

March 30, 2012

David Brightwell  
Illinois Commerce Commission  
527 East Capitol Avenue  
Springfield, IL 62701

RE: Comments on ICC's Plan to Foster Statewide Coordination of Statutorily Mandated Natural Gas and Electric Energy Efficiency Programs

Mr. Brightwell:

Opower appreciates the opportunity to submit comments on the Illinois Commerce Commission's (ICC) Plan to Foster Statewide Coordination of Statutorily Mandated Natural Gas and Electric Energy Efficiency Programs.

Opower is the global leader in behavioral energy efficiency and smart grid customer engagement. Opower currently works with over 65 utilities in 24 states, including Illinois, to deliver energy and bill savings to more than 10 million households across the United States and United Kingdom. This year alone, Opower will save enough energy nationally to take 150,000 homes off the grid and save households across the country more than \$100 million on their energy bills. By providing customers with better information on their energy use and personalized energy saving advice, Opower motivates customers to use less energy and save money on their monthly bills.

In Illinois, Opower's Home Energy Reports program already reaches 250,000 ComEd customers and 250,000 Ameren customers. The program consistently motivates customers to save an average of 2-3% on their energy bills and has been measured and verified independently by a dozen consultants and economists across multiple geographies.<sup>1</sup> At a cost of \$0.03 – \$0.05 per kWh saved, the Opower program is among the most cost effective programs in the residential energy efficiency market.

The ICC's plan falls under four broad categories:

- 1) Continue to encourage coordination through SAG and CANDI
- 2) Monitor development of a statewide technical resource manual (TRM) and review the validity of the final product
- 3) Work to generate consensus on legislative proposals to reduce program or participant costs or to improve program performance, and
- 4) Solicit comments on the plan and commit to working with interested stakeholders.

Opower's comments address parts two and three of the ICC plan outlined above. Opower's comments focus on: I) inclusion of best practices in measurement and verification protocols for behavioral efficiency in the TRM, II) program persistence and cost effectiveness, and III) the ability of behavioral efficiency programs, such as Opower's, to lift participation in other energy efficiency programs.

## **I. Inclusion of Best Practices in TRM**

The purpose of the TRM is to provide consistency across utilities in the assumptions used to determine savings from various measures. Opower encourages the inclusion of state-of-the-art measurement and verification (M&V) protocols for behavioral efficiency in the TRM.

More specifically, Opower recommends that the TRM specify the use of experimental design in order to isolate and cleanly evaluate the impact of behavioral messaging. Randomized control trials (RCTs) – a form of experimental design – are considered the gold standard in statistical evaluation and are used, for example, by the U.S. Food and Drug Administration in determining whether or not to approve new pharmaceuticals for human consumption. This methodology is consistent with the National Action Plan for Energy Efficiency guidelines<sup>2</sup>, the California Evaluators Manual<sup>3</sup>, and The Brattle Group's Principles of Behavior-Based Energy Efficiency.<sup>4</sup> Such an approach has also been approved by the Statewide Evaluator in Pennsylvania as a part of the PPL Electric Utilities' Custom Measure Protocol.<sup>5</sup>

## **II. Program Persistence and Cost Effectiveness**

The ICC Plan mentions that a number of proposals are currently under consideration that would reduce program or participant costs and improve program performance. One such proposal is to reduce or eliminate the emphasis on first-year savings and the rationale for doing so is provided as follows:

*The emphasis on first-year savings leads to an incentive to focus on measures and programs that have low costs per first year unit of energy savings as opposed to measures and programs with low lifetime per unit costs. As such, programs with one year savings such as consumer behavior modification take emphasis over programs that can save energy for 10 to 20 years or even longer. The advantage of longer-term programs is that the savings persist and are more likely to reduce the need for infrastructure investments.*

In response to the above statement, Opower offers the following information on the persistence and cost effectiveness of behavioral programs.

### **a. Behavioral Programs Persist**

First, the energy savings produced by behavioral programs persist as long as Home Energy Reports continue to be sent. Opower is one of the most evaluated vendors of any efficiency product in the country and is the only residential behavioral efficiency measure to be



evaluated in a national study published in a peer-reviewed economics journal. The author, Dr. Hunt Allcott, goes so far as to describe Opower’s program as “one of the largest randomized field experiments in history.”<sup>6</sup> Further, Opower’s persistence given continued treatment has been verified in Navigant’s 30-month evaluation of SMUD’s program. That study found an increase in savings of 22% in the second year over the first year, and “no signs of impact deterioration over 30 months.”<sup>7</sup>

b. Behavioral Programs are Cost Effective

Second, behavioral programs are cost effective. In his peer-reviewed evaluation of Opower’s program, Dr. Hunt Allcott investigated cost effectiveness of the program across the 17 longest-running deployments. In his analysis, Allcott found that Opower’s average cost effectiveness is 3.31 cents per kWh saved.<sup>8</sup> This compares favourably with other efficiency programs, which range from \$0.03 to \$0.06 per kWh saved.

Because behavioral programs have a one-year measure life, annual savings and cost effectiveness is equivalent to lifetime savings and cost effectiveness. Opower programs are therefore cost effective on both an annual and lifetime basis.

**III. Behavioral Programs Can Lift Participation in Other Energy Efficiency Programs**

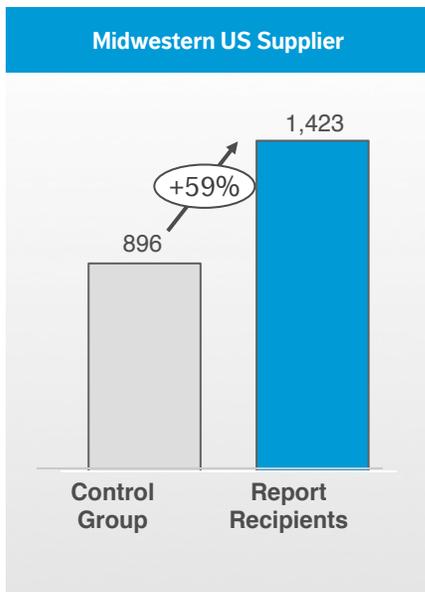
In response to the ICC plan to improve program performance, Opower points to the following information on the ability of behavioral energy efficiency programs, such as Opower, to lift participation in other energy efficiency programs.

**Table: Opower impact on other efficiency programs at Baltimore Gas & Electric**

Percentage Increase in Program Participation Attributable to BGE Pilot	Program Type
3%	Appliance Rebate program
13%	Limited Income Energy Efficiency Program
22%	HVAC Rebate program
38%	Quick Home Energy Check-up Program
53%	Recycling Program

Opower’s program drives an increase in customer participation in other utility programs, service, and rebates. This is partly due to the fact that through direct-mailed reports and the customer web portal, Opower can promote key initiatives such as programs, services, and rebates, acting as a powerful marketing tool. For instance, unique to the Opower multi-channel approach is our ability to cross-promote utilities’ initiatives through multiple engagement methods, heightening the promotional impact. A customer’s direct-mailed report will include the same or similar promotions as those they receive through the online portal, thereby increasing the likelihood that the customer will take action.

**Figure: Opower lifts other programs**



That said, Opower recipients participate in other energy efficiency programs at a higher rate than controls whether or not a specific energy efficiency program is mentioned in Opower's Home Energy report. This is illustrated in recent report from Baltimore Gas and Electric, which found that program participation in its Smart Energy Savers Program increased relative to the control group by 3-53%, as show in the **Table** above.<sup>9</sup>

In the case of BGE, these increases in energy efficiency program participation were possible as a result of the "halo effect", or increased participation by customers receiving Home Energy Reports without Opower directly promoting particular programs.

Initial tests suggest that with direct promotion of programs, Opower can drive further increases in program participation beyond the "halo effect." In fact, the **Figure** to the left displays results from a recent

deployment with a Midwestern US supplier in which Opower increased participation by 59% in a refrigerator-recycling programme. As with each deployment, Opower was able to rigorously measure this increase in participation by using a randomized-controlled trial.

Home Energy Reports have also been found to increase participation in ComEd's fridge recycling programs by 5% to 21% in 2011, resulting in an increase of approximately 500 new fridge-recycling participants.

Thus, behavioral efficiency programs, like Opower's, can actually accelerate the uptake of other efficiency measures, which makes all programs more cost effective and improves the performance of the overall efficiency portfolio.

Thank you for your consideration of these comments.

Sincerely,

Emma Berndt  
Manager of Market Development & Regulatory Affairs  
Opower

## Endnotes

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<sup>1</sup> Allcott, Hunt. 2011. "Social norms and energy conservation" *Journal of Public Economics*.

<sup>2</sup> National Action Plan for Energy Efficiency. "Model Energy Efficiency Program Impact Evaluation Guide."

November 2007. Available online at: [http://www1.eere.energy.gov/office\\_eere/pdfs/napee\\_evaluation\\_guide.pdf](http://www1.eere.energy.gov/office_eere/pdfs/napee_evaluation_guide.pdf)

<sup>3</sup> California Public Utilities Commission. "California Energy Efficiency Evaluation Protocols: Technical, Methodological, and Reporting Requirements for Evaluation Professionals." April 2006. Available Online at: [http://www.calmac.org/events/EvaluatorsProtocols\\_Final\\_AdoptedviaRuling\\_06-19-2006.pdf](http://www.calmac.org/events/EvaluatorsProtocols_Final_AdoptedviaRuling_06-19-2006.pdf)

<sup>4</sup> Sergici, Sanem and Ahmad Faruqui. "Measurement and Verification Principles for Behavior-Based Efficiency Programs." May 2011. Available online at: [http://opower.com/uploads/library/file/10/brattle\\_mv\\_principles.pdf](http://opower.com/uploads/library/file/10/brattle_mv_principles.pdf)

<sup>5</sup> See: "Custom Measure M&V Protocol: PPL Electric's Opower Energy Education Program," as approved by GDS Associates under Pennsylvania's Act 129

<sup>6</sup> Allcott, Hunt. 2011. "Social norms and energy conservation" *Journal of Public Economics*.

<sup>7</sup> Cooney, Kevin, February 2011. "Evaluation Report: OPOWER SMUD Pilot Year 2." Navigant Consulting

<sup>8</sup> Allcott, Hunt. 2011. "Social norms and energy conservation" *Journal of Public Economics*.

<sup>9</sup> Baltimore Gas and Electric Company - Q3 2011 EmPOWER Maryland Report. Case No. 9154. October 31, 2011.