

# ET Summit 2025

Presented by



# Laying the Foundation for Building Performance Standards

Data, Dialogue, and Decarbonization



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## Senate Bill 48 and Assembly Bill 802



## California Energy Commission's Role in SB 48

- By **August 1, 2026**, CEC must submit a strategy to the Legislature for using benchmarking data for covered buildings to meet state energy and GHG goals.
- Strategy must avoid increasing the energy-rent burden, and prevent evictions, harassment, or displacement of tenants.
- SB 48 requires **robust stakeholder engagement**, with 11 defined stakeholder groups as well as CARB, CPUC and HCD
- SB 48 includes **funding to support CEC's implementation** efforts, including stakeholder engagement, strategy development, and strengthening the benchmarking program.

## Benchmarking: The Data Foundation for BPS

- SB 48 applies to commercial buildings over 50,000 square feet or multifamily buildings over 50,000 square feet and 17 or more utility accounts, requiring energy data submission.
- Benchmarking data is essential for tracking building performance and supports strategic decision-making.
- Aggregated data helps identify high and low performers and guides targeted energy efficiency strategies.
- Accurate data informs policy, supports decarbonization goals, and empowers owners to improve efficiency.



## Challenges in Benchmarking

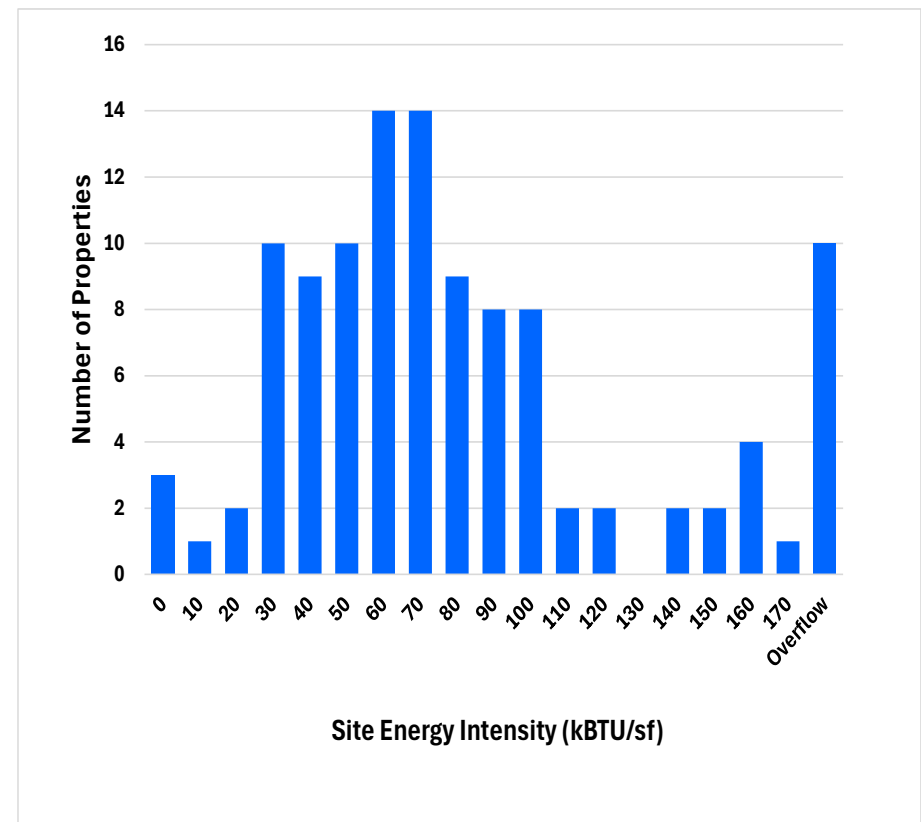
- **Compliance Rate:** While some cities such as NY have compliance rates above 90%, compliance at the state level is approximately 50% in part due to decentralization.
- **Data Quality:** Not all data are third-party verified. Errors and omissions can skew a building's actual performance.
- **Need for Improved Support:** Addressing challenges requires outreach, technical support, and enhanced data validation to improve benchmarking accuracy to the level needed to assess compliance with potential building performance standards.

# Data Quality Assessment



## Fault Detection Scripts

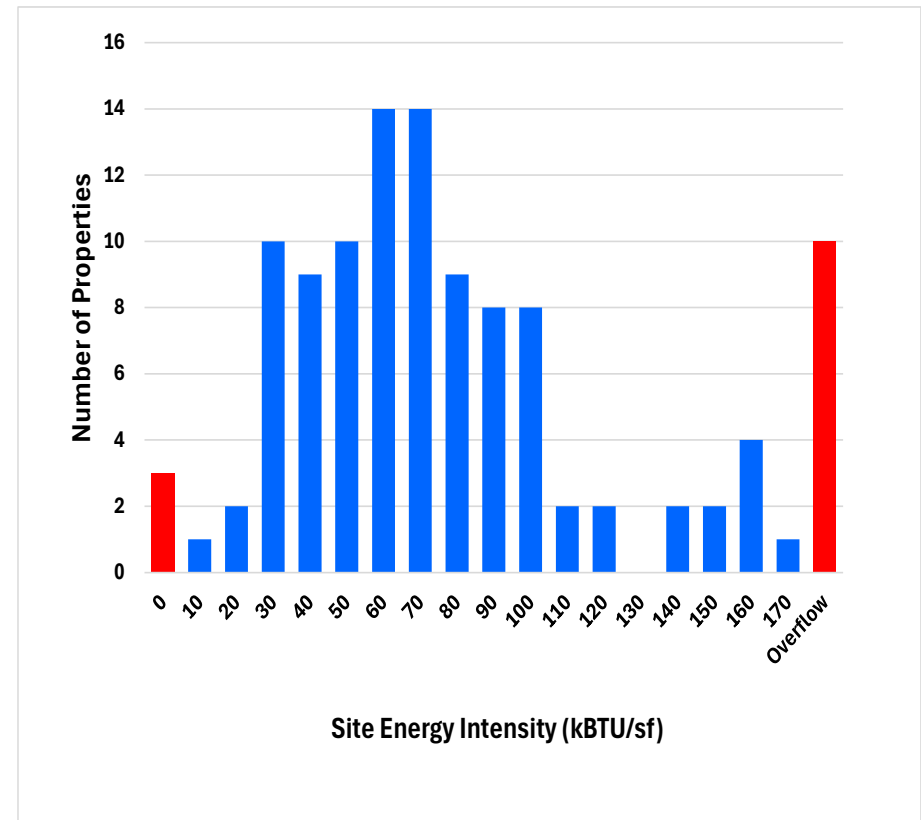
- Site kBTU/ft<sup>2</sup> is a key metric that could be used for compliance determination
- There is a high degree of inherent variation, but some of the variability could be due to reporting errors or omissions





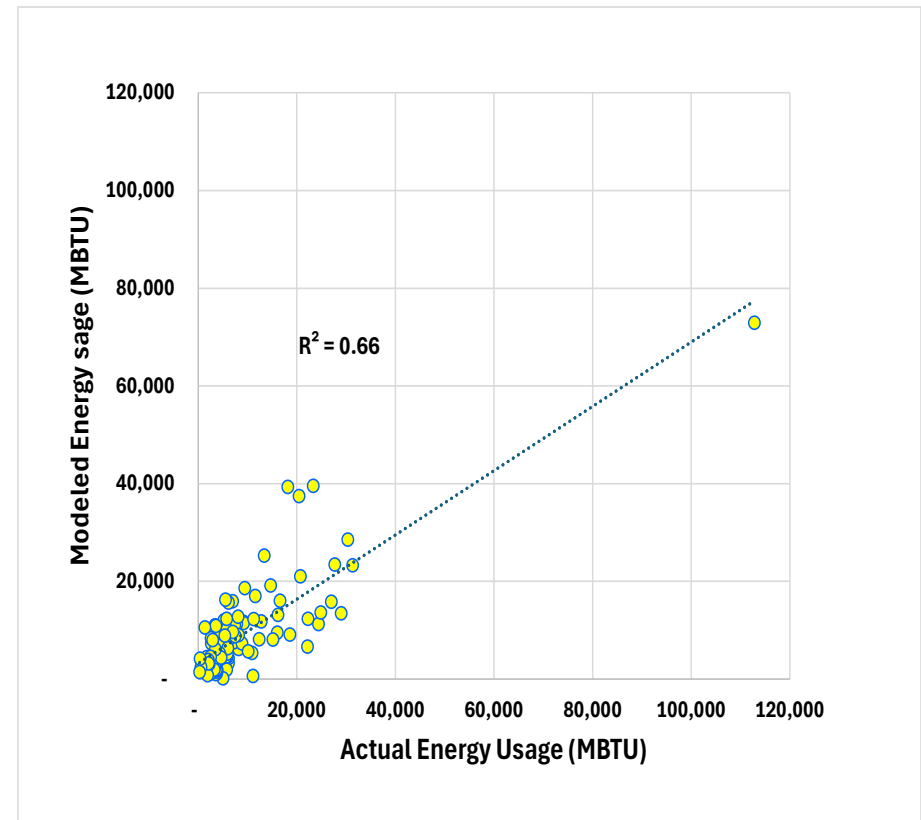
## Single-Variable Outlier Detection

- On task in progress is to identify sites that are outliers in energy intensity and conduct follow-ups to validate data.
- Outliers could be defined simply as the extremities of the distribution, but there are better ways to identify them

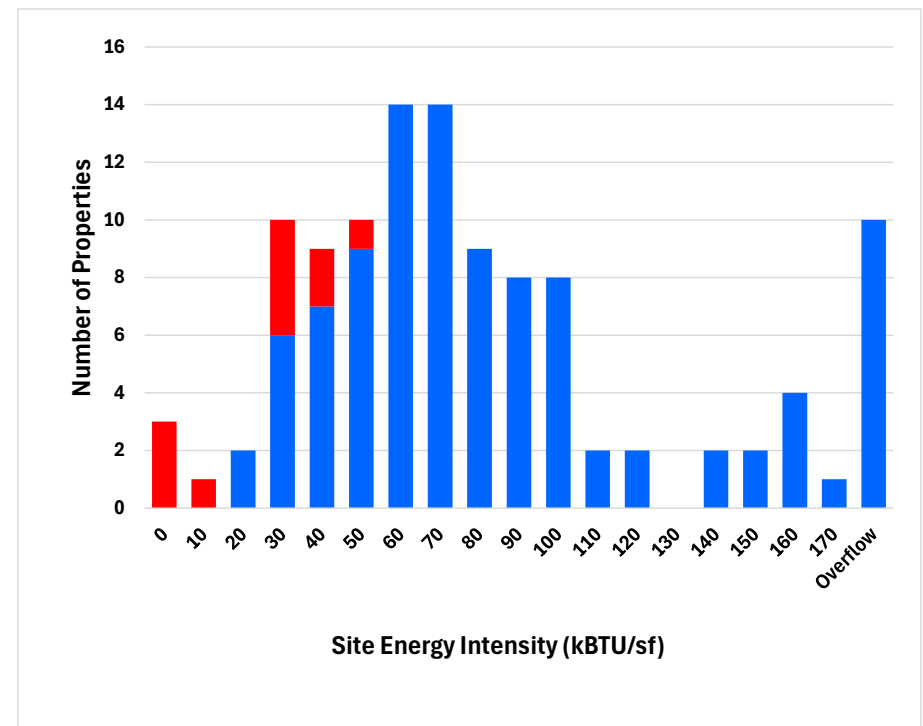
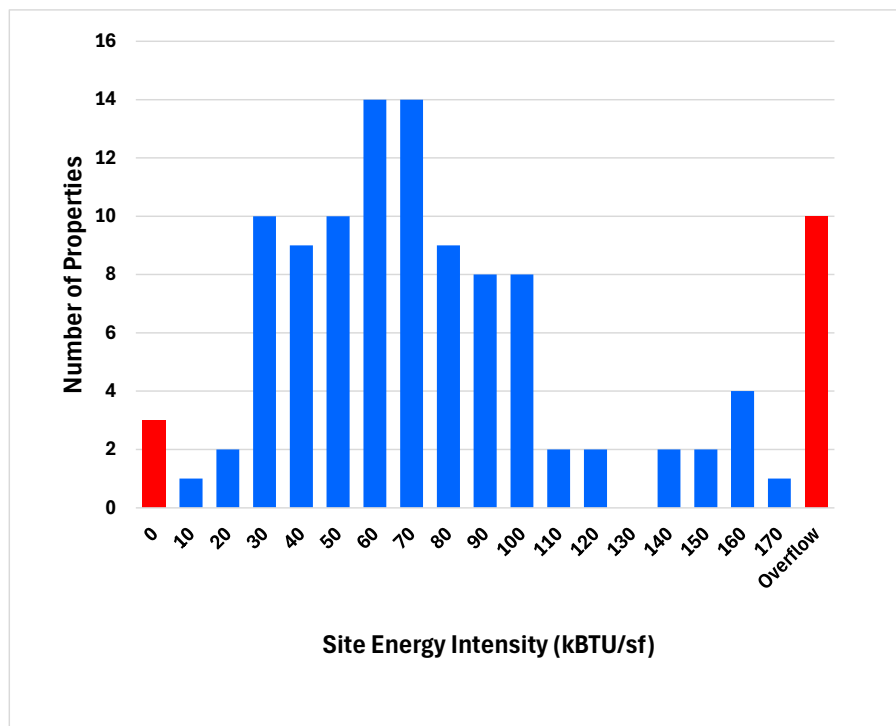


## Multi-Variable Detection

- On task in progress is to identify sites that are outliers in energy intensity and conduct follow-ups to validate data.
- Outliers could be defined simply as the extremities of the distribution, but there are better ways to identify them



## Improved Outlier Detection



## Stakeholder Engagement



## Stakeholder Engagement and SB 48

- **Inclusive Stakeholder Participation:** SB 48 requires input from multiple stakeholder groups, ensuring diverse voices influence energy policies.
- **Enhancing Policy Relevance:** Engagement helps tailor energy strategies to real-world challenges and promotes equitable solutions.
- **Building Trust and Transparency:** Open stakeholder communication fosters trust essential for successful policy adoption and compliance.

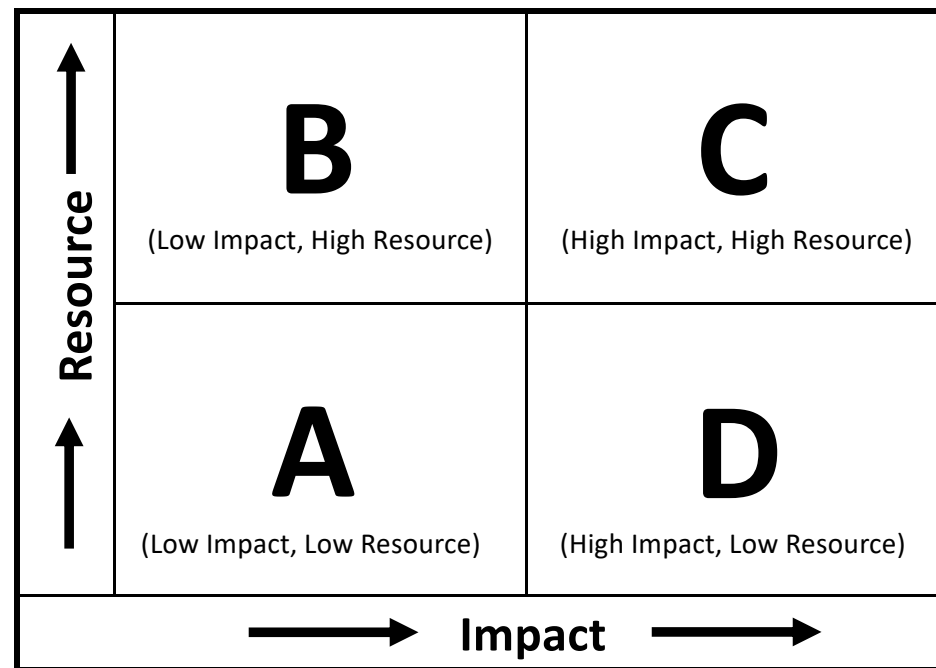


## CEC's Stakeholder Engagement Strategy

- Identify and describe stakeholders.
- Analyze stakeholders' needs and constraints, to ensure effective participation in the Stakeholder Process.
- Co-develop appropriate outreach and engagement strategies for the Stakeholder Process.
- Engage with each stakeholder with respect to their needs and meaningfully incorporate their input into the Report.
- Track stakeholder participation and support throughout the development of the Stakeholder Process and Report.

## Stakeholder Categorization

- Stakeholders are classified into four groups based their resources and potential impact by BPS
- Energy Commission staff conduct specific engagement activities for each stakeholder type.



## Decarbonization Field Study



## Decarbonization Field Study

- **Goal:** Identify six representative buildings and develop decarbonization and energy efficiency strategies to demonstrate cost-effective approaches to decarbonization
- **Method:** Bill and site/source GHG impacts will be computed with a combination of EnergyPlus simulations and excel-based computations. Scenario analysis will involve economic analysis under different electricity/gas price structures.
- **Data Sources:** **Building documentation** and data to calibrate EnergyPlus models. CA **eTRM** for measure costs, impacts, EULs. CEC's **MIDAS** for historical grid GHG intensity. **Industry contacts** and **literature review** for costing complex measures.
- **Work Product:** We will submit a detailed report to CEC For each building, along with a less detailed summary paper for more widespread distribution.
- **The Boiler Problem:** We will investigate multiple solutions to boiler electrification, including harvesting waste heat from server rooms or refrigeration and solutions such as combinations of resistance and heat pump heating.

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For more information, contact Kristina Dulongolo at  
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The final project report will be available in mid 2026.



Please contact Sasha or Elicia with questions or comments.

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