

ENERGY ROADMAP: Driving Housing Authorities to Deep and Continuous Energy Savings

An initiative to • Provide technical support to foster institutional changes to existing residential portfolios
 • Enhance policies • Encourage energy management • Develop staff knowledge related to energy efficiency

For the **San Diego Housing Commission** and the **County of San Diego Department of Housing and Community Development**



STAFF KNOWLEDGE

LEED™ Green Associate Classroom Training & Multifamily Energy Efficiency Webinar Series:

New Construction

- Integrated design
- New Title 24 Energy Standards
- Programs and rebates

Energy Management

- Energy management guidelines
- Benchmarking and utility tracking

Energy Upgrade Implementation

- HERS assessment
- Energy upgrade measures
- Return on investment

Tenant Programs & Education

- Tenant education
- SDG&E™ low income programs

Energy Upgrade Approach

- Trigger points
- Programs and rebates
- Funding finder tool



POLICY

1) Enhance SDHC & SD HCD Sustainability Polices:

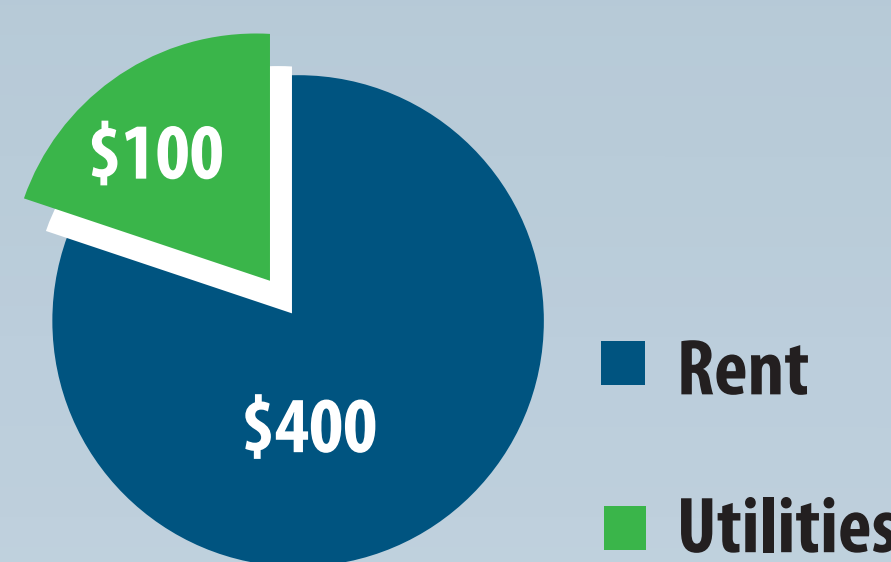
Standard Procurement • Incorporate energy efficiency into procurement processes • Educate vendors and personnel • Track and measure progress

Operations & Maintenance • Encourage union between reliability and energy efficiency • Adoption of standard energy efficiency operating procedures
 • Monitor energy consumption with benchmarking

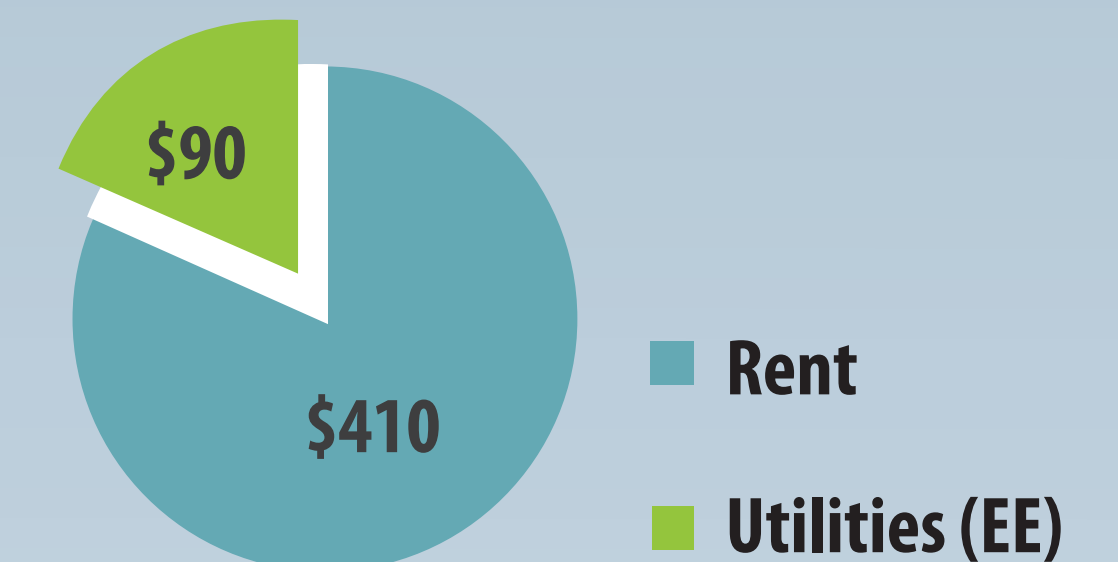
Tenant Turnover • Take advantage of turnover period to perform an energy survey

2) Energy Efficiency-Based Utility Allowance (EEBUA)

Prior to Upgrade
Total Housing Burden = \$500

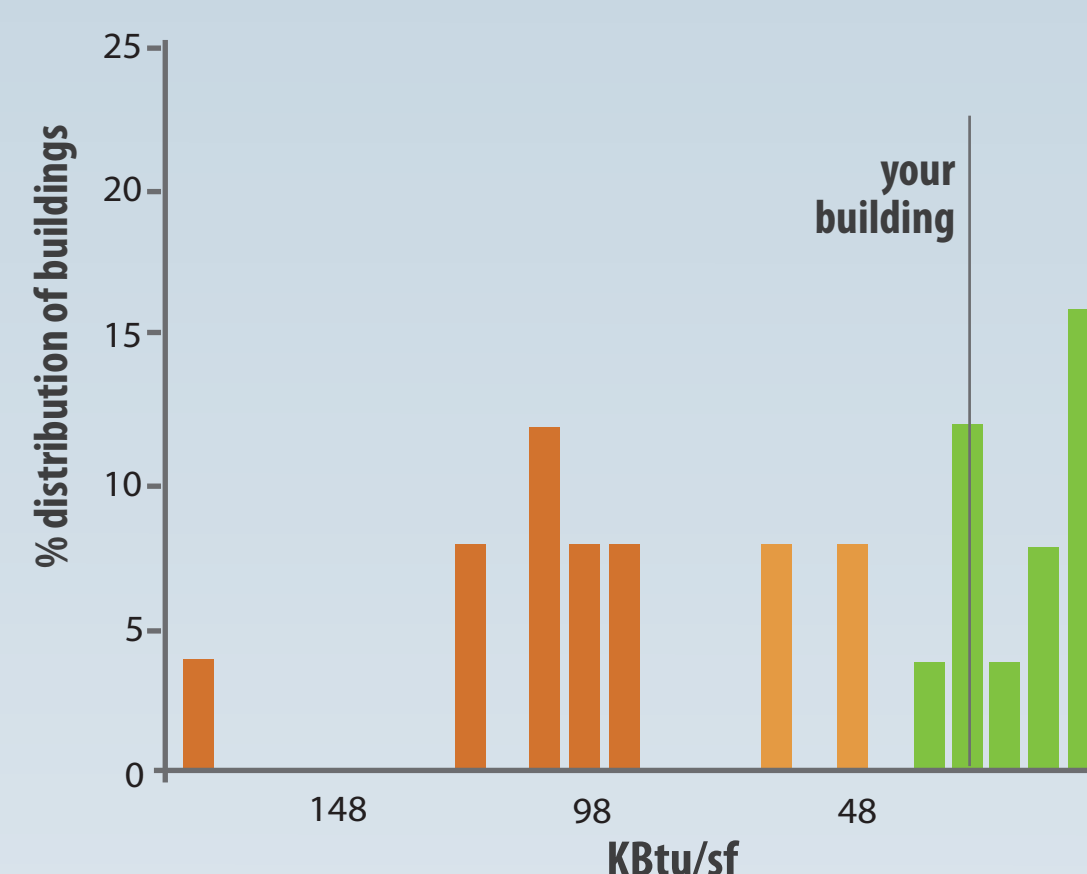


Post Upgrade
Total Housing Burden = \$500



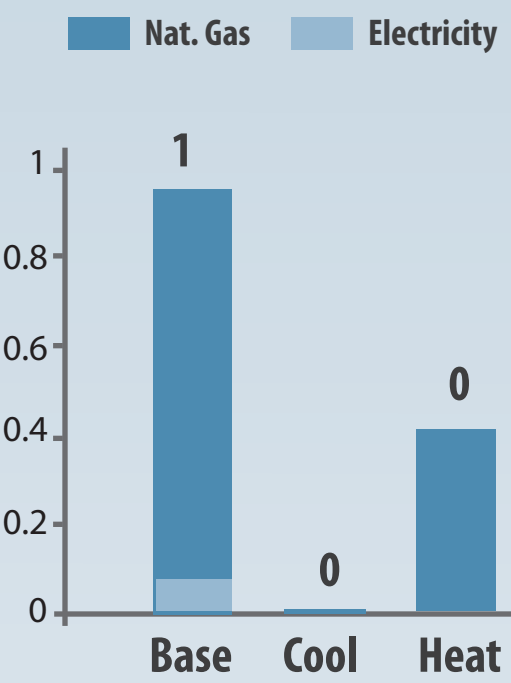
3) Benchmarking with Portfolio Manager and Green Energy Compass

Annual Site Energy Consumption



Total Energy By Use

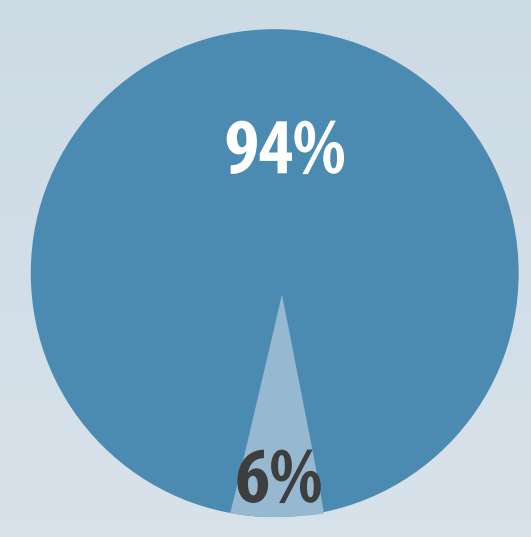
Measured in millions of KBtu



Total Site Energy Consumption

1,363,054 KBtu (24 KBtu/sf)

Nat. Gas (23 KBtu/sf)
Electricity (2KBtu/sf)



Residential Portfolio

Identify energy savings opportunities across residential portfolios (174 properties)

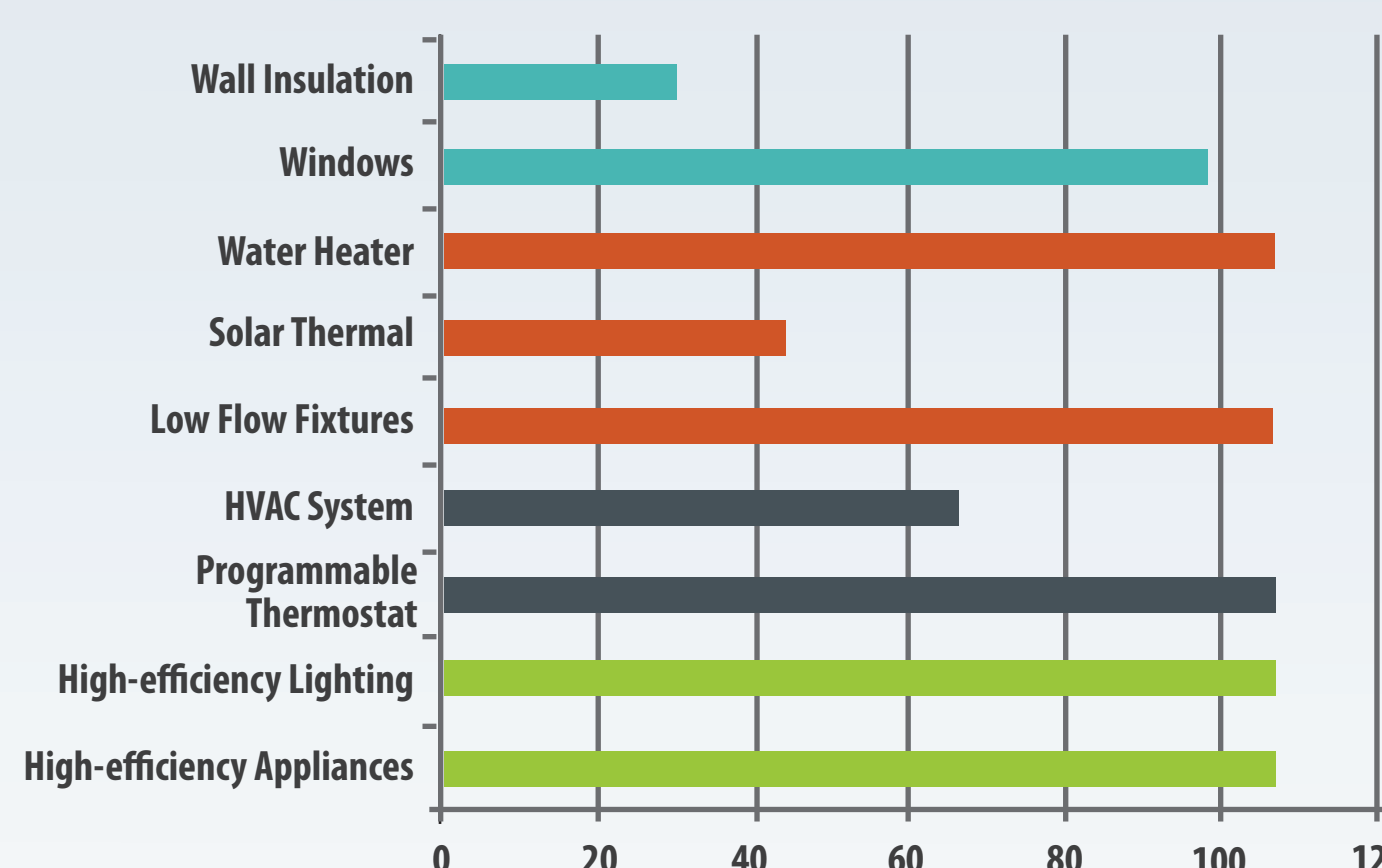
Data collected: Building vintage • Metering structure

- Building envelope type • Mechanical system types and efficiencies

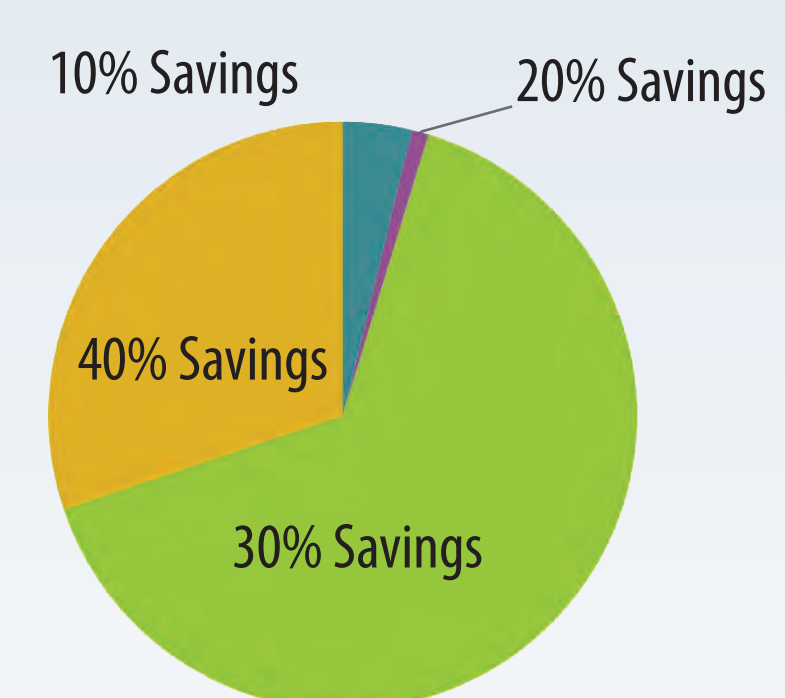
Opportunities identified using Funding Finder, prototype energy modeling & select building audits

- Low-cost upgrade opportunities • Deeper energy savings opportunities

Upgrade Recommendations for Multifamily



Potential Whole Building Percent Improvement



The Energy Roadmap is funded by California utility customers and administered by San Diego Gas & Electric Company under the auspices of the California Public Utilities Commission, through a contract awarded to TRC.

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