

DSM Potential Study Advisory Committee Meeting #5 Notes

August 29th, 2019

Duluth MN, Minnesota Power

Methodology and Results (Matt Socks, Optimal Energy)

- Overview of Maximum Achievable and Program Potential
- Use societal cost test for everything presented today
 - Adds value of avoided emissions (benefits) and customer cost to install efficiency measures (costs)
- High Level Methodology Overview
 - Mainly focusing on estimating program budgets and measure penetrations and calculating total and net benefits today
- Market Barriers
 - Awareness is a big barrier; is a potential participant aware enough of an efficiency measure where they could decide one way or another if they should make a purchasing decision.
 - Availability is not a market barrier they anticipate will be as large because market will respond to demand for installation/product needs and services
 - Didn't account for falling price and increased adoption rates as a result of that; modeled more of a levelized increase/adoption rate versus a year-by-year modeling
 - Program costs they assumed were higher than would be expected
- Results – Electric Utilities
 - Program: 14%
 - Max achievable: 20%
 - Economic: 32%
- Results by End Use
 - Residential: 23%
 - 40% is space heating
 - About 10% appliances
 - About 10% refrigeration
 - Commercial and Industrial: 77%
 - Lighting: Nearly 25%
 - Refrigeration: about 20%
 - System: about 15-20%
 - Did not include electric vehicles in plug loads
 - Fuel switching wasn't included in study
 - Will bring back to the team to discuss
 - Space Heating
 - 17% of Minnesotans use electric for space heating
 - Can cut space heating use in half with cold-climate air source heat pumps versus baseboard
 - More challenges to technology implementation in multi-family units; could be helpful to break out based on single vs. multi-family in report

- Includes shell measures and programmable or smart thermostats
 - Behavioral measures are measured in “system energy”
 - Important to break out what “space heating” is comprised of since it makes up 40% of residential potential
- Results – Electric Top Ten Residential Measures
 - Secondary Fridge and Freezer
 - Assumed a 15% voluntary removal/retirement rate
 - If there is a secondary fridge removed, will they then just move their current primary fridge into secondary use and replace with a new primary
 - Would still capture savings, but not gain full savings of removing second fridge altogether
- Results – Electric Top Ten Commercial/Industrial Measures
 - How much of integrated building design includes lighting?
 - CEE will include in final report – assumptions for commercial lighting may be changed
- Results – Gas Potential by Measure Category
 - Heating system: 43%
 - Thermostat: about 25%
 - Building shell: about 15%
- Results – Gas Top Ten Residential Measures
 - Smart thermostat: 26%
 - Condensing furnace: 16%
 - Attic insulation: 10%
- Results – Gas Top Ten C&I Measures
 - Condensing furnaces: 28%
 - Energy Recover Ventilator: 15%
- Thoughts on Methodology?
 - Important to clarify what are you calculating customer savings vs. program achievement?
 - Business lighting potential may need to be adjusted as long with secondary refrigeration removal

Program Recommendations (Carl Nelson CEE)

Three most important to discuss today decided by vote:

1. New approaches
 - 0
2. Comprehensive program designs for hard to reach customers
 - 1
3. Upstream rebates
 - 3 AC
 - 1 non-AC
4. Operational savings
 - 5 AC
 - 0 non-AC
5. Segment specific savings

- 4 AC
- 6. Trade ally engagement
 - 4 AC
- 7. Incorporate AMI
 - 6 AC
 - 3 non-AC
- 8. Leverage local govt engagement
 - 0
- 9. Systematic sharing of information
 - 0
- 10. Trade ally outreach and training
 - 0

Incorporate Operational Savings

- How long does the savings last and how persistent is an issue (reorg or retirement) – value of the M&V to the portfolio (every \$ spent on M&V is \$ not spent on efficiency).
- Leadership on TRM for simple way of doing these types of savings would be important – especially for smaller municipals (keep it simple). Need measure lifetimes to help guide the savings estimates.
- Could lend itself more to a pay for performance framework – utility entering into agreement with the customer to establish the baseline and then operational savings equal X that's backed up with data collection over time.
 - Need to make sure that it doesn't become a negative relationship if the customer doesn't meet the savings threshold (which would reduce their payment received).
- Could connect with lifetime savings policy change (multiple years of savings).

Incorporate AMI Into Offerings

- Measuring the impact of EE, to show better actual savings that feeds into engineering calculations, and providing portals of information to end-use customers and deeper savings with behavior.
- More immediate feedback regarding bill alerts (e.g. rather than customers just seeing the results on a monthly basis).
- For CI facilities it depends on how many meters they have hooked up, and whether they'd have enough granularity at the end-use consumption to identify key uses.
- Account managers can use as a tool for programs to engage customers on opportunities.
- Could provide value to low-income customers with getting them more frequent feedback and point them to efficiency programs.

Joint Implementation of Programs

- MERC has worked with a half of dozen utilities, have lots of munis and coops so difficult to broaden that effort.
- Possible to do more work with the G&T? There's a need to bring in the local coop/muni still. Even though aggregating with them, the coops/munis still hold the purse strings.
- Aggregation helps as a way to reach more utilities implement programs.
- Proximity has helped with the CPE and Xcel joint programs (lot of time spent launching it).

- The way that one fuel can over perform and another underperform can be an issue.
- Minkota Power said that munis/coops working together through aggregator and collaboration has been beneficial. Was one reason why some of them chose not to become exempt.
- Longer term view of cost-effectiveness – e.g. longer view of costs/benefits on the electric like done with the gas BENCOST.

Other

- Marketing strategies – statewide marketing programs (broader messaging versus utility service territory level). Seems like it'd be very challenging to figure out who would own the messaging and what the messaging would be. To some extent, EnergyStar does this already with branding. There are some things, like general education about insulation that could be more statewide in scope (but the delivery infrastructure will be different by utility).
- Need to figure out how to not make programs more complex/costly (admin) versus implementing them.

Policy Recommendations (Mike Bull, CEE)

- End of September, Mike Bull expects to be able to share some of the legislative language that he's working on.
- Lifetime savings: complexity is difficult. Could be meeting annual goal over multiple years using first year savings.
 - Thinks would be much more straightforward to implement the first year savings applied to a cumulative goal would be better
 - Xcel has a simple way of accounting for this in another state.
 - Could be a simplified version of the carry-forward provision, and capturing it over a longer period would be helpful.
 - The lifetimes in ESP for lifetime savings in ESP aren't that accurate, and it'd be difficult to get it at the level of accuracy needed.
- What data is the beneficial electrification policy recommendation based on? The electrification recommendation was based on conversations with stakeholders, the OTP filing with fuel switching policy questions, and possible carbon reduction impacts.