it's DAY & DATE and I am with PARTICIPANT, and she/he is going to show me around her/his home and tell me about how she /he uses energy.

For each energy practice - if you can just show me what you do, what you use, and how you do it please that would be great?

- Can you start by showing me what you think are the most important energy use practices you perform in your home?

NOTE – Allow the participant to guide you and show you their most important energy use practices. Some examples and prompts are given below. But the process should be participant led – and need not cover all the different energy use practices contained below.

Heating and Cooling Practices

Prompts –

Can you show me how you heat the home in winter? (Prompts - Heater, Reverse cycle Air-con, hot water bottle)

Ask to show how they use various appliances used for heating?

How did you learn or know how to do it like that?

Can you show me how you cool the home in summer?

Ask to show how they use various appliances used for cooling? (Prompts: Fan, ice packs, open doors & windows, air-con)

How did you learn or know how to do it like that?

Cooking

What about cooking practices? Can you show me?

Ask to show how they use various appliances used for cooking?

e.g., hob, oven, microwave, pressure cooker, gas stove, BBQ

Are there any cultural practices of cooking you perform at home? Can you please show me?

How did you learn or know how to do it like that?

Laundry

What about doing your laundry – can you show me what you usually do?

Ask to show various appliances used for doing laundry?

e.g., Washing Machine, Dryer, Iron

How did you learn or know how to do it like that?

Washing

What about doing your washing practices – can you show me what you usually do?

Ask to show various appliances used for doing laundry?

e.g., Bath, Shower, Hot Water Heater

How did you learn or know how to do it like that?

Entertainment

What about entertainment/leisure activities? Can you show me what practices you do?

Ask to show how they use various appliances used for entertainment?

e.g., TV/Computers/Music Systems/Instruments/Games Consoles

How did you learn or know how to do it like that?

Lighting and Security

What about doing your lighting in your home– can you show me what you usually do?

Ask to show various appliances used for lighting?

e.g., Ceiling Lights, Floor Lamps, Reading Lamps, Torches

How did you learn or know how to do it like that?

What about security – do you do anything like use an alarm, or leave the lights and TV on when out to offer some security for your home?

Any other energy use practices?

Are there any other important energy use practices you/householders usually perform in this house?

e.g., hair-drying, curling, straightening hair, massage, hot tub...

Challenges

Can you please show me/explain to me what are some of the biggest challenges you have in performing the energy use practices you have shown me today?

Australian energy market narratives

I just have some final questions to ask you before we finish, is that okay?

Our analysis of the energy narratives produced by Australian energy market stakeholders indicates the following: (note read these out slowly and carefully and show the statements to participants)

- **That consumers can make informed and rational choices about their use of energy services.**
- **That consumers are aware of and take personal responsibility for a transition to decarbonised, efficient and sustainable energy use.**

- **That consumers can use digital tools and platforms to effectively manage their own energy use.**
- **That the Australian energy market helps to empower consumers to make their own choices.**

Q. What are your thoughts about these statements? Do you agree or disagree with each/any of them?

Q. How do you think these narratives compare your own lived experiences of using energy?

Q. What would you advise the Australian energy sector should do to improve how they use storytelling to better support CALD energy consumers?

Thank you for your time and responses today.