



## MY ENERGY MARKETPLACE

Lessons Learnt Report No. 1  
Public Summary (April, 2020)



wattwatchers  
DIGITAL ENERGY

# LESSONS LEARNT REPORT #1 EARLY TAKEOUTS

**Project Name:** My Energy Marketplace

<b>Knowledge Category</b>	Consumer energy data
<b>Knowledge Types</b>	<ul style="list-style-type: none"><li>- General, Social/Customer, Legal and Technical (in this Public Version)</li><li>- Regulatory, Financial, Legal, Social/Customer, Technical and MEM Applications (in a Confidential Addendum provided to ARENA)</li></ul>
<b>Technology Types</b>	<ul style="list-style-type: none"><li>- Internet of Things for Energy (Energy IoT)</li><li>- Distributed Energy Resources (DER)</li><li>- APIs</li></ul>
<b>State/Country</b>	Australia-wide

## Acknowledgement



**ARENA**

This Project received funding from ARENA as part of ARENA's Advancing Renewables Program. The views expressed herein are not necessarily the views of the Australian Government, and the Australian Government does not accept responsibility for any information or advice contained herein.



# EXECUTIVE SUMMARY

The My Energy Marketplace (MEM) project, led by Wattwatchers Digital Energy, is an Australia-wide initiative to develop and scale-up a new ‘app store for energy’ technology platform and business model to support the smart transition to a cleaner, fairer, more resilient and affordable energy system.

Supported by grant funding from the Australian Renewable Energy Agency (ARENA), the project is underpinned by the Australia-wide deployment of subsidised smart energy monitoring (and in some cases control technologies) to 5,000 homes and small businesses, and 250 schools.

This is the MEM project’s first 6-month Milestone period, so ‘Lessons Learnt’ at this stage are preliminary—what we are calling ‘early take-outs’, backed by ‘framing insights’ that guided project design—and will be expanded over the 3-year life of the project. This document is the Public Version of the report, and Wattwatchers has also provided ARENA with a Confidential Addendum to cover work-in-progress that will be advanced further before being shared publicly.

This Public Version covers an introduction to the project itself and our initial ‘Lessons Learnt’ overview. It also includes a summary of outputs from the first stakeholder workshop held for the MEM on 20 Feb 2020, shortly before the COVID-19 crisis triggered major economic and societal shutdowns in Australia, and globally, with inevitable impacts on the MEM project.



# IN THIS REPORT

## 1 My Energy Marketplace (MEM): Project introduction

The MEM is an \$8M+, three-year national consumer energy data project being led by Wattwatchers Digital Energy with grant funding support from ARENA\*. This is its first Lessons Learnt report, prepared as part of the project's Milestone 1 report. [[SLIDE 5–20](#)]

## 2 Lessons Learnt: Framing insights & early take-outs

The reporting period covers the 6 months to 30 Apr 2020. This is the establishment period for the MEM, which has been heavily-disrupted by the COVID-19 global pandemic. [[SLIDE 21–28](#)]

## 3 Appendix 1: Summary of outputs from the first stakeholder workshop

This workshop for expert and industry stakeholders was held at EnergyLab in Sydney on February, 2020, with about 25 attendees. [[SLIDE 30–38](#)]



# PART 1 MY ENERGY MARKETPLACE



Project Introduction

# WHY THE MEM?



The traditional energy system needs data to operate the changing low-voltage grid, especially integrating distributed energy resources, like solar and batteries.

Consumers, both homes and businesses, need data to empower them in the ‘New Energy’ system.

Everyone can win if consumer-sourced data, and loads for control, are more accessible and shareable.



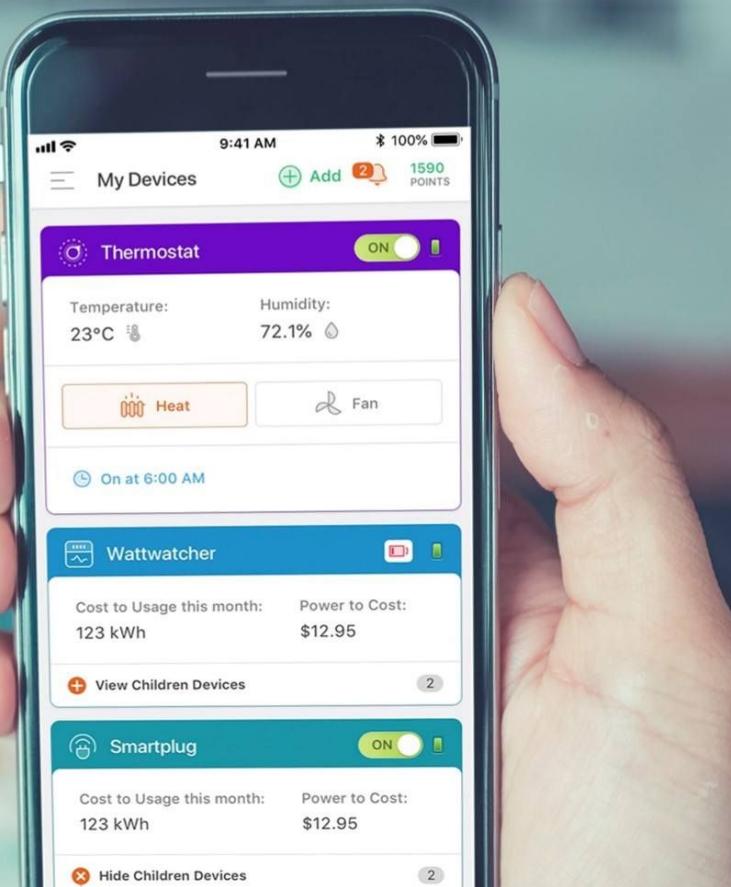
# THE MEM IS OUR SOLUTION FOR CONSUMERS + INDUSTRY

A marketplace for energy data, with:

Choice of apps and services to empower consumers

New packaged data services for energy service providers, utilities

And more...



# OUR PLAN OF ACTION PROJECT BACKED BY ARENA

**3**

**Years**

Rolling out between  
2020–22

**5k**

**Households +  
small businesses**

Subsidised smart energy  
management solutions  
including installation,  
cellular communications +  
software for 3 years

**250**

**Schools**

A ‘Schools Starter Pack’  
for participating schools

## FUNDING BREAKDOWN MEM PROJECT

The total \$8.2m project value is made up of:

One third from the \$2.7m ARENA grant, **with over 80% (\$2.3m) flowing to participants as a subsidy** for monitoring devices, installation + apps

One third from Wattwatchers and its core project partners

One third from co-contributions from participants.

**\$8.2m**

Total project value

---

**\$2.7m**

ARENA grant

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**\$2.3m**

Devices, installation  
+ apps

## 4 KEY ELEMENTS OF THE MEM

**1** Wattwatchers  
devices & data

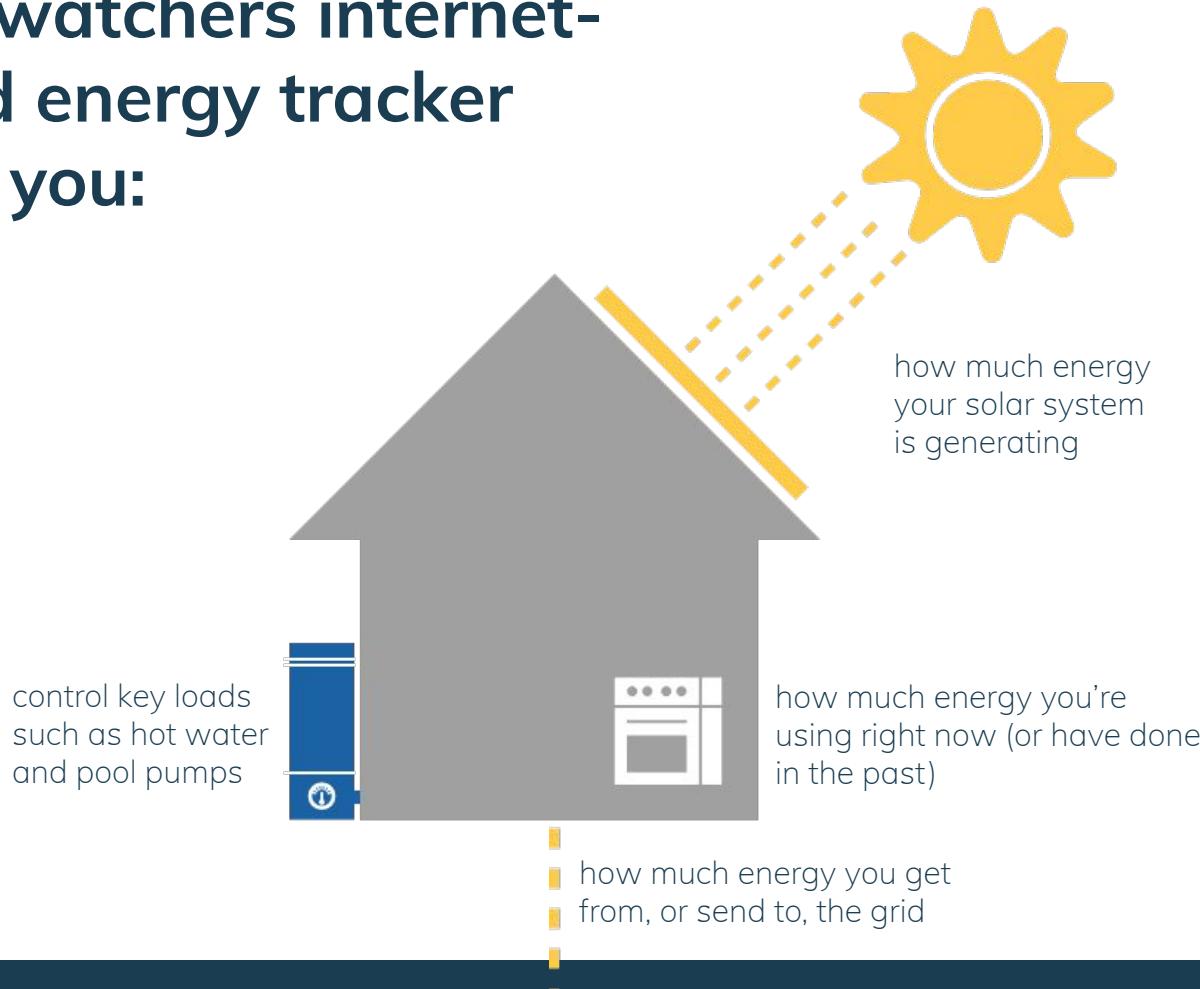
**2** “App store” for  
energy

**3** Energy data hub  
providing cloud-enabled energy  
data services

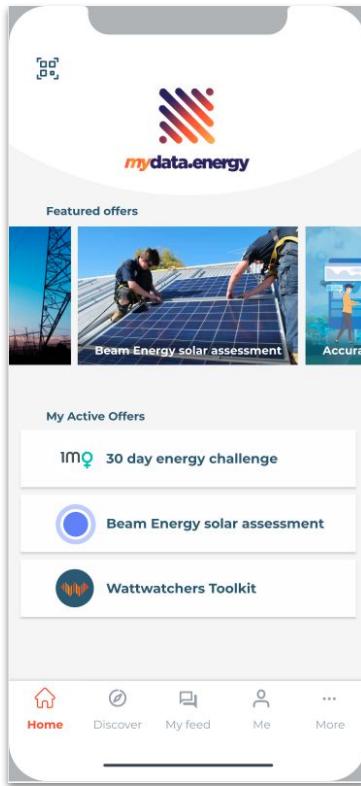
**4** Consumer data  
rights + security



# A Wattwatchers internet-enabled energy tracker can tell you:



# APP STORE FOR ENERGY

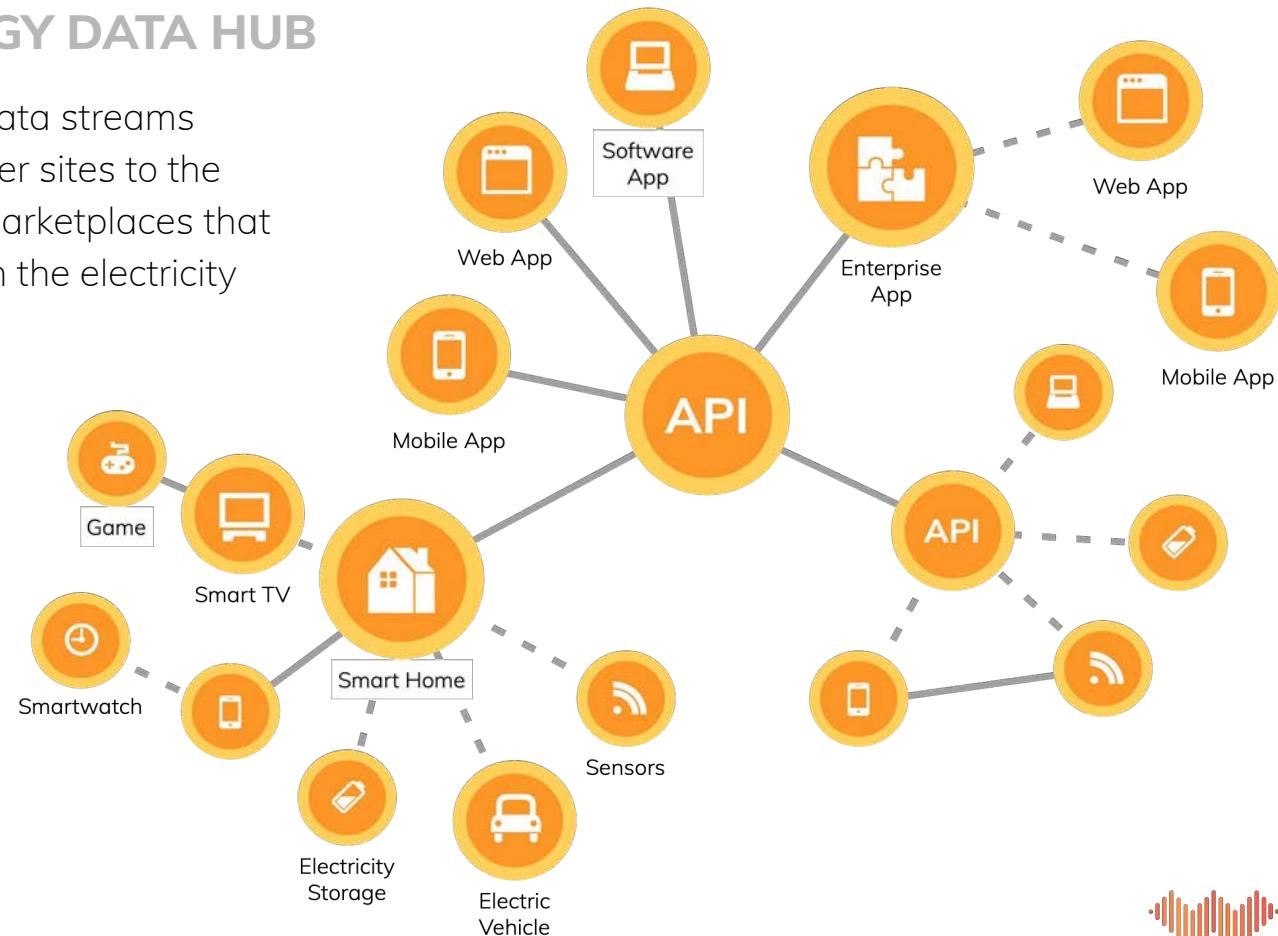


Apps and portability of energy data, empowers consumers to:  
buy better,  
use less, and  
optimise investments like  
rooftop solar PV



# DATA SERVICES ENERGY DATA HUB

Cloud-connected devices and data streams enable integration from consumer sites to the new digital and decentralised marketplaces that are currently taking shape to run the electricity grids of the very near future.



# CONSUMER DATA RIGHTS

The MEM is guided by

**Consumer Energy Data Advisory Panel**  
(CEDAP)

Consumer Advocacy Stakeholders



Expert Legal Advisers



## CONSUMER USER DATA RIGHTS DRAFT MEM DATA PRINCIPLES

- Energy users ‘own’ their data and control their devices, requiring a multi-layered approach to licencing and permissioning of data i.e. authorise, opt-in/opt-out of specific services
- Choice of tools to access and use their energy data—and to choose who else can do so (leverage already proven technologies and models, such as OAuth, to avoid ‘reinventing the wheel’ and to expedite progress)
- Ensure that \$ benefit from data access is shared transparently and fairly with data owners / rights-holders
- Third-party access and value-adding will require:
  - Clear, pre-agreed overarching T&Cs and “opt-ins”
  - Specific energy user authorisations to vary
  - Privacy/security maintained as default



## CORE PROJECT PARTNERS



Data extraction and processing for better,  
connected customer experiences



Human  
Transformation  
Technology



Australian  
National  
University

Battery Storage and  
Grid Integration Program



Making it easy and exciting for  
school administrators, teachers  
& students to engage in energy  
efficiency and renewables.



## FOUNDATION COMMUNITY PARTNERS



formerly the Alternative  
Technology Association



# OUTCOMES

By completing the project in 2022, Wattwatchers will:

- demonstrate how an energy data platform can deliver value and savings to end users and ultimately become a sustainable business model;
- provide end users and services providers valuable information about energy consumption and generation, to increase the value of distributed energy resources (DER) and to improve the integration of renewables into the grid;
- increase understanding and awareness of cybersecurity risks and data privacy management.

In addition, energy use and management datasets will also be made available to researchers, solution developers, and commercial partners under sharing agreements consistent with privacy and security conditions set by energy users.



## IN SUMMARY, THE MEM IS:

An independent, purpose-led energy data service, that provides:

**incentivising  
uptake of...**

**3** Apps, services and other benefits to energy users + industry (developed by us and third parties)

**enabling...**

**1** Digital energy monitoring + control (with customer permissions) at low- to no cost to beneficiaries

**generating data +  
load control for...**

**2** An open “energy data hub” that stores and publishes data + manages data and access rights



## RELATED LINKS

### Ministerial announcement

<https://minister.environment.gov.au/taylor/news/2019/keeping-close-watch-energy-data-consumer-savings>

### ARENA media announcement

<https://arena.gov.au/news/smart-energy-devices-to-empower-consumers/>

### ARENA webpage

<https://arena.gov.au/projects/wattwatchers-my-energy-marketplace/>

### Wattwatchers media announcement

<https://www.einpresswire.com/article/504291691/energy-app-store-project-to-empower-electricity-consumers-wins-2-7m-grant>

### Wattwatchers webpage

<https://wattwatchers.com.au/mem/>

### Sydney Morning Herald coverage

<https://www.smh.com.au/politics/federal/morrison-government-eyes-new-tech-for-household-power-savings-20191218-p53l3p.html>

## PART 2 LESSONS LEARNT



Framing Insights & Early Take-outs

# COVID-19 CRISIS SITUATIONAL ASSESSMENT

The Milestone 1 period, running from 22 Oct 2019 to 30 Apr 2020, has been significantly impacted by the extraordinary disruption of the global pandemic surrounding the spread of the COVID-19 disease, caused by the novel coronavirus. The pandemic overlapped with another extraordinary set of events, the Australian bushfire crisis (Dec 2019–Jan 2020 period).

Thus the start of the MEM has been anything but “business as usual” for Wattwatchers and its project partners, and also for our target audiences. While the bushfire crisis resulted in no significant impact on the MEM project per se, the COVID-19 pandemic is another matter entirely: it’s already changed the world as we know it, for most people everywhere.

Impacts on the MEM, the full consequences of which are as yet unknown, already or are likely to include:

- Shutdown of physical events—including our own workshops and promotions, as well as industry conferences and the like—forcing a pivot to doing almost everything online;
- Destabilisation of the business operating environment e.g. supply lines, exchange rates, consumer engagement, discretionary spending priorities, site access for tradespeople;
- Wider, initially unpredictable influences, such as how introduction of the ‘Covidsafe’ app in Australia will affect community and consumer attitudes towards data privacy and sharing data for public good.

At the time of finalising this Milestone 1 report it was unclear how the ongoing management of the pandemic would play out, including what restrictions may be lifted and when, and therefore it is assumed that it will continue to impact on the MEM project for the foreseeable future.



## FRAMING INSIGHTS

Wattwatchers was founded in Sydney in 2007 and has been working ever since on our mission to empower consumers with real-time data. The MEM project began in an ARENA A-Lab workshop series in 2017, and is based on a number of “framing insights”:

- Traditional energy bills, delivered quarterly or monthly, only give consumers a “rearview mirror” view of their electricity use (compared with motoring, there’s no real-time dashboard);
- Even with the advent of ‘smart meters’, mandated in Victoria but only partially deployed in the rest of Australia, online portals provided by energy companies typically show data 1–2 days in arrears (and sometimes up to 5 days)
- In-home display devices and apps, that give energy consumers a real-time view of their energy use, are shown by Australian and international studies, over more than a decade, to prompt significant energy saving behaviour change;
- Consumer interest in such displays or apps often plateaus or evaporates after a relatively brief period of enthusiastic engagement, or because a particular top-of-mind ‘problem’ has been solved;
- There is a structural problem, especially in competitive markets, if energy companies are providing customers with energy data and management services. There is a challenging legacy of deep distrust of the energy industry. If retailers provide the app, people lose that service and their historical data if they churn to a rival retailer. Network businesses (the ‘poles and wires’ providers), meanwhile, are mainly invisible to everyday energy consumers and accordingly struggle to get their attention;



## FRAMING INSIGHTS (cont...)

- Market research shared with Wattwatchers suggests consumers typically see power bills as being like a 'tax they have to pay' rather than as a consumer choice which they can readily influence;
- There is a structural problem, especially in competitive markets, if energy companies are providing customers with energy data and management services. If retailers provide the app, people lose that service and their historical data if they churn to a rival retailer. Network businesses (the 'poles and wires' providers), meanwhile, are mainly invisible to everyday energy consumers and accordingly struggle to get their attention. And there remains a challenging legacy of deep distrust of the energy industry;
- The dominant business model in the still emerging 'New Energy' data and technology sector is vertical, with the device and data capture layer, the cloud hosting and analytic layer, and the user interface layer all wrapped into a single proprietary model. This exacerbates trust issues, particularly if the provider is a utility already burdened by legacy trust deficit, and underpins challenges such as 'technology lock-in' and 'data walled gardens';
- Energy data is still not widely available on the internet because traditionally, to the extent that it has existed at all, it has been tied up in heavily regulated systems. Recently, in Australia and internationally, consumer rights to protect, access and even control such data are being embedded into new laws e.g. the Consumer Data Right (CDR) in Australia and the General Data Protection Right (GDPR) in Europe;



## FRAMING INSIGHTS (cont...)

- Now that increasing amounts of energy data are being created outside of the regulated system—from inverters, sub-meters, sensors, IoT devices (including Wattwatchers' own devices) and other sources—there inevitably is growing attention on how this data is captured, held, analysed, value-added, communicated and used. This is a new frontier for consumer data rights, broadly defined, which has to be resolved in a data-sensitive post-Cambridge Analytica/Facebook world;
- Gaining consumers' trust and engagement to share their data, as well as their electrons, is now a core requirement and challenge for contemporary 'New Energy' business models such as virtual power plants (VPPs), demand response aggregation and local microgrids;
- At the same time aggregation of data and control of many energy assets at hundreds or thousands of small sites is raising substantial cybersecurity concerns, in addition to privacy and physical security.



## EARLY TAKE-OUT #1 TIMELY & RELEVANT

The MEM, with its core focus on exploring and developing consumer energy data uses and rights, is both timely and relevant.

How, and what energy data is collected, communicated, analysed, aggregated and integrated, shared (or not) and value-added is increasingly being seen as central to the success of the ‘future grid’ and ‘new energy’ services, including grid resilience, fair pricing and the cost-effective implementation of higher levels of DER.

On February 27, 2020—during the first Milestone period for the MEM—the Wattwatchers project team was invited to present to the Steering Group of the Distributed Energy Integration Program (DEIP), which is coordinated by ARENA with a membership spanning the main energy sector regulators, market operators, industry associations, consumer advocates etc.

Current energy data-related initiatives that Wattwatchers has identified as being relevant to the MEM include:

- DER Integration API Technical Working Group: via AEMO and Australian National University’ (ANU) Grid Integration & Battery Storage Program\*
- Energy Security Board (ESB): ongoing review of data regulation
- National Energy Analytics Research program (NEAR): CSIRO with COAG funding
- Australian Energy Sector Cyber Security Framework: via AEMO Distributed Energy Resource Forum\*
- Consumer Data Right (CDR) for energy: via AEMO and the ACCC (lead regulator for CDR process)
- DER Visualisation & Monitoring Best Practice Guide: tech vendors voluntary initiative\*
- Energy Consumers Australia (ECA): annual Foresighting Forums, PowerShift and other projects\*
- Consumer Data Standards Energy Advisory Committee (for CDR): CSIRO Data61

\* denotes Wattwatchers' active engagement



## EARLY TAKE-OUT #2 SOCIAL

In the early stages of the MEM, Wattwatchers has been especially engaged by two influential research reports:

### A Future Energy Vision Consumer Expectations Research

Commissioned by Energy Consumers Australia (ECA) for its Foresighting Forum 2020 (February 19–20), which Wattwatchers attended for MEM purposes.\*

### 3rd Parties and Beyond: Promoting Innovation Through Energy Data Sharing With “Nth” Parties

Published by mission:data in the USA.<sup>^</sup>

Both of these reports are strong “touch stones” that didn’t exist when the MEM journey started, and both help to further reinforce the views that formed the foundation of the MEM. While the ECA findings don’t map to the behavioural models that will be most valuable for the MEM project, the scale of the study, and the resultant “demographic/life stage” perspective (e.g. Leaving the Nest, Early Adulthood, Midlife and Mature) represents a solid launch point for further work within the MEM.

As we see it, it’s behaviours around energy—e.g. level of engagement, motivations re: sustainability vs. \$\$ savings, etc.—that will be the key distinguishing features of the user base for the MEM. We are looking forward to exploring these in more detail through this project.

\* Household <<https://energyconsumersaustralia.com.au/wp-content/uploads/Future-Energy-Vision-Forethought-Household-Full-Report.pdf>> & SME <<https://energyconsumersaustralia.com.au/wp-content/uploads/Future-Energy-Vision-Forethought-SME-Report.pdf>>

<sup>^</sup> <https://energyconsumersaustralia.com.au/wp-content/uploads/Future-Energy-Vision-Forethought-SME-Report.pdf>



## EARLY TAKE-OUT #3 LEGAL

Enabling effective consumer ‘ownership’ and ‘control’ of energy data is a complex challenge, with a need to balance personal privacy, security and access considerations on one hand, and legitimate public and commercial interests in access to consumer energy data on the other.

- A key Wattwatchers principle for the MEM, flowing from consideration of the Framing Insights, is to ensure that consumers both ‘own’ their energy data, can effectively access and control that data and devices, and also they share in the benefits that are created by using their data (including financial benefits).
- The MEM ambition is that the project’s Terms and Conditions (T&Cs) will enable and embed this principle.
- We’ve learned very clearly through the initial drafting of the MEM T&Cs that ‘ownership’ of energy data is not as straightforward as it at first may seem.
- An escalating series of rights to energy data and claims on its ‘ownership’ are created as it is captured, transmitted to the cloud, analysed, aggregated, integrated with other datasets, value-added, shared and deployed for use by consumers themselves, direct service providers and additional authorised third parties.
- Personally-identifying, privacy law-protected information such as customer names and addresses is not ‘energy data’ per se, but is critical for services. Such data, while technically ‘metadata’, may be associated with it, or can be separated from it or have privacy rights waived in agreed circumstances, and this needs to be considered closely alongside usage data in consideration of rights, security and privacy.



## EARLY TAKE-OUT #4 TECHNICAL

A core challenge and opportunity that Wattwatchers has experienced already with the MEM project is that technology in the energy sector, and more widely, is in no way ‘steady state’. Rather, it is constantly evolving, and, in the case of energy, needs to develop further because many recent offerings to consumers have been underwhelming.

The landscape has moved a lot since we first proposed this project. While we’ve always had a grander vision, it’s now imperative to do more than just deliver an ‘app’. The “app store for energy” concept that we proposed to ARENA is even more crucial to differentiate and “move the needle” than originally anticipated. As a result, Wattwatchers is working with our partners on approaches to ‘bring this forward’ this greater vision in the project’s development. This has led us towards a concept of ‘micro-apps’ which typically would be single-purpose applications embedded within an app platform.

Early indications are that at least some app developers/service providers are keen to exploit this model as a lower barrier to entry, and to test ideas with minimal investment, rather than integrate with or develop from the ground up their own apps. Others, it should be noted, have major legacy investments tied up in their software interfaces and remain more committed to standalone offerings.

Another key technology area that is advancing while the MEM gains momentum is the development of market-shaping APIs, for example GreenSync’s Decentralised Energy Exchange (deX), AEMO’s DER Integration API Technology Working Group, and the CDR for Energy API. We are actively engaged in each of these groups, helping shape these initiatives based on insights from our MEM-related work, and also to be prepared to integrate with as they progress.



## PART 3 APPENDIX



Workshop Outputs

## STAKEHOLDER WORKSHOP 20 FEB 2020

Hosted at EnergyLab in Sydney, on the University of Technology Sydney (UTS) campus, the first MEM stakeholder workshop was timed to coincide with the wrap-up of the Energy Consumers Australia (ECA) Foresighting Forum 2020 and the public launch of the MEM at the same venue.

Originally additional physical workshops were planned for Melbourne and Brisbane, but these have been put on hold pending resolution of COVID-19 related restrictions in Australia.

The 25 attendees at the Sydney workshop were asked to brainstorm three key questions, being:

**How might we...**

- ...create digital products to positively influence behaviours for a more sustainable, fair and efficient energy system?
- ...create a compelling, easy to understand legal basis for enacting consumer energy data rights?
- ...leverage any data to disrupt the status quo and create a better energy system?



# MEM STAKEHOLDER WORKSHOP 20 FEB 2020

The first MEM stakeholder workshop, timed to coincide with the wrap-up of the Energy Consumers Australia (ECA) Foresighting Forum 2020 and the public launch of the MEM, was hosted at EnergyLab in Sydney, on the University of Technology Sydney (UTS) campus.

The 25 attendees at the Sydney workshop, which were a mix of industry, digital, and consumer advocate representatives, were asked to brainstorm three key questions, being:

**How might we...**

- create digital products to influence behaviours for a more sustainable, fair & efficient energy system?
- create a compelling, easy to understand legal basis for enacting consumer energy data rights?
- leverage any data to disrupt the status quo and create a better energy system?

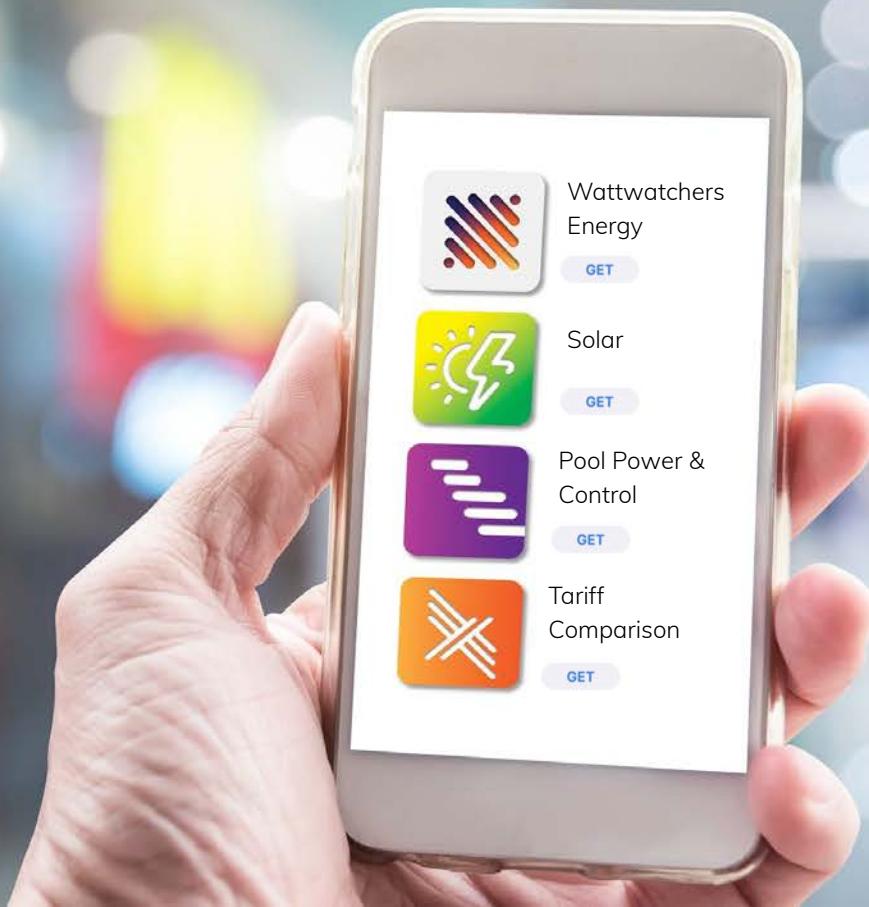
Some “rough notes” of some of the learnings and perspectives shared with us in the workshop are shared on the pages that follow.

Overall, the workshop positively reinforced the value and overall priorities of our work, as well as providing some fresh perspectives that we will incorporate into our thinking and work moving forward.

Additional physical workshops were originally planned for Melbourne and Brisbane, but these have been put on hold pending resolution of COVID-19 related restrictions in Australia, or developing an appropriate online alternative delivery model.



# OUR VISION AN ‘ENERGY APP STORE’



**Wattwatchers Apps**

-  Budgets & Tariffs
-  Wattwatchers
-  Accurassi Bill Check

**Partner Energy Apps**

-  1 Million Women  
[GET](#)
-  My Solar  
[\\$2.99](#)
-  Simble  
[\\$2.99](#)

# Q1 DIGITAL PRODUCTS + BEHAVIOUR CHANGE

Key themes to guide app development that were captured from the workshop include:

## Ease of use

- 'Idiot-proof app to cut your bill ... press a button to get real-time activities based on my data'
- 'It's got to be easy to use ... my 10-year-old has a Fitbit' (i.e. 'a Fitbit for energy')
- 'The onboarding process needs to work well'
- 'Needs integration into procurement options' (awareness triggers purchases)

## Personalisation

- 'It's got to be engaging ... about something I care about'
- 'Avoid pestering people with messages'
- 'You have to make people comfortable to share their data'
- 'My wife now actively tries to consume more solar energy during the day'
- 'Need to use AI (artificial intelligence) to do it ... to profile people'
- 'Trusted advisor '(trust/lack of trust is a constant theme)
- 'Normative behaviour' ... 'connected communities' & 'people like me'

## Diverse motivators

- 'If everyone could be motivated by the same thing, we'd only have one app'
- '2 markets ... monetary savings and value-based savings'
- 'It's not all about money'
- 'An app to help make decisions e.g. plane or train?' ('being sustainable is a lot of work')
- 'It needs to be fun'—gamification, competition, light educational, "something to love"



## Q2 LEGAL + DATA RIGHTS

- ‘Follow the leader’ strategy? e.g. Europe’s General Data Protection Right (GDPR)
- ‘Seek to influence the Consumer Data Right (CDR)\* for energy’
- ‘What is my data used for’
- ‘What are my rights? What are “their” rights?’
- ‘Is there an issue with consumers? Do they care?’
- ‘Create a common language for key points supported by pictures’
- ‘The data custodian’ & ‘Data trustmark’ (for data holders) & ‘Trust recipient’
- ‘Simpler to message if consumer data is being used “only for that app” ... but ‘MEM use of consumer data is OK as a “pass off” to (other) approved apps’
- Must be able to confirm between customer and app that data supplied has been authorised by the customer via an identifier (e.g. mobile phone’)
- ‘De-identified data needs to meet requirements that you can’t identify’ (i.e. ‘re-identify’)
- ‘Describe in simple English and tie app down to what they will do with the data’
- ‘Self-reporting framework on compliance to terms’
- ‘Choice to consumer (with) terms of individual use’
- Reinforcement for using the ‘Creative Commons’ model as a launch point... ‘artist selects how it’s licensed to the world’ & ‘use model for ... icon-based rights assignment’
- ‘Brand the consent right’ (the ‘trust mark = Terms and Conditions’)
- ‘A la carte data rights model’ & ‘Bundle data rights (i.e. donor card model)’
- ‘Ethical app providers sign up to “universal set” of consumer data rights and ongoing governance’
- ‘Central consumer data rights approval (is) extended to multiple apps’

\* We cover both ‘consumer data rights’ as a general concept and the Consumer Data Right (CDR) as a specific requirement



## Q3 DATA-LED DISRUPTION

- ‘What is the status quo? ... lack of transparency’
- ‘Who will take a risk to break the status quo?’
- ‘Using my data with other data from other sources that will benefit me’
- ‘Non-energy purposes’ (e.g. using energy data to better manage the lives of elderly/vulnerable people)
- ‘Non-invasive identification of appliances by overall energy consumption profile’
- ‘Help decision-making (i.e. which appliances need to be replaced & when to schedule energy use))
- ‘Enable automation to deliver lower-cost solution discovery’
- ‘Use high-resolution data for resource optimisation’(e.g. time shifting of loads, demand response)
- ‘Leverage energy data to improve resilience and energy security’
- ‘Beware the energy nerd bubble’
- ‘Apply modelling of consumer types to decision tools’
- ‘Intuitive participation—make it meaningful and actionable e.g. league tables’
- ‘Peer-to-peer enabling’
- ‘Equity issues such as energy poverty (“pay it forward”)’
- ‘Cultural motivations (e.g. enabling multi-generational housing)’
- ‘Make it easy to understand and implement’ & ‘Make participation cheap’
- ‘Reduce the pain of energy’
- ‘Identification of where storage adds value’
- ‘Spotify the energy market ... cater to the individual (e.g. want to save the planet, but must have 22°C at any cost)’
- ‘Focused tips and advise (e.g. best heater to buy based on data’



THIS REPORT HAS BEEN PREPARED BY THE  
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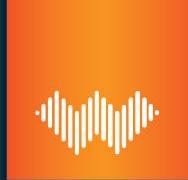
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# Monitor & control electricity through the cloud in real time.



wattwatchers  
DIGITAL ENERGY



# ACKNOWLEDGMENTS + CREDITS

SLIDE 1 Cover photo: Isadora Menezes via Pexels

<https://www.pexels.com/@isadora-menezes-1118893>

<https://www.pexels.com/photo/unknown-celebrity-facing-incandescent-bulb-2118860/>

SLIDE 6 Power lines image: Snapwire via Pexels

<https://www.pexels.com/@snapwire>

<https://www.pexels.com/photo/electricity-energy-high-voltage-power-lines-7000/>

SLIDE 8 Mobile application: Simble

<https://www.simbleenergy.com/>

SLIDE 12 Application screenshots: Cogniss, for Wattwatchers/MEM

SLIDE 14+15 Fingerprint backdrop: Hackernoon

<https://hackernoon.com/how-to-use-fingerprint-scanners-e4b7b48d12b0>

SLIDE 17 1 Million Women members: 1 Million Women, used with permission

<https://www.1millionwomen.com.au/>



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