



Local Governments Empowering Our Communities

Energy Target & Benchmark Tool

June 11, 2020

Energy Target & Benchmark Tool

Purpose:

Connect design targets to existing building energy performance.

Supports:

- Energy Performance Management
- Outcome-Based Contract or Code

bayrencodes.org/resources/targetbenchmarktool/

How should energy performance be measured?

	Pros	Cons
"Percent better than" Code	<ul style="list-style-type: none">• Simple to say	<ul style="list-style-type: none">• Meaningless when code changes
EUI (kBtu/ft ² -yr)	<ul style="list-style-type: none">• Simple• Widely recognized	<ul style="list-style-type: none">• Not "fair"• Difficult to compare to code
ENERGY STAR Target Finder	<ul style="list-style-type: none">• Aligns with Portfolio Manager• Somewhat recognized	<ul style="list-style-type: none">• Relative, not absolute metric• Difficult to compare to code
zEPI (Zero Energy Performance Index)	<ul style="list-style-type: none">• Adjusts for process loads, use types, climate• Consistent as code changes• Requires same data as Portfolio Manager	<ul style="list-style-type: none">• Not widely used (yet)

BayREN Energy Target and Benchmark Tool

Applicant Name
Building Name

Street Address
City

Primary Building Area

[+ Add Building Area](#)

1

Building Gross Area (ft2)
Computers (#)
Weekly Operating Hours
Workers on Main Shift (#)

2 Weather Data

Climate Zone

Heating Degree Days (HDD)
Cooling Degree Days (CDD)

3 12 Month Modeled Energy (design stage)

Electricity Usage w/o PV (kWh)
Natural Gas Usage (therms)
Available Roof for PV (ft2)

4 12 Month Metered Data (input data once operational)

Electricity Usage (kWh)
Natural Gas Usage (therms)
Billing End Date



BayREN Energy Target and Benchmark Tool

5 Calculate zEPI Scores

Run Analysis

Meets Energy Code

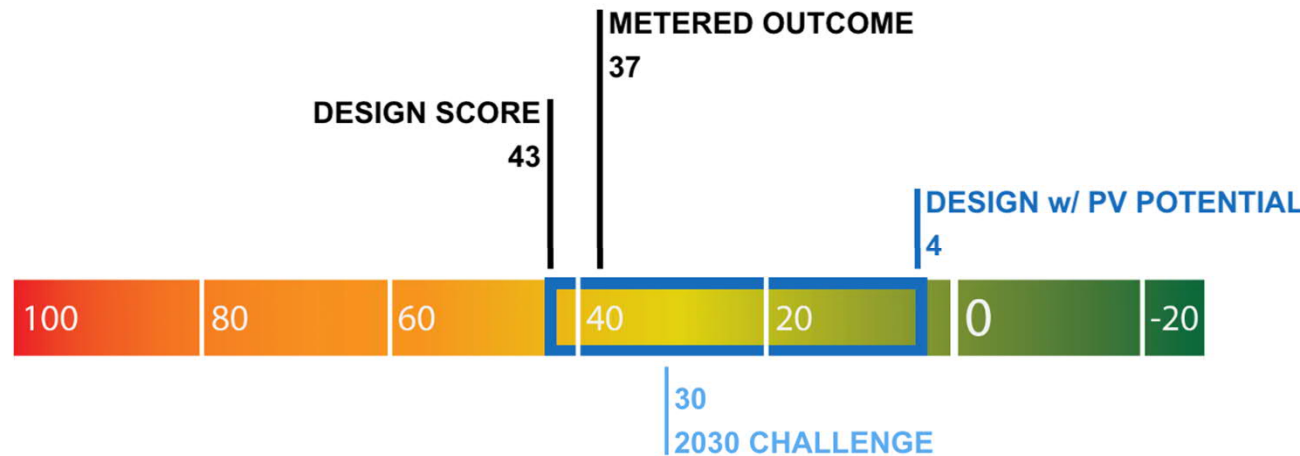
Design: N/A

Metered Outcome: N/A

2030 Challenge

Design: **Insufficient**

Metered Outcome: **Pass**



Energy Target & Benchmark Tool

The Tool Supports any Mix of:

Commercial

- Bank
- Hotel/Motel
- Office
- Retail
- Warehouse - refrigerated or non-refrigerated

Education

- Primary and Secondary School
- Adult Education
- Childcare Center

Health Care

- Medical Clinic
- Medical Office

Municipal

- Fire/Police Station
- Library
- Recreation Center

Multifamily Residential

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BAYREN

Energy Target & Benchmark Tool

ETBT can help put your project's energy budget in context with:

- Typical performance for T24 compliance
- 2030 Challenge
- Zero Net Energy

Free and non-proprietary

bayrencodes.org/resources/targetbenchmarktool/