



Northwest **Power** and **Conservation** Council

# Energy Efficiency Is Being Treated Like a Resource! At Scale, Where Does Billing Analysis Fit?



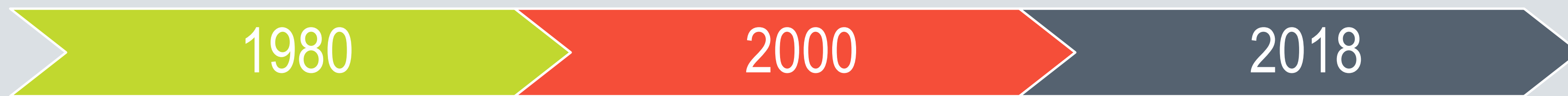
*Allegra Hodges, Phillip Kelsven; Bonneville Power Administration  
Josh Rushton; Contract Analyst at NWPCC Regional Technical Forum*

*Pace Goodman, Marilla Yaggie; Navigant Consulting, Inc.  
Jes Rivas; ILLUME Advising*

## Summary

- **Thesis Question:** As the energy efficiency (EE) industry evolves and grows, are there benefits to expanding the use of consumption analysis (also referred to as billing analysis) in evaluation?
- **Expanding Consumption Analysis:** To expand the use of consumption analysis in evaluation, analysts might use consumption analysis to evaluate (1) measures typically evaluated through other methods, or (2) groups of measures, programs or even whole portfolios, where evaluation typically involves separate and distinct efforts
- **Overview:** In this paper and poster, the authors discuss pros, cons, and possible policy implications for expanding the use of consumption analysis in evaluation, including some ideas for addressing any challenges

## EE in the Northwest



In 1980, the Pacific Northwest Electric Power Planning and Conservation Act was passed, which established energy conservation programs (NWPCC 2018).

By 2002, the Oregon Public Utilities Commission helped form the Energy Trust of Oregon (ETO), which administers programs promoting energy efficiency (ETO 2018). In Washington, three of the major investor owned utilities started administering energy efficiency programs by 2000 (Oshie 2011).

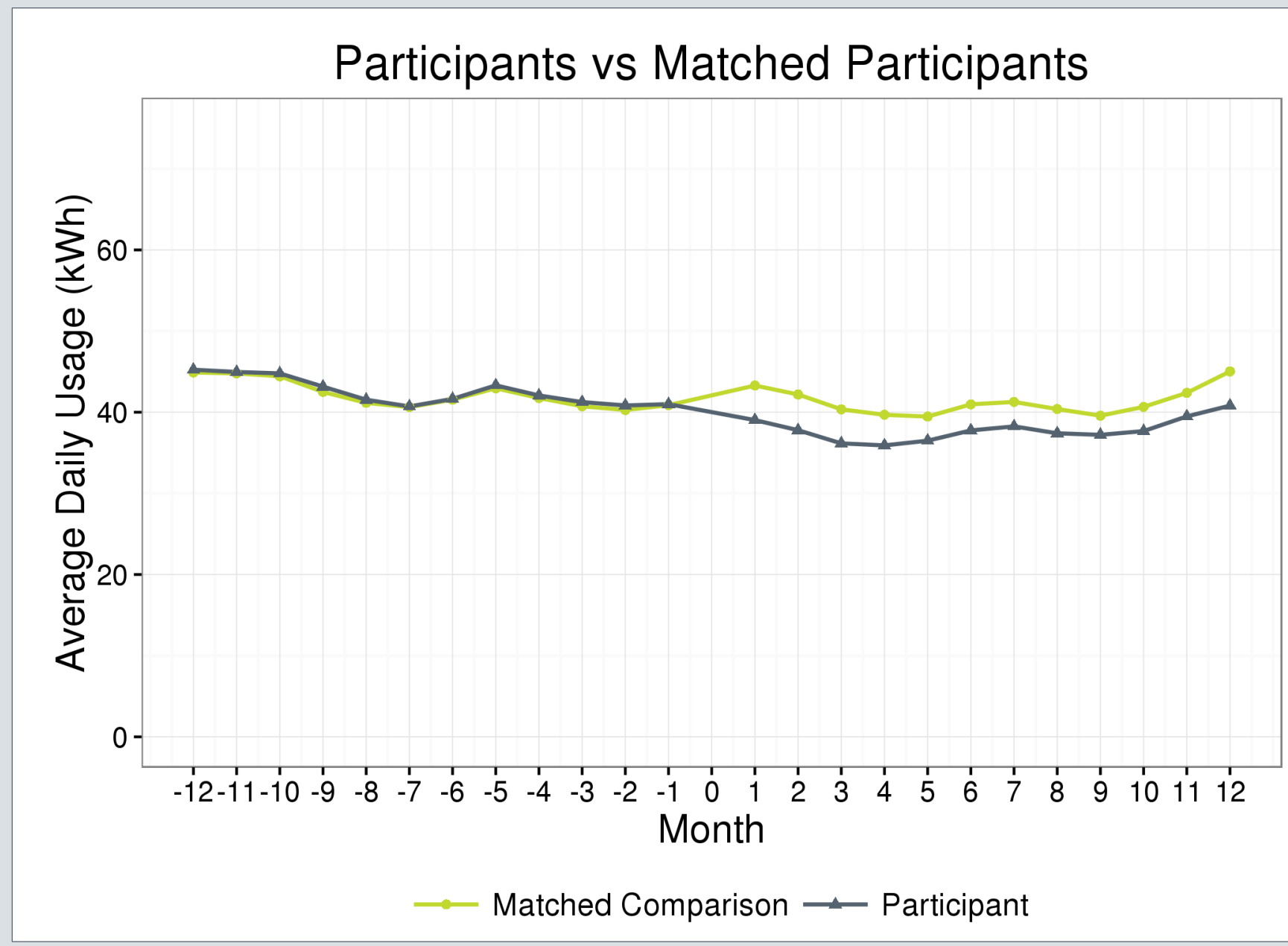
Oregon and Washington set energy savings targets of over 1% of retail sales per year. Idaho does not have an Energy Efficiency Resource Standard (ACEEE 2017), but many of its utilities administer EE programs (DSIRE 2018).

## Project Summary

<b>Task</b>	Consumption analysis evaluation
<b>Where?</b>	Bonneville funded EE at over 40 utilities across WA, OR, ID, MT and WY
<b>EE Measures</b>	Residential weatherization, duct sealing and ductless heat pumps

## Traditional Evaluation & Consumption Analysis

$$\Delta kWh_{heat} = Capacity * EFLH * \left( \frac{1}{HSPF_{base}} - \frac{1}{HSPF_{EE}} \right) / 1000$$



## Why Consumption Analysis?

- Fuller quantification of uncertainty
- Inform allocation of evaluation resources
- Greater flexibility
- Better integrated with resource planning

## Why Not?

- Evaluation risk
- Methods agreement
- Informing planning estimates
- Improving the program
- Other issues, e.g., demand savings and measure life

## Conclusion

The world of EE is changing, and we should continue to investigate opportunities to adapt and to foster ongoing successful EE in North America. Expanding the use of consumption analysis in evaluation may be one approach for adapting to a dynamic market landscape, and changes to EE policies and practices could help facilitate greater use of consumption analysis in evaluation. We hope this paper serves to articulate the benefits of expanding consumption analysis in evaluation, while identifying the challenges this innovation creates for EE policy and practices.



References

ACEEE (American Council for an Energy-Efficient Economy). 2017. State and Local Policy Database: Energy Efficiency Resource Standards. <https://database.aceee.org/state/energy-efficiency-resource-standards>

DSIRE (Database of State Incentives for Renewables & Efficiency). 2018. Idaho Programs. <http://programs.dsireusa.org/system/program?state=ID>

ETO (Energy Trust of Oregon). 2018. Our History. <https://www.energystat.org/about/etore-energy-busmission-approach/history/>

Jensen, V. 2018. Energy Efficiency in the Utility of the Future. Commonwealth Edison. Keynote Speech at Efficiency Exchange in Tacoma, WA. <https://vimeo.com/27009967>

Lacey, S. 2018. Utilities Can Learn from Amazon's Obsession With Customer Experience. Green Tech Media (GTM). <https://www.greentechmedia.com/articles/read/utilities-can-learn-from-amazon-obsession-with-the-customer-experience-ff7f1t>

NWPCC (Northwest Power and Conservation Council). 2018. Northwest Power Act. <https://www.nwpcc.org/about-us/about-us-history-and-mission>

Oshie, P. 2011. Energy Efficiency Policies and Development in Washington State. Washington Utilities and Transportation Commission, NARUC Workshop on Integrated Resource Planning. <https://pubs.nwpcc.org/pub/doi?id=53787800-2384-5714-41D6-C56C83863F3>

Rivas, J., Goodman, P., Yaggie, M., Rodriguez-Anderson, S. and Baker, M. Bonneville Power Administration. Impact Evaluation of FY2014-2015 Residential Insulation and Window Measures & Analysis of FY2009-2011 Performance Tested Comfort System Air-Source Heat Pump Conversions and Performance Duct Sealing Data. Navigant Consulting and ISW Consulting. [https://www.bpa.gov/ELM/research-activities/Documents/Evaluation%20RPA\\_Residential\\_Impact\\_Evaluation\\_Final\\_Report.pdf](https://www.bpa.gov/ELM/research-activities/Documents/Evaluation%20RPA_Residential_Impact_Evaluation_Final_Report.pdf)

