

To: Lynn Beck, Katie Smith, Roger Doherty, Michigan Public Service Commission

From: Stu Slote, Neil Curtis, Will Supple, Debyani Ghosh, Wayne Leonard, Erin Day, Guidehouse

Date: December 9, 2020

Re: Michigan Potential Study – December 2, 2020 Stakeholder Meeting Questions and Responses

This memo provides Guidehouse’s responses to stakeholder questions presented during the December 2, 2020 meeting.

General

1. What is the timeframe for the analysis?
 - a. 20 years (2021-2040)
2. Will you look at fuel substitutions for delivered fuels: oil and LP?
 - a. The study will model the potential energy savings for natural gas and electricity. Other fuels (oil, LP gas, and wood) will not be considered.
3. Has Guidehouse engaged with other states with this type of project? If so, what have been the results?

Can Guidehouse point stakeholders to previous work they have completed in other jurisdictions that was similar to their approach here?

- a. Yes, Table 1 presents similar studies completed by Guidehouse since 2018, along with EWR and DR results. Publicly-available documents are identified for download.

Table 1. Guidehouse Potential Studies (2018 – 2019)

Client \ Project Name	Year	EWR	DR	Elec.	Nat. Gas	Results
AEP Ohio \ DSM Portfolio Plans and Potential Studies	2019	●	-	●	-	Not publicly-available
BC Hydro \ Conservation and Fuel Switching Potential Study	2019	●	-	●	-	Not publicly-available
California Investor-Owned Utilities \ Potential and Goals Study; EE analysis and IRP integration	2019	●	-	●	●	https://www.cpuc.ca.gov/General.aspx?id=6442461220
Efficiency Nova Scotia \ DSM Portfolio Plans and Potential Studies	2019	●	●	●	-	Click on icon below the table on left
Ontario IESO/OEB \ DSM Potential Study	2019	●	-	●	●	https://www.ieso.ca/2019-conservation-achievable-potential-study

Entergy New Orleans \ IRP DSM Potential Study	2018	•	•	•	-	https://cdn.energy-neworleans.com/userfiles/content/IRP/2018_Integrated_Resource_Plan_Report.pdf?_ga=2.182881190.160898310.1569945194-874286843.1560367315 (starting page 120)
National Grid Massachusetts \ Energy Efficiency and Demand Response Potential Studies	2018	•	•	•	•	https://ma-eeac.org/wp-content/uploads/Appendix-I-Potential-Studies-9-14-18-1.pdf (starting page 525)



Nova Scotia Energy
Efficiency & Demand

Measure Characterization

4. How is Guidehouse handling fuel switching measures?

Do you measure the impact because of fuel switch and BTU savings because of fuel switch?

 - a. Fuel switching measures are not included in the study.
5. Will building shell measures be included in the study?
 - a. Yes.
6. How will you address custom C&I measures that are often unique to individual industries or even individual sites and therefore not conducive to a measure you can name on a "list"?
 - a. Custom C&I measures will be addressed through a generalized, bottom-up characterization.
7. How will you be addressing new technology that will emerge over the time frame of the analysis but which we can't "name" right now?
 - a. Future or uncharacterized emerging technologies are addressed as part of the top-down approach to representing measure savings. The top-down portion represents measures that cannot be clearly defined using currently available data (as well as measures that have minimal savings potential).
8. EWR measures: Does the model account for tertiary reduction from the primary end use? For example does a low flow aerator show a measurable reduction in electric consumption from the municipal water provider?
 - a. No.
9. Will you consider potential from a utility program to advance codes and standards as is currently being done in a growing number of states?
 - a. Codes and standards utility programs are not included in the measure list.
10. Assumptions related to emerging tech, especially for EV and behind the meter storage?
 - a. Based on the current assumptions EV and behind the meter storage will not be a major contributor, it is not included in the initial top 100 measure list.

In general, emerging technology is accounted for in terms of the top-down estimates that we use both for calibration and sensitivity (i.e., high, medium, low adoption scenarios.). What happens to those measures over the model frame (next 20 years)

is not limited in any way. Top-down measures are permitted to grow over time and may offset some of the current top measures as those items become saturated or otherwise phased out.

Modeling Calibration

11. What criteria and test will be used for the economic potential?

- a. Guidehouse will use the utility cost test (UCT).

12. Will actual experience from other leading states be considered in estimating achievable potential? I'd hate to base everything regarding potential on a survey done during COVID.

Will you benchmark your adoption rates against actual adoption by customers in jurisdictions running the most aggressive or effective programs (in MI or other jurisdictions)?

- a. Modeling calibration will be conducted iteratively, and incorporate Guidehouse experience from complementary and effective programs, (including Massachusetts and California).

13. How will the survey or modeling take into account existing/future assistance programs and other efforts to address barriers to adoption?

Is there no portion of this that researches how to get into a home or business to install? Customers may respond willingness to participate until they have to schedule an install - what incents to get past that hurdle?

How do you look at market barriers outside of customer willingness to purchase?

- a. When determining incentive strategies and achievable potential, we will map measures to historical program achievements and calibrate model inputs by adjusting awareness, marketing, measure payback, and willingness to pay inputs.

14. Will you conduct a scenario analysis on the impact of deep heat pump adoption on EWR, assuming offering incentives such as high rebates?

Can you describe what is included in "incentive strategy"?

Are there plans to include a scenario with new more efficient codes and standards

- a. Guidehouse will work with the MPSC, utilities and stakeholders to define three scenarios per territory for the achievable potential, for example:
 - Standardized program rebate at 75% of incremental cost
 - Maximum achievable scenario, with an assumption that programs will remove all barriers or optimize for all factors under its control (e.g., incentive approach, budget caps, marketing levels, etc.)
 - Another scenario to be determined based on the results of the sensitivity tests

15. Are you excluding low-income EWR from the cost-effectiveness test for achievable potential? We don't have to demonstrate cost-effectiveness for low-income EWR.

- a. We can manually pass any measures through the achievable cost test threshold, including low-income. These adjustments will be discussed during the calibration phase of the study.

16. Is there opportunity to leverage the ongoing MI housing vintage study?

- a. Depending on the timing of the MI housing vintage study we may be able to leverage the data.
17. Does Guidehouse anticipate using certain years for interim savings targets on the way to 2040?
- a. No.

Avoided Costs

18. How is Guidehouse determining avoided costs?

Will Guidehouse use a market pricing approach or a fixed avoided costs?

How will you address avoided costs associated with potential for reducing compliance costs associated with future carbon emissions regulation?

- a. Guidehouse will aggregate fixed avoided costs from each utility, and to the extent possible, will weight by utility sales to develop a MI-wide value.

Survey

19. For the survey will you distinguish between past participants and non-participants?

- a. Surveys will be conducted based on a census of Michigan residents and businesses. Guidehouse will ask customers whether they have participated in a program only to confirm that the results are unbiased.

20. How are the customer surveys intended to be used? If it is for achievable market penetration rates, how does that capture potential associated with approaches like upstream rebates which affect what contractors sell in ways that customers may never even know about?

- a. The primary objectives of the customer survey are to collect awareness and willingness to pay data points to inform the adoption curves for achievable potential. Differences in incentive and implementation approaches will be considered during the calibration and scenario development phases of the study.

21. Will you be doing any actual on-site data collection to characterize existing buildings and equipment stock?

- a. Guidehouse will not be doing any onsite data collection. Existing buildings and equipment stock characterization will be sourced from existing baseline studies.