

TASK 24 POLICY BRIEF FOR U.S.

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Mandated Energy Efficiency Targets: Utilities in the U.S. are often investor-owned and are mandated to run cost-effective energy efficiency programmes; because human behaviour is less predictable than technology, evaluation standards are higher and, consequently, fewer programmes are labelled as behavioural in the U.S.

Opportunities for Programme Evaluation: There is a need for credible and accepted evaluation approaches for behavioural programmes, other than randomised control trials (RCTs). This may be best addressed via a concerted collaboration between regulators and programme implementers.

Effect of Programme Origin: As a result of different origins, U.S. and European programmes differ in scale and emphasis. U.S. programmes operate on a larger scale than in Europe and federally-managed European programmes place a higher emphasis on non-energy benefits.

WHAT'S THE ISSUE & WHY IS IT IMPORTANT?

The scale of energy efficiency efforts in North America is vast. In the U.S. and Canada alone, more than \$8 billion USD are spent annually on energy efficiency programmes, which far outpaces most other countries (CEE 2018a). These programmes are often (though not exclusively) run by investor owned utilities (IOUs), as opposed to Europe's mostly government-run programmes. As a result, many IOUs are mandated to meet energy efficiency targets, and programmes that count towards these targets must meet cost-effectiveness and other evaluation requirements.

Behavioural social science techniques can be leveraged to enhance savings from energy efficiency programmes. However, humans - and any energy usage changes caused by their behaviour - are much less predictable than energy-efficient equipment. Thus, estimating savings from behaviour is more challenging and therefore requires higher evaluation standards in the U.S. and Canada. As a result, the randomised control trial (RCT) was, and remains, the gold standard for evaluation of behavioural programmes. Yet not all programme approaches are evaluable via RCTs, and other rigorous and credible evaluation methods have not been widely accepted as alternatives. Consequently, many energy efficiency efforts that would be considered behavioural in other countries are not labelled as such in the U.S., and it can be difficult to demonstrate the value and gain approval for programmes with behavioural elements.

Despite these challenges, programme administrators in the U.S. and Canada continue to run over 100 programmes that include behavioural elements across the residential, commercial, and industrial sectors (CEE 2018b). To address the ongoing challenge of detecting energy usage changes, the U.S. chose to focus its one year of Task 24 participation on **behavioural programme evaluation methods, credibility and persistence.**

APPROACH AND METHODS

U.S. participation in the last year of Task 24 was made possible by a collaboration between the U.S.

Department of Energy (DOE) and the bi-national Consortium for Energy Efficiency (CEE). CEE is the non-profit consortium of energy efficiency programme administrators, and its membership directs nearly 80 percent of the \$8.8 billion in annual energy efficiency expenditures in the U.S. and Canada.¹

The data collection and synthesis process included:

- Two surveys of the 11 CEE member organisation sponsors of this project about their behavioural programmes, which included four questions each and was sent to ten organisations and completed by eight
- Semi-structured interviews of 10 CEE member organisations; interviews consisted of 10 questions, lasted around one hour, and provided insight into programme administrators' regulatory barriers and evaluation challenges
- Interviews with three IEA DSM Task 24 experts from other countries and one former U.S. regulator
- Two U.S. Task 24 workshops, which were attended by 15 unique U.S. and Canadian organisations
- An IEA DSM Task 24 Workshop in Zürich, Switzerland, which was attended by almost 60 individuals from over 20 countries, and collected expert insights on behaviour
- A synthesis of CEE member organisation behaviour programme data from seven years of implementation, including 279 programmes run by 78 organisations
- Input from a total of 42 unique CEE member organisation staff during two CEE Program Meetings in the U.S.
- Input from the international behaviour community during the Behavior, Energy, and Climate Change (BECC) Conference in Washington, DC, U.S.

These data were triangulated and synthesised to identify the key themes that are outlined in the Final Report and this Policy Brief.

FINDINGS

Persistence

Measuring the persistence of programmes' achieved behaviour changes and related energy savings is especially necessary because human behaviour is more variable than energy-efficient equipment. Research on persistence is more prevalent in the U.S. than other countries, and has primarily examined the decline in savings when Home Energy Report (HER) programmes stop sending reports to customers. Initial findings suggest decay rates ranged from 2 to 30% per year, and often reach 20% during the first year (Ashby et al. 2017). These findings demonstrate that persistence is tangible and measurable, but this wide range in decay rates indicates further research is needed to understand persistence in HER and other programme types.

Behavioural Programme Evaluation

Not all programmes which were considered behavioural in the U.S. were evaluated as behavioural programmes. Currently, the RCT is most commonly used to evaluate behavioural programmes in the U.S. Though qualitative evaluation methods are sometimes used, it is typically for process, rather than impact, evaluations. There may be great value in expanding impact evaluation approaches for behavioural programmes to include other techniques, such as qualitative methods, quasi-experimental designs, and normalized metered energy consumption.

Learnings from European Peers

Wider regulatory latitude in Europe as compared to the U.S. and Canada has resulted in the opportunity for innovative European efforts to shift energy usage behaviours. While cultural and societal differences between the U.S. and the European countries represented in the Task 24 case studies limit direct transplantation of successful approaches to the U.S., they broaden the horizon of techniques to consider, adapt, and test in the U.S.

Behavioural Terminology

Any interaction between an energy end user and energy-using technology is behaviour. However, behaviour terminology is often associated with simple habitual, short-term actions such as turning off lights. Some utilities have shifted away from referring to behavioural programmes as such in order to avoid concerns about the durability of achieved behaviour changes. If the goal of behavioural programmes is to move beyond deemed measures such as the purchase and installation of hard measures, then there needs to be some distinction between acquiring new energy-efficient equipment and taking actions that reduce energy usage. One approach that could help address this challenge is a concerted effort to shift the language used to describe these programmes; rather than referring to "behaviour programmes," we recommend instead referring to the behavioural tools and processes that can effectively be used to enhance programmes across all sectors.

Programme Scale and Programme Origins

Over the course of this work, several substantial differences emerged between energy efficiency programmes in the U.S. and Europe. For example, in Europe, federal government entities often manage efficiency efforts, whereas in the U.S., programme administrators typically implement programmes. Given the broader interests of a federal entity, European

programmes often weight non-energy impacts (NEIs) more heavily than their peers in the U.S. Moreover, tens of thousands of customers often participate in programmes in the U.S., as opposed to hundreds in Europe. Due to differences in evaluation requirements between the U.S. and Europe, this difference in sample sizes affects whether any determination of causality of resulting energy savings will be viewed as credible in the U.S.

RECOMMENDATIONS

For Programme Implementers:

1. **Plan to measure persistence:** To improve our understanding of how long programme savings last, we must proactively design programmes to capture this information after the initial programme has ended.
2. **Continue to look to peers abroad:** Despite regulatory differences, Europe can serve as a proving ground for new programme approaches that may be ripe for testing or piloting in the U.S.
3. **Words matter:** Refer not to "behaviour programmes," but instead to "behavioural tools" and/or "behavioural processes."
4. **New opportunities:** Consider opportunities to co-create with regulators programmes that include behavioural techniques to allow buy-in from both parties upfront. Test these programmes in smaller-scale pilots first.

For Regulators and Policy-Makers:

1. **Attempt to include non-RCT evaluation methods for behavioural programmes** when savings for a programme are well established or alternate methods are more appropriate.
2. **Consider opportunities to co-create with utilities new programmes that include behavioural techniques** to allow buy-in from both parties upfront.

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SOURCES

Ashby, K., Gutierrez, V., Menges, S., and Perich-Anderson, J. (2017): [Keep the Change: Behavioral Persistence in Energy Efficiency Programs](#)

CEE (2018a): [2017 State of the Efficiency Program Industry: Budgets, Expenditures, and Impacts](#)

CEE (2018b): [2018 Behavior Program Summary](#)

FURTHER INFORMATION

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Task 24 Phase 2: www.ieadsm.org/task/task-24-phase-2/