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Using energy benchmarks to better manage your weatherization program

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With so many properties in need of energy efficiency upgrades, it's often difficult to decide where to start. Energy efficiency program administrators have the additional burden of trying to decide which projects deserving funding.

This undertaking can be extremely challenging due to large numbers of applications and the huge array of possible inputs to review. For example: Will there be reductions in energy use after a retrofit? How much might be saved? How badly does the organization need funding? How does this building compare to other potential projects? Considering all these options could require a staff person to work nearly full time just reviewing applications.

Which one will you choose?

Luckily, energy intensity scores or benchmarks (typically delivered in BTU/square foot/year) provide a concise, clear-cut way to guide these decisions. In this model, each applicant reports a benchmark score on their application and the program administrator uses a predefined cut off point to decide if the project qualifies for further review.

This ensures that the least efficient buildings are the ones receiving energy efficiency upgrades. It also eliminates the need for developing complex models or projections, and minimizes conflict by relying on actual, undebatable usage history. And because the benchmark is a function of features like building age, type and square footage, it also removes the need to review these additional factors.

Furthermore, a property's present energy usage is shown to be an indicator of the success of a retrofit measure. A Deutsche Bank study released this January notes:

"Actual savings are strongly correlated with pre-retrofit fuel usage. The study analyzed a wide range of building characteristics and retrofit scope measures to examine how they impacted savings. While a number of weaker correlations existed, only one factor was significantly related to post-retrofit performance: pre-retrofit fuel use intensity (the amount of fuel a building consumes in kBTU per square foot of heated building area). Higher pre-retrofit fuel use intensity translated to greater savings potential; the buildings that consumed the most fuel on a per square foot basis pre-retrofit often achieved greater savings."

Over the past few years we've worked with a weatherization funding program that uses this exact approach. Properties use WegoWise to get their energy benchmark. That is then shared with the program administrators who review the benchmark and the applicant's eligibility. Qualified applicants with high enough energy intensity then receive an energy audit to determine specific measures to increase energy efficiency in that building.

In short, relying on benchmarks as the first cut off point for your weatherization program lays the groundwork for greater program wide success in energy use reductions. This approach also offers a

clear way to compare pre and post-retrofit usage and assess actual energy savings.

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