My Energy Marketplace

Powered by Wattwatchers

MY ENERGY MARKETPLACE (MEM)

Lessons Learnt Report

Milestone 3

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PROJECT PARTNERS

ACCURASSI Solar Schools Australian National University Battery Storage and Grid Integration Program

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Project Overview and Update

The My Energy Marketplace (MEM) project, led by Wattwatchers Digital Energy, is developing a large new energy-data resource in Australia, along with the 'soft infrastructure' for increasing consumer participation in the electricity system as the energy transition unfolds.

The MEM is an approximately $9.6 million project, with $2.7 million in grant funding from ARENA being focused mainly on subsidising participation in the project by homes, small businesses and schools.

Now 2 years into a 3.5-year project duration,[1] a number of key targeted outcomes for the project have progressed significantly over the past 6-month milestone period, underpinned by: real-life experience in the field; user and market research and analysis with an external consulting agency; multiple engagements with users through guided testing sessions and surveys; inputs from the expert MEM Data Advisory Panel (DAP); and general feedback from project partners, the market and users themselves.

Consistent with the MEM project's core focus on a customer-centric future for the electricity system, Wattwatchers has developed a set of consumer 'personas' designed to capture key learnings relating to the motivations for people engaging with their energy data. The initial four personas—which have been supported by early findings from an external agency-led market and user research initiative for the MEM—are headlined: 'Solar optimiser'; 'Bill stress' (cost conscious); 'Smart home tinkerer'; and 'Sustainability warrior'. These four personas continue to be tested and further refined, and additional personas may also be created as we learn more in future phases of the project.

MEM project targeted outputs are now firming up:

- At the time of this report, nearly 30% (1391) of the planned 5000 residential and small business smart energy management packages have been installed and deployed Australia-wide. The packages include consumer agreements to share non-personally identifying data and to receive additional offers for 3 years.
- 25% (61) of the 250 schools have signed up for a subsidised energy and education package, despite incredibly challenging conditions for school administrators.

[1] The project has been extended by 6 months, from an original 3 years, and will now wrap up in the first half of the 2023 calendar year.

- The core feature set of a new consumer-facing smartphone app, MyEnergy, developed for MEM customers, is now available at https://mydata.energy.
- We have created and continue to expand opportunities for MEM participation using third-party apps, dashboards and analytic tools (for example, Clipsal Solar and its Pulse app, Simble, Boom Power and Solar Analytics).
- Testing of an energy data services business model leveraging the MEM fleet to make highly-granular behind-the-utility-meter datasets available for research projects, commercial product development, startup innovation, network and grid stability, and other use cases has commenced. Early data transactions are now being negotiated and delivered, with an initial focus on the data-hungry research sector.
- Data from non-Wattwatchers metering devices also is being ingested at a demonstration level, and this is scheduled to be expanded as the MEM project continues.
- We have prototyped, tested and continue to refine a 'Marketplace' model, which will provide consumers with opportunities to access apps and services that utilise their personal energy data, combined with other datasets and inputs.[2] The 'Marketplace' will benefit both energy users and third-party service providers and energy industry players.
- Key 'soft infrastructure' to support the above outcomes has been drafted, tested and adopted, including legal terms and conditions of customers, security protocols, a data governance framework and enhanced toolsets.

[2] This has been described by Wattwatchers as an 'app-store for energy model', providing easy portability and shareability of data for multiple use cases.

Lessons learnt and key reflections

Legal and Governance

Being sensitive to the commitment of the Data Advisory Panel (DAP)

The volunteer DAP has been a strength of the MEM project from its early days.

After substantial effort during its first year (2020) as DAP terms of reference were refined,[3] and when complex foundation materials for the MEM project had to be considered,[4] the DAP has shifted gears in 2021 to take on a 'co-design' role, with a greater emphasis on user experience, energy equity and consumer trust issues.

This past milestone period has further reinforced the need to be sensitive to voluntary advisors' contributions to ensure an appropriate balance between 'value gleaned to value given' is maintained between the project and DAP members. Our sensitivity to this need has increased with the changes to working and family arrangements as a result of Covid-19, which has put further strains on workload and availability.

These factors led to a reset of DAP activities in 2021 to a more collaborative and mutual interest–aligned approach. Meetings have become more productive, with greater value being generated in both directions, because the content has become more engaging for the DAP members, both personally and professionally.

The DAP has suggested to ARENA (via DAP Chair, Donna Luckman) that it consider how volunteers on future advisory panels like the DAP might be remunerated for the role they play. They also highlighted a strong perspective that panels of this nature should be less about governance, and instead be more advisory in nature—with more sharing of insights and knowledge, and less reviewing and approving documents and activities.

This has been considered in the context of ARENA's strong positive interest in major projects having an advisory group; and, more generally, a recognition that it is beneficial if such advisory panels have access to a wider range of professional and community

[3] It was necessary to amend the DAP Terms of Reference, with ARENA's agreement, to formally clarify that the role of advisory panel members was to advise Wattwatchers and guide the MEM project, and not to approve or endorse work, nor make project decisions.

[4] This formal documentation included the DAP's own Terms of Reference, the legal terms and conditions for consumer participants, an information security policy and a data governance framework.

representatives for recruitment (i.e. by providing reasonable reward for the time people invest in such roles).

Social and Customer

Channel strategy to mitigate the impacts of Covid-19

Over the past 6 months the MEM project team pivoted decisively to concentrate on larger channel partners to scale up recruitment of participants and installation of sites. ARENA subsidies were directed to provide incentives for these partners, with benefits flowing through to end-customers via no- or low-cost smart energy management packages.

With the increasing impacts and restrictions introduced by Australia's response to Covid-19, it was critical to focus our attention on channel partners who were in the best position to deliver to our targets. This included assessing the restrictions in each state and avoiding the escalating issues in Victoria, Greater Sydney and parts of regional New South Wales.

As such, channel partners in Queensland played an important role in building and maintaining momentum at the height of the Covid-19 lockdowns in New South Wales and Victoria. Furthermore, we were able to engage a national solar and battery group to install devices in New South Wales and Victoria, when restrictions permitted.

This strategy has produced outstanding results in this extremely difficult period—installations surpassed 1390 residential sites in the milestone, with a strong emphasis on residential homes with solar. A significant pipeline continues to build with these partners as Covid-19-related restrictions recede and the post-vaccination economy opens up.

Key partners expanded into other project areas

Based on the encouraging results for residential deployments, Wattwatchers and our project partner Solar Schools are turning to foster a similar channel partner strategy for schools to deliver sustained results moving forward.

One such example that is emerging is a not-for-profit organisation called Zero+ (Zero Positive for Schools), which targets networks of schools with a United Nations-credentialed program for climate and wider sustainability action. The program includes a fundraising mechanism to help school communities pay for clean energy and

sustainability activities. The Zero+ team includes Solar Schools, already a MEM foundation partner, and also Radian Energy, an existing channel partner for MEM residential deployments.

Figure 1 - Zero Positive for Schools Logo

Preliminary findings from 'Marketplace' user engagement

Due to Covid-19 impacts to our project plan execution, opportunities to directly engage with energy consumers have been somewhat limited. This includes limitations on our ability to more directly evaluate the straight-out consumer purchasing proposition for the MEM 'offer' (devices + subscriptions + value delivered via the 'Marketplace').

We are now starting to glean usable market insights, based on the results of remotely-run user engagement sessions, and feedback from our channel partners.

Recent learnings include:

- As expected, participants' relationship with/awareness of energy varies widely, with MEM participants being notably more aware than the general public.
- With few exceptions, participants we've engaged were not sensitive about sharing their historic energy data. Sensitivities, when they existed, focused on the sharing of data in an ongoing fashion or sharing of personal information such as address information, specifically in relation to personal/household security.
- Most participants see value in the 'Marketplace' concept and were interested in a variety of the indicative offers presented to them.
- All participants were excited about energy 'insights' (i.e. personalised advice or information based on their site's data). Promisingly, participants were open to insights of this nature leading to commercial offers if presented at an appropriate point in the process.

- Transparency about why recommendations are made (both for insights and third-party offers) is crucial for most participants to trust the recommendations.
- There was a general consensus that up to $500 is a fair price point for the MEM offer (a Wattwatchers device fully installed, with 3 years' ongoing app access), based on perceived value.
- Higher price points prompted a 'return on investment' (ROI) mindset, with 1–2 years being considered a reasonable payback period. Lower price points positioned the service more alongside other 'smart home' devices for entertainment etc. Indications from participants is that lower price points would increase propensity to purchase, reducing pre-purchase consideration friction.

One key challenge for consumer engagement and recruitment is how to express the value of energy data and the app when the potential customer has no equivalent devices (or prior experience) with which to compare. For example, for some participants the value of the MyEnergy service was only apparent *after* they received a device and gained access to their real-time and historical energy data.

From a commercial perspective, another key challenge is how to make the 'up-front' proposition without the ability to provide a hard-and-fast 'payback period' (or similar cost-saving proposition), something that is difficult to do with precision given the sheer diversity of households, behaviours and usage patterns.

Yet another challenge is how to cross-subsidise hardware, installation and subscription costs with data-driven revenues in order to match price point expectations. For example, the installed cost of a device with data for 3 years (when retrofitted) is approximately 2 times the perceived 'value' price point highlighted by some participants.

Lastly, some participants had an aversion to subscription models (which would reduce the up-front cost, amortising this over time) whereas others preferred this. This further complicates the value proposition conversation.

Wattwatchers is drawing on these learnings to inform our product roadmap and data services business model development. To close this 'value perception' gap, we are exploring options such as: lower cost devices; companion installation practices (e.g. installing alongside other high-value electrical products, including solar); and devices with hybrid cellular+WiFi communications to reduce ongoing operating costs (which form part of the cost base for the MEM offer).

The potential for data services revenue to offset upfront costs also is being actively examined as another way to contribute to addressing this gap.

Market research initiative with external consultancy

In addition to our extensive internally-led user engagement program, Wattwatchers has commissioned an external agency to conduct user and market research for the MEM. The agency's initial work on this initiative has included interviews with small samples of both current MEM users and potential new customers, covering user/potential user talking points and preferences, product perceptions and value propositions.

In preparation for this consultancy work, Wattwatchers developed a set of consumer 'personas' that captured our collective learnings over the MEM project (and from our broader business) as to the key motivations for people to engage with energy data. They will continue to be tested and further refined, and additional personas may also be created as our learnings develop.

The initial four personas reflect our working hypothesis that there is significant differentiation between consumer motivations, and that these motivations are not necessarily life-cycle or demographic based.

The personas are labeled:

1. 'Solar optimiser';
2. 'Bill stress';
3. 'Smart home tinkerer'; and
4. 'Sustainability warrior.'

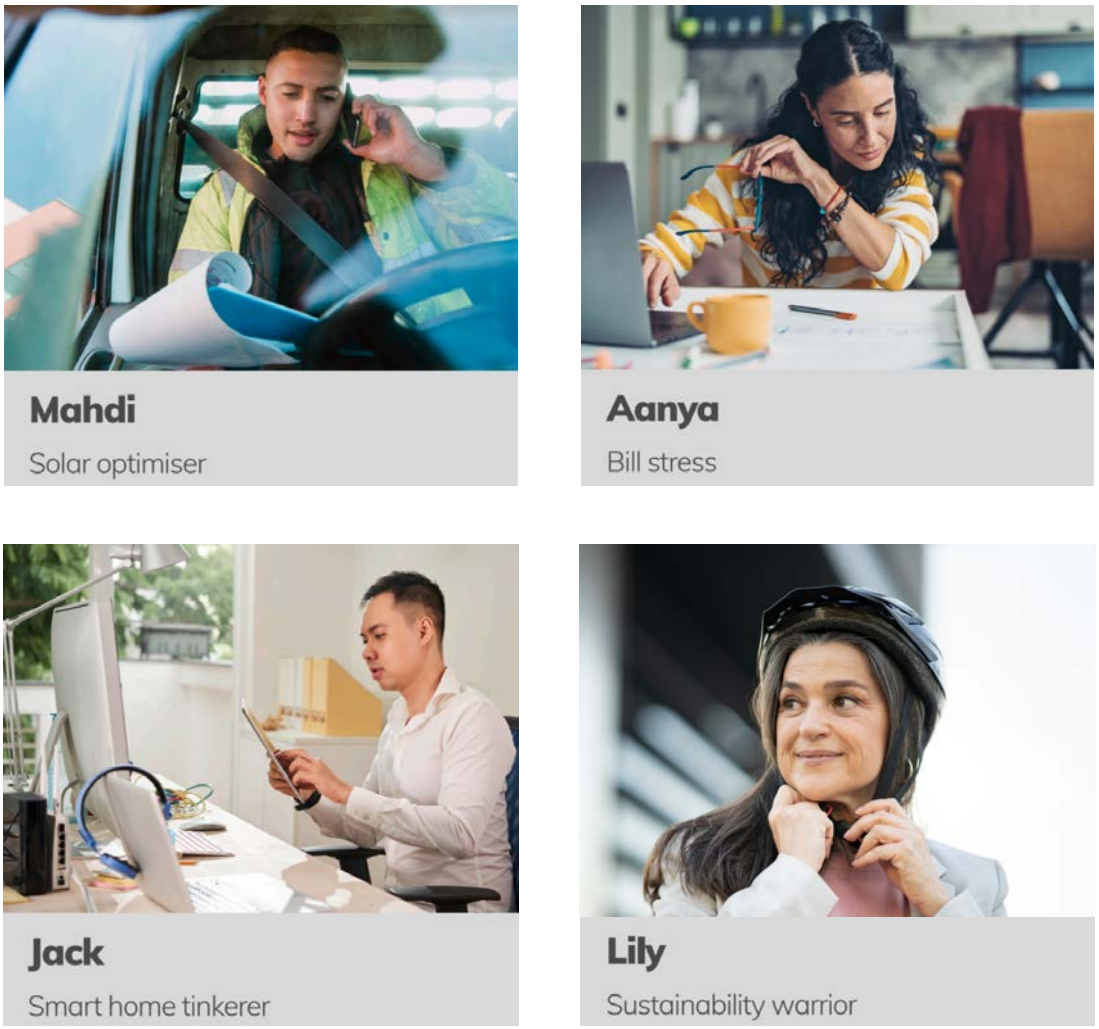

Figure 2: Snapshot of work-in-progress consumer personas

While this externally-run user and market research initiative is ongoing, a key learning to date is that these four personas do exist, and thus have received a degree of independent validation.

Based on this, Wattwatchers has increased confidence in using these four personas moving forward, to develop targeted messaging for recruitment into the MEM and its 'Marketplace,' for example.

As anticipated, our research has validated that the strongest consumer 'value propositions' include (in no particular order):

- Reduce energy waste
- Electrical literacy or 'comprehension'
- Power management/control in real-time
- Solar optimisation (for those that have solar)
- Energy health data (i.e. power quality, reliability) — aligned with microgrid and community energy opportunities
- Consumer bargaining power

Financial

Channel partners bring economies of scale

We've observed that subsidies can be more powerful incentives when attached to larger deployments via channel partners, because they can support a scalable business model with substantial discounts from business-as-usual pricing.

In particular, channel partners that have coordinated teams of solar and electrical installers in the field can deliver installations in greater volumes and at significantly lower cost (and risk to the project) than is the case with one-off retrofits. This provides an economy of scale for us to focus our engagement towards supporting a smaller number of organisations that use their networks and relationships to push forward our key targets.

It was unclear at the outset of the project whether rollout partners of this nature would accept sharing of data with other service providers (i.e. other MEM offers) given they were co-contributing to the installation and roll-out costs of the devices. The past 6 months of activity has demonstrated that these incentives have been sufficient and successful in this co-contribution model. This addresses an issue identified during the early project risk assessment process and sets the project on a solid foundation for future deployments.

Technical

Field experience reinforces key learnings

Based on ongoing experience with the MEM and other grant projects, plus experience with commercial customers, a number of lessons are becoming clear, or are being reinforced, through greater field experience. These include:

- Recruitment is easier when energy monitoring is bundled with solar or a retail energy package. Further testing is required in regard to acceptable 'co-contribution' levels, and 'low cost' v 'free' options, and this will continue to be explored as part of our ongoing user and market research initiative (noted above).
- Retrofit installations continue to be disproportionately expensive for equipment that needs to be installed in meter boxes or switchboards by an electrician (such as Wattwatchers devices). The state of meter boxes and switchboards in older homes in Australia is sub-optimal, if not dire,[5] and installing devices like Wattwatchers frequently requires at least modest upgrade work, and sometimes cannot be done without substantial additional cost to consumers.
- Installing devices during construction of new-build sites, or installing in tandem with other large electrical equipment such as solar or air-conditioning, is much more cost effective and streamlines the process for consumers.
- Large-scale installations into residential apartments can be rapidly completed in a coordinated and focussed rollout but are generally similar in usage profiles and do not provide data with as much value compared to freestanding homes with solar and battery systems, for example. Conversely, value to the end customers in this context may be hamstrung due to the limited range of new and renewable energy options available to apartment occupants. However, opportunities for energy efficiency-related upgrades do exist, and these may be highlighted via 'insights' within apps like Wattwatchers' MyEnergy.

These learnings reinforce a core aspect of the MEM value proposition—that is the value of a large fleet of pre-installed sites, with data-sharing agreements and approvals in place with the relevant consumers, to support a wide array of energy-related products and services, backed in turn by an 'Energy as a Service' business model.

[5] This is also a likely challenge for electric vehicle uptake in Australia, given that many homes have two or more cars, and EV charging in many cases will increase the electricity consumption load in homes by 50–100%, putting significant stress on sub-standard consumer-side infrastructure.

This can be made more cost-effective for an individual project by spreading the cost of establishing the data gathering, hosting and delivery infrastructure across multiple data services clients.

Ultimately, the MEM vision is that the value of energy data and the services it supports will be sufficient to fund low-cost—if not free—installations and subscriptions for the right profile of sites (i.e. those of greatest interest to researchers and service providers, and/or those with suitable large loads for demand response, and solar or solar+batteries for virtual power plants).

Regulatory

More experience to drive regulatory change

As part of the MEM, Wattwatchers monitors relevant electricity sector regulatory reviews, and policy and rule changes, to identify any new risks and/or potential opportunities for recruitment and installation, and also for data services.

Current examples include the Consumer Data Right (CDR) for Energy; the Australian Energy Market Commission (AEMC) Review of the regulatory framework for metering services; and the Smarter Homes solar export control requirements in South Australia, introduced in 2020 in response to concerns from the Australian Energy Market Operator (AEMO) in regard to grid stability.

We've found that Wattwatchers is now far better positioned, compared with pre-MEM times, to assess and respond to the evolving regulatory environment. We attribute this to the MEM having provided us with significantly greater direct experience with consumers, and also to the MEM driving additional collaborations with other technology companies; as well as a general increase in our team's exposure to issues related to rising penetration of Distributed Energy Resources (DER) into the grid.

MEM Applications

Commercial opportunities for data services are available

Wattwatchers is becoming more frequently selected by research institutions and other grant projects to provide the highly-granular data required for deep-dive investigations, and our leadership, in the form of the MEM, is providing valuable new insights for meeting the needs of this sector.

Energy monitoring data is also likely to be of higher value to both academic researchers and commercial product developers if it is accompanied by additional site profile data, which requires participants to respond to surveys or interviews. When typically rigorous ethics requirements for formal research projects are added in, particularly for university-led projects, the costs for site recruitment, installation, onboarding and retention of participants—especially for retrofit sites—can become substantial.

In the context of research projects, drawing on current MEM data services negotiations with a consortium of universities, additional payments to end users may also be required to motivate participants. This is particularly so if participants are required to do additional 'work' such as completing surveys and joining interviews or focus groups, or need to share additional data including personally-identifying information.

Data availability for research is of high importance for the current and ongoing energy transition because so much change is happening in a short period of time, and the stakes are high for both consumers (future of a customer-centric electricity market) and the energy system (grid stability, new regulatory and business models, and digitalisation, decarbonisation and decentralisation). There are more and more opportunities emerging to provide data services for a wide range of current and future applications.

App development and feature selection

User engagement research has identified that there appears to be wide appeal for the benefit of our energy budget tracking and notification features, However, the current (minimal) implementation for this has proven to be too complicated to set up, and will need further development, simplification and automation (i.e. via automatic tariff data input from bill scraping etc). Making the complex simple at the point of the user interface is a recurring theme for energy technology, and this is being reinforced in the case of the MyEnergy app.

Of particular note, we have observed that the tariff switching features incorporated into the evolving MyEnergy app have not been strongly utilised by participants. Our user research indicates that this is due to factors such as a trust deficit with comparison services in general, lack of understanding of options, insufficient choice of retail suppliers,[6] low (or no) material savings, or being unwilling to switch even if a better deal

[6] The MyEnergy app provides a 'panel' style selection of retailers, matching the model adopted by our partner Accurassi, who provides the foundational technology for this feature.

is available (i.e. because of 'inertia' due to the perceived hassle of switching providers, or when non-financial drivers such as preference for a more environmentally-credible or community-based provider are at play).

This feedback from early users, via guided testing sessions, is consistent with advice from the MEM Data Advisory Panel in regard to being aware of wider consumer concerns about the proliferation of comparison sites/services, and associated (negatively viewed) sales and switching tactics (such as aggressive follow-ups, and lack of transparency as to deal selection and provider panel selection).

Wattwatchers implemented tariff switching features as a 'value add' to encourage users to upload their tariff information via a bill, which is much less complex and less error-prone than the high-effort, manual entry alternative. Among other things, tariff information is important for providing users with a dollars-and-cents view of their electricity in addition to the more common (but confusing and abstract) kWh view.[7] But this data is also valuable to providers making offers in the 'Marketplace' (e.g. for evaluating solar savings based on the user's real tariffs rather than estimates).

Managing the 'Marketplace' with channel partner offerings

Initially we envisaged the 'Marketplace' being a feature of the MyEnergy app. As our channel strategy has evolved, this has raised a challenge in that often our channel partners have a more feature-rich app experience for customers that replicates (and extends) the feature set offered by the MyEnergy app. It does not make sense, therefore, to require the user to download another app.

With this in mind, we are considering how to provide the 'Marketplace' functionality as a standalone app (i.e. separate to the MyEnergy app), which will maximise flexibility for deployment with both our MyEnergy app and also with channel partner apps.

Accommodating partner apps has also highlighted the need for building in the ability to selectively limit offers to 'non-competing' products and services for each channel partner. While there is a recognition this can reduce the appeal of the 'Marketplace' (both for energy users, and potential competing 'Marketplace' offer-makers and service providers), Wattwatchers feels it appropriate to explore this further, and thus confirm if this is a reasonable trade-off given the wider benefits of the 'Marketplace' on one hand and reduced cost of installation to end consumers on the other.

[7] This is a feature provided by some of our commercial partners in their own apps, but is also planned in the near future for Wattwatchers' own MyEnergy app.

Next Steps

The My Energy Marketplace project will continue to deploy the remaining 3,600 residential sites and 190 schools in an accelerating trajectory over the next 18 months, leveraging the scale channel partners that delivered the excellent results achieved in this milestone period.

The installation learnings are being continually fed back to our installers to improve the device installation process, which ultimately improves the quality of the data available to provide MEM Data Services that are now being established.

App development will be focused on the Marketplace features based on the lessons learnt and the user engagement and market research conducted in this milestone period.

Wattwatchers is progressing towards successfully completing the key project outcomes to deliver a new range of innovative data services to energy and data users in the Australian and international markets.

More Information

If you would like more information regarding the My Energy Marketplace project, please contact us using the links below.

Website: https://wattwatchers.com.au/about/#contact-us
Email: info@wattwatchers.com.au