

Remarks by
Martha Amram, Ph.D.
CEO, WattzOn

at the

California Public Utilities Commission, June 24th, 2016

Public Workshop: Implementation of Assembly Member Quirk's AB 793
Energy Efficiency and Energy Management Technology Legislation

About WattzOn. WattzOn provides a national platform for residential utility data, and a suite of targeted products. We help solar companies, connected home providers and program providers engage consumers, save energy and increase sales of energy-smart products and services. Currently cities around the U.S. use WattzOn's software tools to run data-driven energy-saving programs for their residents. We have highly engaged users, with typical savings of 8 – 14% from habit changes alone.

How We Measure Savings. In 2011, the CPUC held a Public Workshop on behavioral energy savings. A set of papers were produced for that proceeding that identified the "difference of difference" method as the gold standard for M&V from behavioral energy efficiency.¹ WattzOn uses this method to report to our program providers, if possible. We show users their year-over-year savings based on their bill, as these are metrics that consumers readily understand. We use meter data to report to program partners and what we show to residents. California has invested heavily in its meter infrastructure. WattzOn and other software companies are already using it to provide utility-grade savings results. We note that from our experience in over 30 community programs around the country that it takes only 4 – 5 months to ramp up behavior-based energy savings in a community program. This relatively quick performance is of benefit to the program provider and to the utility, and is visible the meter data.

Software vs Thermostats. It is tempting to address the implementation of AB 793 by incenting connected thermostats with a traditional utility rebate program. This has been done throughout the U.S. and Canada. Because thermostats are installed hardware, there is a notion that savings are locked in and persistent, the result of a complex dynamic between user engagement, comfort preferences, HVAC efficiency, thermal load on the home and proprietary software algorithms. WattzOn works with several thermostat manufacturers and we are keenly aware of the user model required for best results.

Software solutions for energy savings have several key advantages that make it an stand-alone offering and great partner for thermostat programs:

- *Usefulness and access.*

¹ <http://www.opiniondynamics.com/2013/07/what-is-in-a-name-behavior-policy-and-debate-in-california/>

- 17% of residents in California live in multi-family dwellings². Connected thermostats will find very little savings in these homes.
 - Further, nearly a third of California households struggle to make monthly household payments (low income) and are likely to find the user model for thermostats very challenging, particularly when these families lack the prerequisite energy savings awareness and education³.
 - Finally, many low income HVAC and weatherization programs find that household energy use increases after the intervention, because the original HVAC system was broken. We have found that engaging software solutions can mitigate the increased energy use.⁴
- *Rising electricity use from electronics and appliance saturation.* Several thermostat panelists noted that 40% of home energy use goes to heating and cooling. However, the fastest rising load in homes is from other sources.⁵
 - Software solutions can detect the presence of these loads and provide personalized content to spur energy reduction.
 - *Education and awareness.* WattzOn has delivered programs in several low-income communities and on military bases around the country. Software tools and other outreach tools can be used to start a gentle conversation, with multiple touchpoints, to build energy awareness and education. Software tools allow for immediate personalization, so the user has an “all about me and my home” type of experience. We have found that this approach is key to gaining attention and understanding. With software, the customer journey is smooth, from initial interest through small, personalized experiences through readiness to adopt new technologies, including connected thermostats.
 - *Community-based programs.* WattzOn has never had a business model of selling software to utilities. We aim to be part of the modern ecosystem of third-parties engaging with consumers to deliver goals shared with regulators and utilities. As we deliver services other markets – cities, military housing, managed housing – we have found that a key component of success is local branding and engagement. Communities save energy faster and better when they can “own” the program. We provide details on their perspective, and the co-benefit metrics they are interested in the next section.

Broaden the Discussion to the Co-Benefits of Community Energy Savings Programs.

It is often said that consumers don’t care about energy use. We would amplify wording to say, “Consumers don’t have the information easily at their fingertips to care about energy use, nor are they presented the details needed to create an emotional connection to energy

² <http://nmhc.org/Content.aspx?id=4708>

³ <http://www.sacbee.com/news/politics-government/capitol-alert/article27256111.html>

⁴ <http://energy.gov/sites/prod/files/2014/01/f6/s1-masuko.pdf>

⁵ <https://www.eia.gov/todayinenergy/detail.cfm?id=1270>,

https://www.energystar.gov/ia/partners/prod_development/downloads/EEDAL-145.pdf

savings.” Details from four of our community programs illustrate the broader, emotional meaning residential energy savings can have in a community.

1. *Benicia, CA.* WattzOn has delivered a community energy and water savings program in Benicia for five years. Funding has come from a city reserve. We employ high school students as paid interns, and conduct outreach and home consultations. Over 600 homes have participated. Average annual energy savings have persisted above 8%. The city manager reports that the residential program is one of the keys to Benicia’s ability to cut water usage during the drought crisis by over 40%. Engaging local students and providing water savings are co-benefits of the energy savings program. <https://benicia.wattzon.com/>
2. *Simi Valley, CA.* WattzOn is preparing to launch a community energy savings program in September. The city council members and mayor were most interested in our economic analysis of how community-wide energy savings programs can create local jobs. As residents save \$15 to \$20 per month on their utility bill, they tend to spend it locally, creating local economic impact and jobs. An example of the same analysis but for Fremont, CA has been posted here: <http://www.thinksiliconvalley.com/silicon-valley-east/economics-energy-savings-fremont-case-study/>
3. *Ft Leonard Wood, MO.* WattzOn has provided community energy savings programs on more than a dozen military bases, and based on that experience, we can reliably predict behavior-based engagement and energy savings. (Military housing is leased, and thus recommendations on home improvements or product purchases are not appropriate.) To increase adoption of these successful programs, WattzOn is delivering a guaranteed savings program in the single-family housing at Ft. Leonard Wood. We guarantee 5% savings and mount the program at no cost to the housing provider. We are paid out of the energy savings. Note that the guarantee is at the portfolio level, not the house level. WattzOn tracks usage at the house level and personalizes content based on meter data. Using a pool of homes, we can average out the small per-home changes, create a buffer and reliably deliver the agreed-upon result. This is costly and difficult to guarantee at the house level.
4. *El Monte, CA.* Last week, WattzOn and the El Monte Promise Foundation were featured at the Clinton Global Initiative for our project, “Transforming Energy Savings into College Savings.”⁶ Residents in El Monte often don’t have bank accounts, pay bills via cash, and find it difficult to navigate two utility statements (SCE and So Cal Gas.) Our program will use WattzOn’s proven methods for behavior-based energy savings to create monthly savings habits, and the software technology to pay utility bills, and transfer the energy savings to their designated college savings account. Further many homes can direct their energy savings to the same college savings account, creating a web of support for the college-bound student. Our program partner will provide the local, trusted staff needed to guide residents through the many steps it takes to gain online utility accounts and banked-based methods of bill payment. The approach is “high touch, high tech”; role of software technology is to support the appropriate workflows, in the right language, to gain

⁶ <http://www.wattzon.com/news/clinton/>

participation. It is through the attention to these details we will be able to serve a broad customer segment that is currently excluded from gaining value from smart meters.

Incentives for Software Solutions Under AB793. As the remarks above show, WattzOn is currently using meter data to measure behavior-based energy savings at utility-grade M&V standards. We guarantee savings based off of this data. However, programs that can pay third-parties such as WattzOn to aggregate users and deliver energy savings are just emerging in CA.

To address this challenge, we suggest an immediate two-part approach to comply with the timelines required by AB793:

- Catalyze community-based programs by offering community choice, regional area networks, cities and local non-profits program funds for the first two years of local programs. Require that energy savings results be reported quarterly using the appropriate method. Utilities may need to be required to provide control group (non-intervention) data in an aggregated form.
- After two years, evaluate the savings results. At that point, successful programs should be delivering reliable energy savings. Going forward, open up the opportunity for community program providers to be compensated from savings provided, and eliminate the grants. This will migrate all community programs to a model that are aligned with the utilities and the CPUC.
- Avoid program grants based on deemed savings, counts of participants and so on. The smart meter infrastructure is in place, and WattzOn and other program providers can immediately provide savings data. Software programs provide access for all CA residents. Using simple and clear energy savings payments will incent third parties lower program costs. Further the cost of administering energy efficiency programs is increased when program metrics are diffuse and imprecise. Clear energy savings metrics and payments can lower administrative costs for utilities. These steps are needed to create the thriving third-party ecosystem envisioned under AB793.

Thank you for the opportunity to offer these remarks,



Martha Amram, Ph.D.
CEO, WattzOn