

#### Memorandum

To:	Elder Calderon, Erin Daughton, ComEd, Elizabeth Horne, ICC Celia Johnson, SAG
From:	Jeff Erickson, Guidehouse
Date:	June 3, 2025
Re:	Energy Efficiency Measures in Net Zero Buildings

This memo seeks to define some of the policy implications of potential energy savings from energy efficiency measures installed in buildings that have on-site renewable energy generation. It was written to support a discussion of the policy implications with the goal of reaching agreement that will give clarity on how and under what circumstances utility programs can pursue energy efficiency projects in net zero energy buildings.

### The Question

If a utility energy efficiency program implements a measure in a building that has on-site renewable energy supply, under what circumstances can the program claim energy efficiency savings from that measure and how should those savings be calculated?

This question could apply to residential or nonresidential programs and to custom or TRM-based programs. This memo uses the word "building" for brevity. This issue could affect residential homes or multifamily buildings, single nonresidential buildings, as well as a campus of several buildings served by a renewable energy system.

#### Scenarios

Several possible scenarios exist, and each may have different implications for potential savings from utility energy efficiency measures.

- 1. **Net zero.** A building is connected to the electricity grid and the on-site renewable energy provides 100% of its electricity needs on average over the year but during some periods it sells power to the grid and during others it purchases power from the grid.
- 2. Less than net zero with grid sales. A building is connected to the electricity grid and the on-site renewable energy provides less than 100% of its electricity needs on average over the year. During some periods it sells power to the grid and during others it purchases power from the grid.
- 3. Less than net zero with no sales to grid. A building is connected to the electricity grid and the onsite renewable energy provides less than 100% of their electricity needs on average over the year and it is not configured to sell power to the grid.

The key elements that need to be considered are:

• Sells power to the grid



• Percent of the building's load that is met by the renewable system

## **Possible Policy Stances**

Several possible policy stances present themselves from those scenarios.

- 1. **Full savings.** Utilities can claim full savings from any energy efficiency measure installed in any of those scenarios.
- 2. **Offset purchased power.** Utilities can claim savings only up to the amount of power purchased from the grid over the course of a 12 month period with a definition of that period, e.g., "previous calendar year" or "previous 12 month period".
- 3. **No savings under certain conditions.** Utilities can claim full savings for measures unless any of the following conditions apply:
  - a. More than X% of their annual power consumption is from an on-site renewable system.
  - b. The renewable system received funding under a utility renewable energy program.

# Arguments

Several arguments could be advanced for some or all these possible positions.

- A. **Society benefits power reduction.** On the assumption that the goal of energy efficiency programs is to reduce power generated by the utility, energy efficiency measures installed in any of the scenarios presented would reduce utility power generation and therefore they are in keeping with the goal and should be allowed.
- B. **Society benefits carbon reduction.** The same argument can be said if the goal of energy efficiency is reducing carbon sent to the atmosphere.
- C. **Comingled funds.** If there is a concern about having energy efficiency funds comingled with renewable energy funds for the same project, then one of two rules may be appropriate
  - a. **No renewable energy funds.** Full savings but only for projects that are not also getting incentives via a renewable energy path ("No savings under certain conditions").
  - b. **Net savings only.** "Offset purchased power" would perhaps avoid the issue while still preserving incentives to let relevant projects participate.

# Potential Nuances to be Considered

If stakeholders settle on a policy that aligns with the "full savings" policy described above then the approach for implementing the policy seems straight-forward. If stakeholders settle on allowing savings only under certain conditions then other questions may need to be asked and answered to make it clear how programs and evaluators approach the calculations. The following questions are illustrative of the issues that could arise.

- 1. Does type of project matter? Would new construction projects face different rules from other projects?
- 2. How would this rule be applied for programs whose savings are largely driven by the TRM and so may not normally have data on the criteria used for the decision (such as whether the building is fully net zero or somewhat less than net zero)?
- 3. What data will need to be collected on such projects to support claiming and verifying savings? That has implications for the types of programs that can support such projects.
- 4. Does time of day that the energy efficiency measure saves energy matter? For example, if the daily savings curve for the measure is quite similar to the power generation curve of the renewable system, then it will increase sales to the grid and have little effect when the renewable system is producing less power.