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HOMES PROGRAM: ENERGY MODELING GUIDANCE

Effective August 1, 2024

This guide details modeling requirements and provides direction for commonly encountered issues. If you experience an issue not addressed in this guide, please contact your Energy Advisor.

Eligible Improvements

Only improvements listed in the Approved HOMES Measures document may be included in a HOMES project model. This document can be found on the IRA Registered Contractors webpage.

The following improvements CANNOT be included in a HOMES project model:

- Thermostats / Thermostat setpoints
- Water temperature settings
- Recirculating or well pumps
- Lighting
- Small appliances such as dehumidifiers
- Solar PV (Electric)
- Solar water heater
- Cool roof (color of shingles)
- Radiant barrier
- Heat tape
- Window treatment (solar shades)

Modeling Guidance

General

- Enter values only when directly observed, otherwise use the default value provided by the software.

Blower Door Inputs

- A blower door test is not required, but still encouraged.

- If the baseline blower door number was measured it should be entered as the baseline number. The “improved” blower door number should be left at the software’s default unless the actual number is known.

Basements

- Due to the nature and use of basements in Wisconsin, basements should be modeled as if:
    - The basement is semi-conditioned by the presence of HVAC equipment.
    - Semi-conditioning is desired, and measures will not be taken to eliminate it.
    - A thermal boundary is located at the basement walls and basement floor.

Assessment Cost

- Use the optional measure to show assessment cost.
- Only show assessment costs that have not been covered by other rebates or programs, and that are intended to be included in the HOMES project cost.
    - The HOMES Instant Discount for Low-Income Assessments should NOT be shown in this field.

Utility Data

- You MUST enter utility data. 12 months of utility data is required.
    - Low- and Moderate-Income Customer utility data may be provided by the Program through the IRA contractor portal using the Customer’s Income approval code (EA#).
    - If utility data cannot be obtained by the program, the Registered Contractor is responsible for collecting the necessary utility data to complete the model. Encourage customers to access their online utility portals when possible.
- If there is limited utility history for a new homeowner, contact your Energy Advisor for guidance for each project.
    - Energy Advisor will recommend moving to an asset model.
- Utility data must be shown in the Customer Energy Report.

BPI-2400 Calibration

- Models MUST use BPI-2400 calibration
    - In Snugg Pro, set the “Strict BPI-2400 calibration” toggle to "Yes”.
    - In Optimiser, check the ‘Enforce BPI-2400” box before running calibration.
- Calibration alerts will be provided when:
    - The model is not within:
        - 5% of actual normalized energy usage, or
        - 500 kwh of actual normalized energy usage, or
        - 5 MMBtu of actual normalized energy usage

    - Min/max values of modeling inputs are exceeded.
- Model Corrections
    - Yellow alerts should be observed and considered.
    - All red alerts must be corrected.
    - Heating and Cooling true up
        - Use inches of insulation, as opposed to R-Value, when entering insulation.
        - Use a range of temperatures for the thermostat.
        - Make sure condensing heating equipment is selected, where appropriate.
        - Window venting – toggle to “Yes”
    - Baseload true up
        - Adjust number of occupants.
        - Adjust number of bedrooms to account for dens and offices.
        - Adjust water heater age, efficiency, ENERGY STAR.
        - Adjust appliance ENERGY STAR.