# PG&E's Market Assessment and Gap Analysis

# Public Sector

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# Public Sector Presentation Outline

- Public Sector Overview
- Historic Load and Participation
- Market Trends & Opportunities

# Public Sector Overview

# Public Sector Vision

*Inspire and empower our customers to eliminate unnecessary energy use*


# Energy Efficiency Evolution

**1976-2015**

Historic Energy Efficiency Programs

**Evolving Policy**

Ambitious state goals for deeper, persistent energy savings

**2016+**

Build upon past successes

Layer in strategic savings interventions by customer size, industry vertical, facility type, etc.

**2030**

California Long Term Strategic Plan Goals

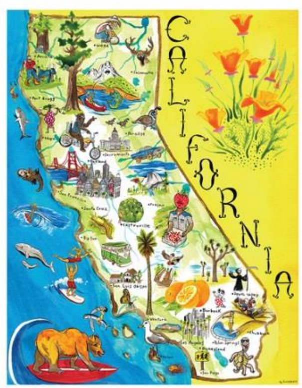
Governor’s Goals

# Public Sector Customers


Local Government

State Government

Federal Government




Higher Education

K-12 Public Schools

# 2016 PG&E's Public Sector Offerings

| Local Gov't | State & Federal Gov't | Higher Education & K-12 | Portfolio Programs | Other Market Actors | Non-Resource Offerings |
|---|---|---|---|---|---|
| Local Government Partnerships | CDCR Partnership | UC/CSU Partnership | Regional Direct Install | Third Party Programs | Data as a Service |
| | State of California Partnership | CA Community Colleges Partnership | Core Calculated Program | Trade Pro Network | Prop 39 Planning |
| | Federal Government Support | K-12 LGP and Third Party Support | Core Deemed Program | PG&E Acct Reps | GHG Emission Reduction Planning |

# Public Sector Key Intervention Strategies

- Leverage PG&E's comprehensive energy efficiency portfolio to drive deep savings
- Customize and adapt program offerings to meet unique challenges

## Incentives

- Partner closely with customers to support them on their journey
- Utilize "catalytic nudging" to encourage successful project delivery

## Support

- Financing
- Data as a Service
- Embed energy efficiency in comprehensive facility plans and climate plans
- Statewide Energy Efficiency Collaborative for peer-to-peer learning and resources

## Tools

# Public Sector Shared Challenges

**Public sector customers experience enhanced barriers to adopting energy efficiency, above and beyond private sector customers.**

**Common to Public Sector**

1. Long Procurement Timeline and Complicated Decision-making Process
2. Competing Priorities (e.g. investments in parks and roads rise to the top for constituents)
3. Staff Retention and Prevailing Wage
4. Siloed Operations and Decision-making

**Specific to Sub-segment**

1. Local Government: Regular turnover of elected officials and shifting political priorities
2. CDCR: Inability to Pursue Private Financing
3. Public Schools: Multiple Regulating Agencies for Retrofits; Low Operating Hours

# Public Sector Shared Opportunities

**Public sector customers are uniquely positioned to demonstrate leadership in energy efficiency.**

**Common to Public Sector**

1. Early planning for capital improvements (CIPs, Facility Master Plans)
2. Low-cost Capital Available
3. Demonstrated Community Leadership
4. Older Building Stock; Maximize useful life of facilities/equipment

**Specific to Sub-segment**

1. Local Government: Greenhouse Gas Emission Reduction Goals; Code Development and Enforcement
2. State Facilities: Executive Order B-18-12: EE and Zero Net Energy Goals
3. Public K-12 Schools and Community Colleges: Prop 39

# Policy Drivers

## Global Warming Solutions Act and Related Legislation

***AB32 + Scoping Plan:*** Greenhouse gas emission reductions to 1990 levels by 2020

***SB 375:*** Regional Agencies plan for transportation-related greenhouse gas emission reductions

***SB 97:*** Requires analysis of greenhouse gases in California Environmental Quality Act (CEQA)

***Executive Order B-18-12:*** 50% of square footage of existing State buildings ZNE consumption and 100% of all State buildings beginning design post-2025.

## Prop 39

Up to $550 million annually is available for appropriation by the Legislature for eligible projects to improve energy efficiency and expand clean energy generation in schools

## Long-Term California Energy Efficiency Strategic Plan

Includes a local government chapter with a 2020 goal that California's local governments will be leaders in using energy efficiency to reduce energy use and global warming emissions both in their own facilities and throughout their communities.

## Assembly Bill 758

AB 758 requires the Energy Commission, in collaboration with the California Public Utilities Commission and stakeholders, to develop a comprehensive program to achieve greater energy efficiency in the state's existing buildings.

## Senate Bill 350

… a new set of objectives for 2030 and beyond … to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

# Public Sector Historic Load and Participation

# PG&E and Public Sector Overview

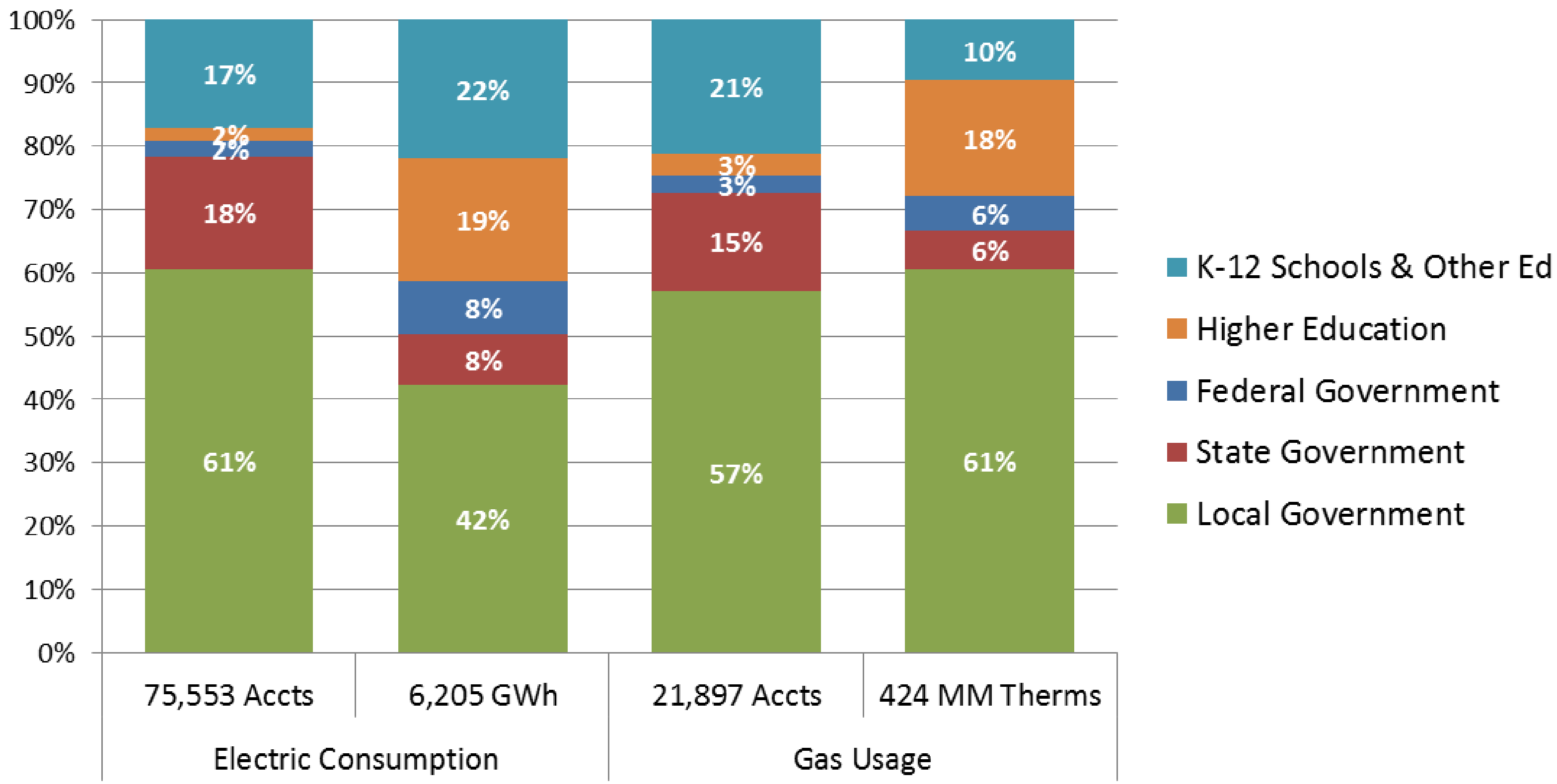
## Quick Facts

- PG&E serves nearly **16 million** people in **70,000 square miles** over **9 climate zones**
- **PG&E's Public Sector represents 7% electric and 9% natural gas usage**
- In 2013-15, PG&E's Public Sector Programs saved:
  - **32 MW reduction**
  - **257 GWh**
  - **9.2 million Therms**


- **26 Local and Statewide Government Partnerships**
- **14 Third Party Programs**
- **350 Trade Pros**
- **Channel Partners**
  - **197 Distributers**
  - **17 Point of Sale Dealers**
  - **14 Manufacturers**
  - **186 Retailers**
  - **25 Agencies/Utilities**

# Public Sector Customer Overview

- Local Government is the largest segment in both electric and gas consumption
- Number of segment accounts does not reflect percentage of consumption



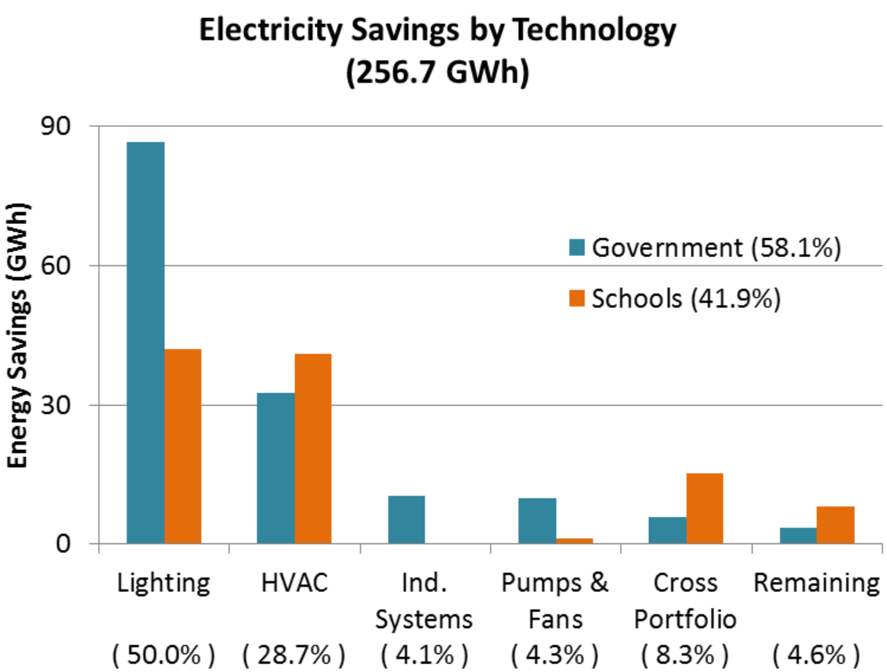
# Public Sector Customer Savings

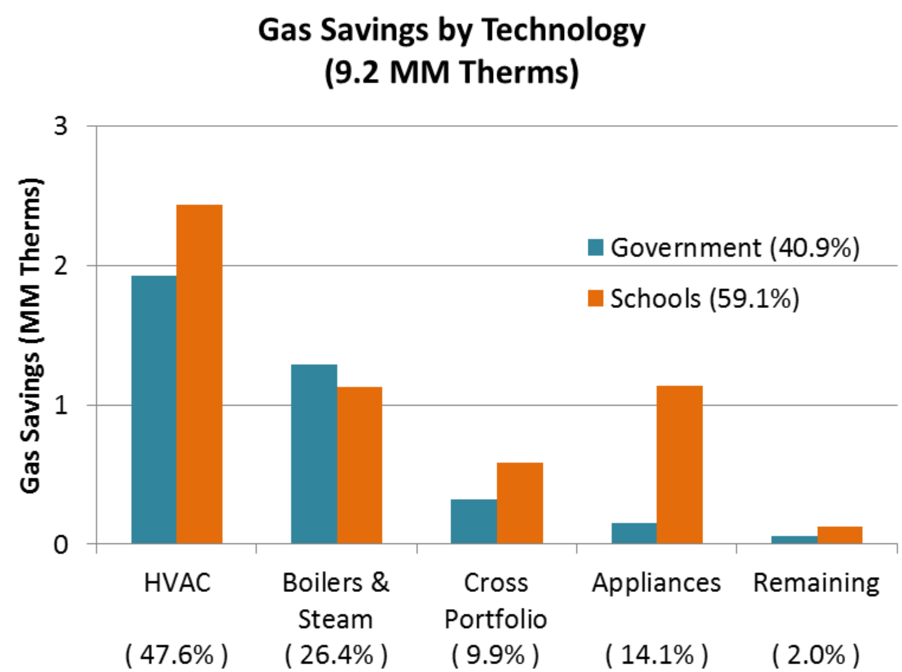
## Electricity Savings

Lighting 50%; HVAC 29%

## Gas Savings

HVAC & Boilers: 74%

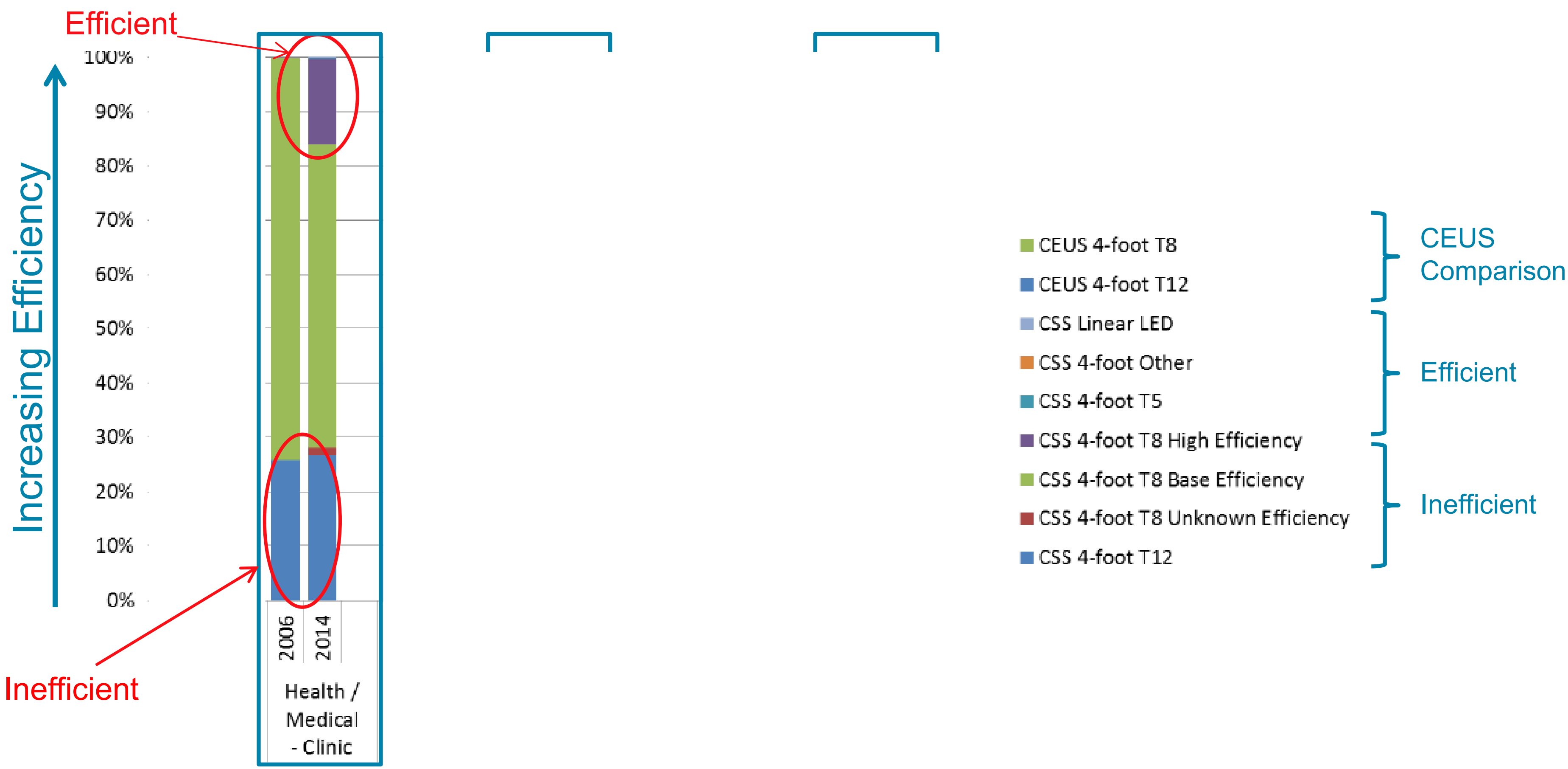



**2013-2015**

# Saturation Data: California Lighting

**2014 CSS and 2006 CEUS Linear Fluorescent Lamp Efficiency Distribution by Business Type – Indoor Lighting**




Source: *Commercial Saturation Survey*, Itron, 2014

# Public Sector Market Trends & Opportunities

# Local, State, Federal Government

| Observed Trend | Gaps/Opportunities |
|---|---|
| Policy Drives Customer Choices | • EO S-20-04: Governor’s push to reduce 20% of grid-based technologies presents the opportunity for energy efficiency as strategy consistent with the loading order |
| Customer Needs Beyond Incentives | • All public works projects are required to be competitively bid with prevailing wage reporting requirements, which increases lead time and administrative overhead significantly<br>• Customers value energy planning, project management and technical assistance |
| Strategic Planning | • Local Government Chapter of the Strategic Plan, which is the basis for IOU non-resource funding support to LGPs, is in need of an update |

# K-12 and Higher Education Gaps

| Observed Trend | Gaps/Opportunities |
| --- | --- |
| **Prop 39 as an Opportunity and Challenge** | • Slow uptake in Prop 39 applications due to staff bandwidth and less-than-optimal planning and implementation support<br>• Schools eager to implement integrated energy offerings (energy efficiency, co-generation and distributed generation)<br>• Continuing Prop 39 momentum after funding ends in 2018 |
| **Product Offerings** | • Low operating hours limits claimable energy savings. Difficult to offer long payback measures such as kitchen and portable unit offerings<br>• Opportunity for high efficiency boilers and integrated lighting and HVAC controls |

# Public Sector Customers

| Observed Trend | Gaps/Opportunities |
|---|---|
| Data | • Utility billing systems are structured by address for commercial customers; public customers need data organized by facility or infrastructure type<br>• Training and informing public sector customers in available PG&E data products for energy and climate planning |

# Thank you

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# Appendix

# Assembly Bill 758, Public Sector Highlights

## *Goal 1. Increase Government Leadership in Efficiency*

1.2.1 Update Time of Transaction (AB1103) Regulations

Streamline access to whole-building energy use data for building owners.

Implement an aggregation threshold that will enable simple access to useful, actionable data for building owners, while respecting tenant privacy.

Work with utilities to map building addresses to meters.

## *Goal 2. Data-driven Decision Making*

2.1.4. Data for Local Government Use.

Develop a standardized process for LG access to building-level energy-related data as needed for local policy development and implementation without having to complete a comprehensive security audit required by utilities.

## *Goal 3. Increased Building Industry Innovation and Performance*

3.1. Hard to Reach

Enhance program portfolios to reduce transaction costs and dramatically increase effects in hard-to-reach sectors.

Streamline program requirements and operational procedures. Expand statewide programs with uniform designs.

Improve and expand direct-install programs for hard-to-reach populations.

Develop and implement new program designs for small and medium commercial and multifamily buildings.

Implement rolling program portfolios to solidify long-term funding commitments that align with business investment decisions.

3.4 Zero Net Energy Retrofits

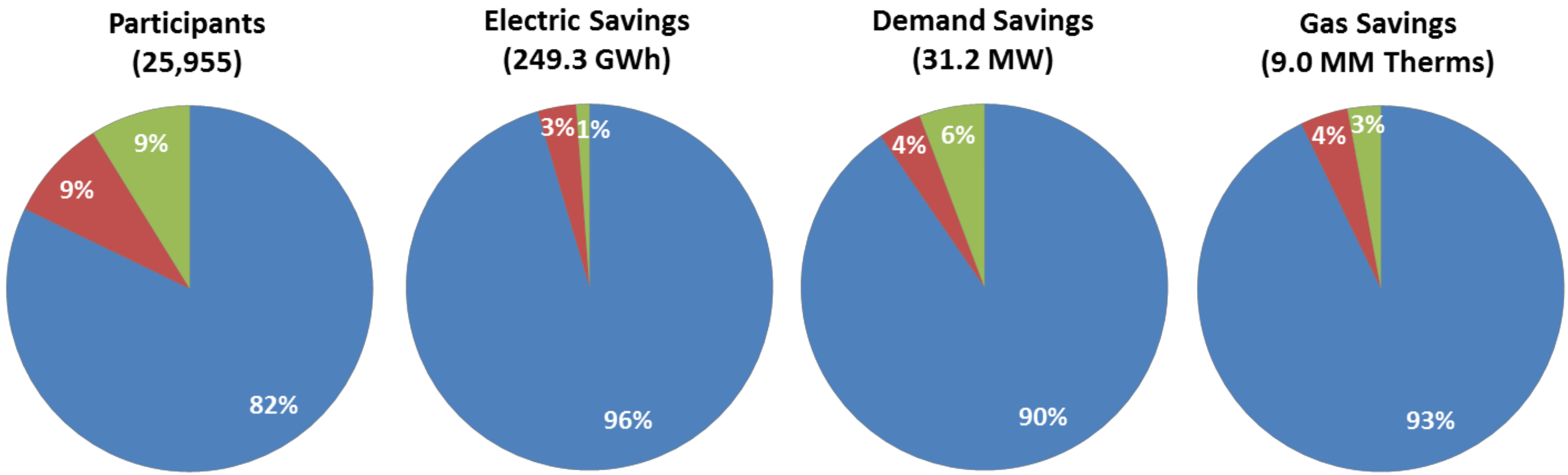
Look for opportunities in specific building sectors, such as K-12 schools and government buildings, where there is evidence of ZNE technical potential, current ZNE guidance, and available financing.

## *Goal 5. Financing*

5.5 Government Building Finance Mechanisms

Expand existing revolving funds for local, schools, and state government building energy improvements. Determine government borrower needs, capital source, balance sheet treatment, and merits of on-bill repayment via utility bills.

# Customer Participation and Savings




**2013-2015**

- Large >500 GWh or 250,000 Therms
- Medium 40-500 GWh 0r 10,000-250,000 Therms
- Small <40 GWh or <10,000 Therms

As evidenced, there is a need to further ***differentiate program models and delivery channels*** based on customer size

***Future offerings*** could explore delivery models to better serve customers of all sizes and needs

# Accounts by Customer Size (2015)

- Large accounts make up 82% of the sector
  - Small and Medium are more significant in Education
- Government makes up about 80% of both markets
  - Local Government is almost 60% of both electric and gas customers

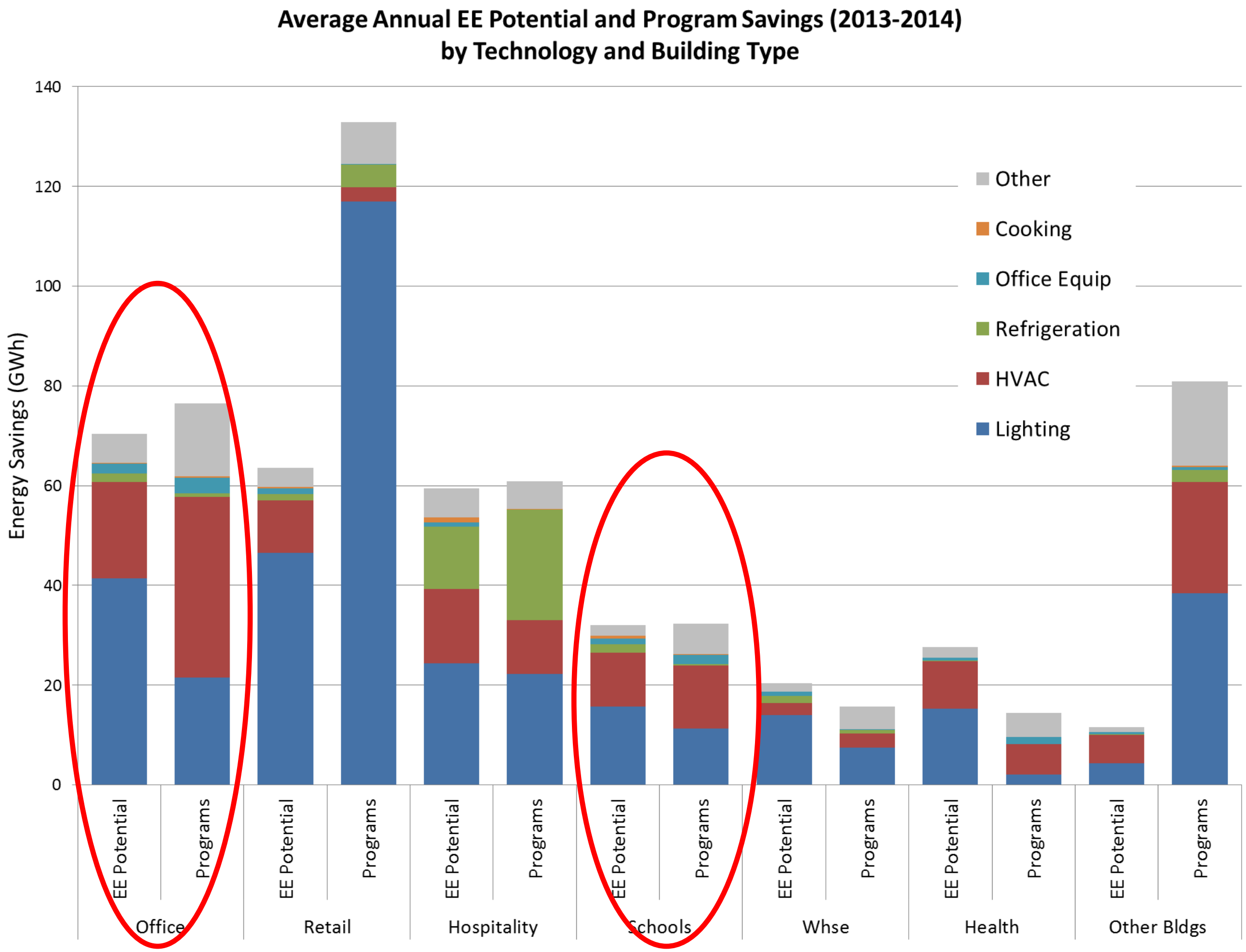
- Program participation rates:
  - Electric ~7%, Gas ~19%
    - Education 11%, Gov 6% (Elec)

| | Electric Customers | | | | Gas Customers | | | |
|---|---|---|---|---|---|---|---|---|
| | Large | Med | Small | Total | Large | Med | Small | Total |
| Federal Government | 77% | 16% | 7% | 1,796 | 76% | 15% | 9% | 603 |
| State Government | 93% | 4% | 2% | 10,463 | 93% | 4% | 3% | 3,387 |
| Local Government | 90% | 6% | 4% | 38,027 | 90% | 6% | 4% | 12,528 |
| Higher Education | 84% | 10% | 6% | 2,229 | 84% | 10% | 6% | 751 |
| K-10 Schools & Other Ed | 55% | 18% | 27% | 14,110 | 54% | 19% | 27% | 4,628 |
| **Total Public Sector** | **82%** | **9%** | **9%** | **66,625** | **82%** | **9%** | **9%** | **21,897** |

Large > 500,000KWh or 250,000 Therms;
Medium 40,000 - 500,000 KWh or 10,000 - 250,000 Therms;
Small < 40,000 KWh or < 10,000 Therms)

# Public Sector Savings vs. Potential

***average annual potential from the potential study with a comparison of our average program savings***




Source: 2015 Potential and Goals Study, and Internal PG&E data