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**Poster Title:** Visualizing Net-to-Gross: Where is my Google Map?

**Abstract:** Evaluators and program administrators agree that net-to-gross (NTG) can be a murky topic which requires accounting for varying perspectives that must be considered individually and in aggregate. NTG studies typically go through many turns, twists, and detours. Unfortunately, Google Maps cannot give NTG directions--but wouldn't it be helpful to have a map? This poster will provide a map for assessing NTG using self-report surveys with installation contractors and participants.

The study on which this poster will be based was published in 2018. It estimated measure-level retrospective and prospective NTG ratios for residential HVAC and water heating equipment rebated by a program in a Northeastern state. The rebated equipment comprised heat pump water heaters, central heat pumps, central air conditioners, ductless mini-split heat pumps, gas furnaces, and gas boilers. After balancing answers to NTG questions from participating customer and contractor surveys, it relied on a consensus group to develop and recommend the final NTG ratios.

This poster will guide viewers through the process by which evaluators accounted for the varying dynamics that play into NTG – largely, end-user decision making and contractor strategies. The poster will lay out attractive and easy-to-navigate flowcharts illustrating (1) complex algorithms, (2) sensitivity analyses, and (3) iterative adjustments needed to marry customer free-ridership to contractor free-ridership.

With touches of text and tables, the poster will share the hurdles faced in interpreting responses and explain why no single result could be examined in isolation from other factors that demonstrate a program's true impact. The largest hurdle was contractors' misinterpretation of complex questions. For example, when asked to estimate the percentage of units that would have been installed in absence of the program, some said all units would have been installed but when asked why in an open-ended question, they explained with responses such as "too expensive" that implied the respondent did not understand the logic of the question. Therefore, evaluators needed to justly and qualitatively revise the free-ridership rates that were based on numeric responses. The poster will offer suggestions of how to handle these scenarios. Another hurdle was addressing differences between replace-on-failure and early-retirement rebates. In this state, the latter are much higher than the former, so distinguishing between them is important. This study focused on rebates for replace-on-failure equipment and worked in collaboration with another team studying early-retirement rebates, both through the same survey instrument. This involved thoughtful question development and careful coordination of questions to ensure that contractors reflected on their experiences for replace-on-failure and early retirement installations separately.

Finally, the poster will recount the consensus group's rationales for its final recommendations and why the group chose the "route" it took. This poster will be accessible to all audiences, helping new evaluators learn the ropes and offering clarity to seasoned professionals.