Power Shift

Providing consumers with the help they need – consumer behavioural insights
What I’ll cover

- What consumers are experiencing in the market now
- What the evidence base is telling us about consumer needs and preferences
- Key findings of Power Shift
- The frameworks we’ve built to help government and industry
How consumers are faring in the energy market
Consumer price index of electricity

Quarterly change in consumer price index of electricity prices compared with all prices since September 1980.

Prices at 1980 Q3 are indexed to 100. Chart shows percentage change per quarter of each price group.

Chart: ABC News • Source: Australian Bureau of Statistics
Current State of Financial Vulnerability

- **MANAGING**
  - 31.2% - Financially Secure

- **BUDGETING**
  - 56.3% - Low Financial Stress
    - Not accessing hardship programs

- **AT RISK**
  - 12% - High Financial Stress
    - Not accessing corporate hardship programs

- **HARDSHIP**
  - 0.6% - Severe Financial Stress
    - Currently accessing corporate hardship programs

- 49% - Sometimes or Always struggle to pay their bills
  - 44% are too embarrassed to ask for help
  - 66% don't know what support is available

Source: Thriving Communities Partnership
Figure 1. Electricity and gas expenditure as a percentage share of income by disposable income quintiles

This graph shows energy expenditure as a share of income by each 20% of households, the lowest 20% of households by disposable income and the highest 20%.

Source: Phillips 2018
Energy Consumers Australia *Energy Consumer Sentiment Survey*  
**June 2019**

**Figure 25 – Household’s confidence in the market**

[Bar chart showing different surveys and their confidence levels in the energy market, with categories for positive, neutral, and negative sentiments.]
Energy Consumers Australia Energy Consumer Sentiment Survey
June 2019

Figure 20 – Household’s confidence in managing their energy costs
And the market is transforming

4 Levels of Autonomous Home Energy Management

- **LEVEL 0**
  - Historical Data Visualization
  - Access to historical energy data, typically through online portals or Home Energy Reports.

- **LEVEL 1**
  - Real-Time Energy Monitoring
  - A real-time connection to a home's energy use.

- **LEVEL 2**
  - Real-Time w/ Connected Devices
  - Connectivity to smart devices, allowing for control and management of appliances.

- **LEVEL 3**
  - Insight Assisted Change
  - Provide personalized insights of home and appliance health.

- **LEVEL 4**
  - Full Home Optimization
  - A personalized and autonomous optimization engine for the home that balances comfort and efficiency.

Source: The 4 Levels of Autonomous Home Energy Management published on Smart Electric Power Alliance www.sepapower.org 11 April 2019
The impact – households can’t afford the energy they need

Case Study: Mission Australia Get Bill Smart Hobart, TAS

Source: AusIndustry presentation to IREE, 2017
Building our understanding of household decision-making
Power Shift assists energy companies and government to deliver services and programs that help consumers manage their energy use, in particular low income and vulnerable consumers.

Our *Power Shift* work builds on the data and findings of the Low-Income Energy Efficiency Program, our [Energy Consumer Sentiment Surveys](#) and the work we do under our ongoing four research priorities.

- Supporting vulnerable households
  - Including supporting GEER Australia
- Capturing efficiency benefits
- Making energy easy
- Enabling behaviour change.
Energy affordability critical issue – disconnections / debt are high, and new solutions are required.

**Driving Change**, the meta-analysis of $56m LIEEP program, identifies effective ways to help low-income households, including:

- Most effective interventions
- motivations and barriers to energy management
- segmentation framework laying out a pathway on how to design more effective program.
Resource Man (Strengers, 2014)

**Insights**

• Smart energy technologies embody a rational, individual and masculine image of the energy consumer: Resource Man

• Reimagining Resource Man might involve embracing and supporting ‘mess’, ‘designing for “slow time’ or designing for other humans and non-humans in the home
Recognising customers
Households have a style

Ant Colony
We work together like a well-oiled machine.

Beehive
We experts work together for the good of the household.

Lion Pride
We are the masters of our environment.

Brumbies
We won't be shackled.

Camels
We stick to our own way of doing things.

Flock of Geese
We share the load, and take turns leading.

Wallabies
We're easy-going and flexible.

Domestic Cat Family
We like to do our own thing.
Energy management is an urgent need. So why isn’t the market offering it?

Findings

• System inertia – in incumbents and institutionally
• No clear value to companies
• No common standards driving interoperability

Recommendations

• Innovation sandbox
• Mandated national targets for energy savings and management
• Accelerated implementation of consistent standards for energy management devices
Effective initiatives = individualized, affordable

• There is no one size fits all solution to encouraging consumers to change their energy consumption behaviour

• Programs and products must be fit-for-purpose, and tailored to meet the varied needs of households

• Where information is provided to consumers in a format and through a communication channel that suits their lives, they will respond positively

• We need to meet consumers where they are
Consumers are willing to respond, but need tools and information that suits their needs

Evidence base supports action

- LIEEP participants responsive to messaging that reflected their needs, and delivered through trusted networks

- ECA Energy Consumer Sentiment Survey – consumers are trying to manage their energy, but not confident they have right information and tools
In a transforming market, re-building consumer trust is critical

• Consumers are not confident they have the ability to make good decisions
  - Using a trusted voice helped make communications more effective

• New technologies and services have potential to simplify consumer experience, giving them more effective, tailored information and tools - but there are two emerging challenges

1. To ensure new technologies and services reduce complexity, including ensuring interoperability between devices and technologies

2. Ensuring no-one left behind. The elderly, tenants, low-income households and those in rural and regional communities are at risk if they can’t access or afford these services.
Energy is critical to health and wellbeing

Poor energy performing homes result in

- Higher energy bills for the household
- Increased mortality rates – more people die in Australia from cold than do in Sweden
- Increased allergies and respiratory diseases
- Higher public health spending
Helping government and industry operationalise those learnings
CAPTURING EFFICIENCY BENEFITS
Beyond energy and emissions savings

Business case traditionally focuses on energy/emissions where cost-benefit may not encourage action

*Multiple Impacts of Household Energy Efficiency: An Assessment Framework* enables

- Accurate measure of ALL the benefits of enabling consumers to better manage their energy
- Energy and emissions savings just the start – significant individual and public benefits from improving health and wellbeing
Energy system impacts

Energy system impacts

- Energy system impacts
  - Health & wellbeing
  - Other participant benefits
  - The overall economy

Energy system

- Reduced household energy consumption & bill savings
  - Utility costs from reduced energy consumption
  - Lower retailer costs from reduced arrears & disconnections

- Reduced CO2 emissions from energy generation
- Avoided health costs related to air pollution from electricity generation
- Avoided generation costs
- Deferred network investment

- Avoided health costs related to air pollution from electricity generation
- Reduced CO2 emissions from energy generation

Utility costs from reduced energy consumption

Lower retailer costs from reduced arrears & disconnections
Health and wellbeing impacts

- Energy system
- Health & wellbeing
- Other participant benefits
- The overall economy

Energy system

- Reduced household energy consumption & bill savings
  - Reduced financial stress
  - Reduced disconnection costs

- Improved thermal comfort
  - Reduced family tensions & social isolation
  - Improved mental wellbeing

- Reduced damp & mould
  - Reduced private health spending
  - Fewer days off work/school

- Improved health & wellbeing
  - Improved mental wellbeing
  - Improved diet
### Summary of impact framework components

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evidence of causal link</td>
<td>The theoretical foundation for the impact and the strength of the supporting empirical evidence</td>
</tr>
<tr>
<td>Materiality of impact</td>
<td>Relative magnitude of the impact (in programs where impact is expected to occur)</td>
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<tr>
<td>Robust methodology</td>
<td>Degree to which well established research protocols exist</td>
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<tr>
<td>Robust estimates</td>
<td>The number of robust studies from which to draw estimates</td>
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<tr>
<td>Transferability of estimates</td>
<td>Whether existing estimates are transferable to an Australian context</td>
</tr>
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</table>
Use of multiple impacts assessments

- Input into ex-post cost-benefit analysis
- Input into outcomes evaluations
- Input into ex-ante or ex-post cost-benefit analysis
- To guide policy development and design
- Input into business cases for energy efficiency programs
- To support corporate social responsibility programs

Program evaluation

Policy development & design

Industry program assessment
MAKING ENERGY EASY
Building confidence and trust through information and tools

Evidence base (LIEEP, CitySmart, RMIT et al) point to value of tailoring information and assistance to consumers lifestyle and circumstances

Supporting Households to Manage their Energy Bills: A Strategic Framework provides govt with

- Range of actions all households can take to manage their bills
- Groups households with similar needs/constraints
- Recommends effective tools and assistance
Elements of the strategic framework

- Choices available to households to manage energy bills
- Types of households (diverse motivations, abilities and opportunities)
- Tools and services to support households
CHOICES AVAILABLE TO HOUSEHOLDS TO MANAGE THEIR ENERGY BILLS

Choose to use less energy at peak times

Choose to change the way energy is used

Choose more efficient equipment (including plug-in and non-fixed appliances)

Choose a better energy deal

Choose alternative energy sources (including solar panels and batteries)

Choose to improve building fabric and fixed appliances
Different types of Australian households

<table>
<thead>
<tr>
<th>TYPE OF HOUSEHOLD</th>
<th>MOTIVATION</th>
<th>ABILITY</th>
<th>OPPORTUNITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enthusiasts</td>
<td></td>
<td></td>
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<tr>
<td>Completers</td>
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<tr>
<td>Dependent</td>
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<tr>
<td>Stuck</td>
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<tr>
<td>Middle Australia</td>
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<tr>
<td>Complacent</td>
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<tr>
<td>Competent</td>
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<tr>
<td>Cautious</td>
<td></td>
<td></td>
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<tr>
<td>Hard to help</td>
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</table>

- High-Medium
- Medium
- Low-Medium
Tools and services to support households to manage their energy bills

- Awareness campaigns
- Word of mouth communication / role models / exemplars
- General / tailored / personalised information
- Market-based tools & services
- Feedback on outcomes – general, specific and timely
- Control of devices by third party
- Incentivise desired / penalise undesired choices
- EPCs, loans
- Grants, subsidies
- Government investment in public housing upgrades
- Fund community organisations to provide services
- Minimum performance standards
- Information provision, schemes (e.g. energy efficiency), technologies
- Remove market, policy, regulatory barriers
- Access to community services that can support and assist households taking action
<table>
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<th>TYPE OF HOUSEHOLD</th>
<th>INFORMATION, ADVICE AND NON-FINANCIAL SUPPORT</th>
<th>INCENTIVES</th>
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<tr>
<td>ENTHUSIASTS</td>
<td>Awareness campaigns; general information; word of mouth communication (technology-based); tools and services</td>
<td>General feedback; incentivise desired outcomes</td>
</tr>
<tr>
<td>COMPLETERS</td>
<td>Awareness campaigns, general information, word of mouth communication (technology-based), tools and services</td>
<td>General feedback; incentivise desired outcomes; penalise undesired outcomes</td>
</tr>
<tr>
<td>DEPENDENT</td>
<td>Tailored information, word of mouth communication (traditional); access to information by trusted source</td>
<td>Specific feedback; control of devices by third party</td>
</tr>
<tr>
<td>STUCK</td>
<td>Tailored information, word of mouth communication (traditional); access to information by trusted source</td>
<td>Specific feedback, penalise undesired outcomes; control of devices by third party</td>
</tr>
<tr>
<td>MIDDLE AUSTRALIA</td>
<td>Awareness campaign, tailored information; word of mouth communication (technology based and traditional); market based tools and services</td>
<td>Specific feedback; control of devices by third party</td>
</tr>
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<td>COMPLACENT</td>
<td>Tailored information; word of mouth communication (technology based); market based tools and services</td>
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INITIATIVES THAT ARE THE MOST APPROPRIATE TO SUPPORT DIFFERENT TYPES OF HOUSEHOLDS

- **ENTHUSIASTS**
  - Financial support: EPCS, loans
  - Regulation: Schemes; remove barriers
  - Support services: Schemes; remove barriers

- **COMPLETERS**
  - Financial support: Grants; subsidies; government investment in public housing upgrades
  - Regulation: Min. performance standards; information provision; technologies; remove barriers
  - Support services: Min. performance standards; information provision; technologies; remove barriers

- **DEPENDENT**
  - Financial support: Grants; subsidies; government investment in public housing upgrades
  - Regulation: Min. performance standards; information provision; technologies; remove barriers
  - Support services: Grants; subsidies; government investment in public housing upgrades; fund community organisations to provide support

- **STUCK**
  - Financial support: EPCs, loans; fund community organisations to provide support
  - Regulation: Min. performance standards; information provision; schemes; technologies
  - Support services: Information provision; schemes

- **MIDDLE AUSTRALIA**
  - Financial support: Grants; subsidies; government investment in public housing upgrades
  - Regulation: Min. performance standards; information provision; technologies; remove barriers
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  - Financial support: Information provision; schemes
  - Regulation: Min. performance standards; information provision; schemes; technologies
  - Support services: Information provision; schemes

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  - Financial support: Grants; subsidies; government investment in public housing upgrades; fund community organisations to provide support
  - Regulation: Min. performance standards; information provision; schemes; technologies
  - Support services: Min. performance standards; information provision; schemes; technologies

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- **HARD TO HELP**
  - Financial support: Grants; subsidies; government investment in public housing upgrades; fund community organisations to provide support
  - Regulation: Min. performance standards; technologies; remove barriers
  - Support services: Min. performance standards; technologies; remove barriers
Example of a household

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

Ability = Low

**Choose a better energy deal**

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

Motivation = Low, Opportunity = High, Segment = Cautious

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

**Choose alternative energy sources**

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

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

**Initiatives this household could respond to:**
- Government investment in public housing upgrades

**Choose to improve building fabric & fixed appliances**

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

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

**Initiatives this household could respond to:**
- Government investment in public housing upgrades
- Minimum standards on fixed appliances
- Minimum standards for public housing
Example of a household (2)

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

Choose more efficient equipment
Bob has very few appliances, and the ones he does have do the job. He has no intention of replacing them unless they fail, and will buy the cheapest available.
Motivation = Low, Opportunity = Low, Segment = Hard to help

Initiatives this household could respond to:
- Provide subsidies for efficient equipment
- Minimum performance standards for appliances and labeling
- Provide simple, personalised information about the options to upgrade to more efficient equipment and their potential benefits through a trusted source

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

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

Choose to use less energy at peak times
Bob uses very little energy. His load is “flat” as he is home most of the time and does not have any appliances that use a lot of energy. He does not have any concept of “demand” or how it can be reduced – it is all too hard.
Motivation = Low, Opportunity = Low, Segment = Hard to help

Initiatives this household could respond to:
- Information on the benefits of installing a smart meter and moving to demand-based tariff provided through traditional-based media
- Provide access to community organisations/trusted sources to support them installing a smart meter and moving to a demand-based tariff
- Provide community organisations/trusted sources helping this household with the required training/information/funds to support these households
Theory into action – demonstrating practical solutions
Advocating for better energy performance standards in housing

- Trajectory for Low Carbon Homes
- COAG Energy Council
- Building Ministers Forum
- Australian Building Code Board

Housing Summit, Sep 2018
Call to Action to COAG Energy Council, Dec 2018
Consumer Coalition for Healthy and Affordable Homes, Feb 2018
Developing effective information and assistance – using the research

- Stakeholder consultation: Workshops in Sydney, Melbourne, Brisbane, Hobart, and two online; as well as tailored consultations in Bathurst and Cairns

- Exemplar products for four target types of consumers (low-income homeowners, first-time renters, indigenous consumers in remote communities, and older people)
  - Delivered through a trusted voice
  - Information on how to reduce your energy usage/bills tailored to their needs

- Tool for policy-makers to guide them through the process
Our vision for the market

Energy Consumers Australia promotes these three advocacy principles as the basis for better consumer outcomes.
More information


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