

# Existing Buildings Energy Efficiency Draft Action Plan

California Energy Commission

Efficiency Division, Existing Buildings Unit



# Market-focused solutions



- **Current efficiency savings trajectory is insufficient to achieve CA's clean energy and emissions reduction goals**
- **Unlocking EE potential of existing buildings requires market focused solutions**
  - Data analytics to support consumer decisions
  - Research to better predict behavior and pricing impacts
  - Goals are too large for just ratepayer & taxpayer funding
  - Leveraging private capital will be required

# Vision and Goals Framework



## VISION

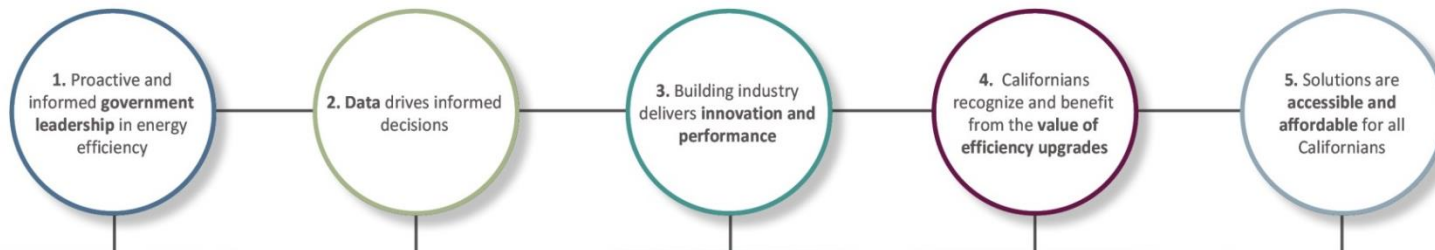
Robust, sustainable efficiency marketplaces that deliver multiple benefits to building owners and occupants through improvements, investments and operation of existing homes, businesses, and public buildings.

**Resulting In:** Doubling of energy savings from building energy efficiency projects in California. This is equivalent to a 17% reduction of statewide building energy use from 2014 levels by 2030.

## GUIDING PRINCIPLES



## 10-YEAR GOALS



## PRIMARY STRATEGIES

- 1.1 State and School Buildings
- 1.2 Benchmarking and Disclosure
- 1.3 Building Performance Assessment Tools
- 1.4 Energy Asset Ratings
- 1.5 Building Energy Efficiency Standards
- 1.6 Plug Load Efficiency
- 1.7 Local Government Leadership
- 1.8 Efficiency as a Clean Energy Resource
- 1.9 Existing Building Efficiency Collaborative

- 2.1 Data for Improved Decisions
- 2.2 Customer Focused Energy Efficiency

- 3.1 Streamlined and Profitable Industry
- 3.2 Performance Driven Value
- 3.3 High Performance Workforce and Education
- 3.4 Zero Net Energy Retrofits

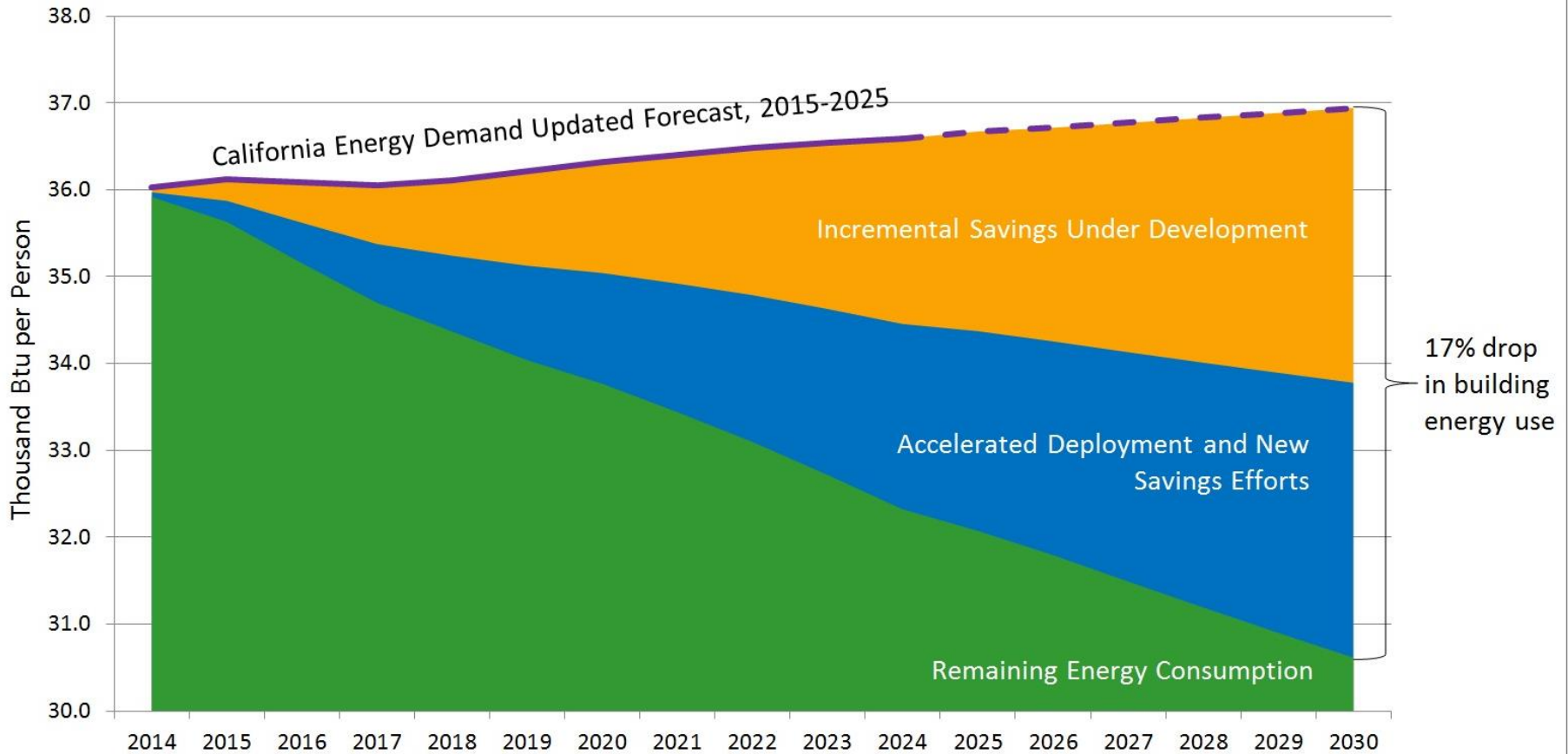
- 4.1 Real Estate Value
- 4.2 Marketing, Education and Outreach

- 5.1 Foster Private Capital Market
- 5.2 Asset Based Financing
- 5.3 Borrower-Based Financing
- 5.4 Integrated Delivery of Efficiency Solutions, Finance & Utility Incentives
- 5.5 Government Building Finance Mechanisms
- 5.6 Levelled Tax Playing Field
- 5.7 Deeper Subsidies for Low Income Households

# Quantitative Savings



## Reduction in Building Energy Consumption per Capita





# Goal 1 - Proactive and Informed Government Leadership in EE

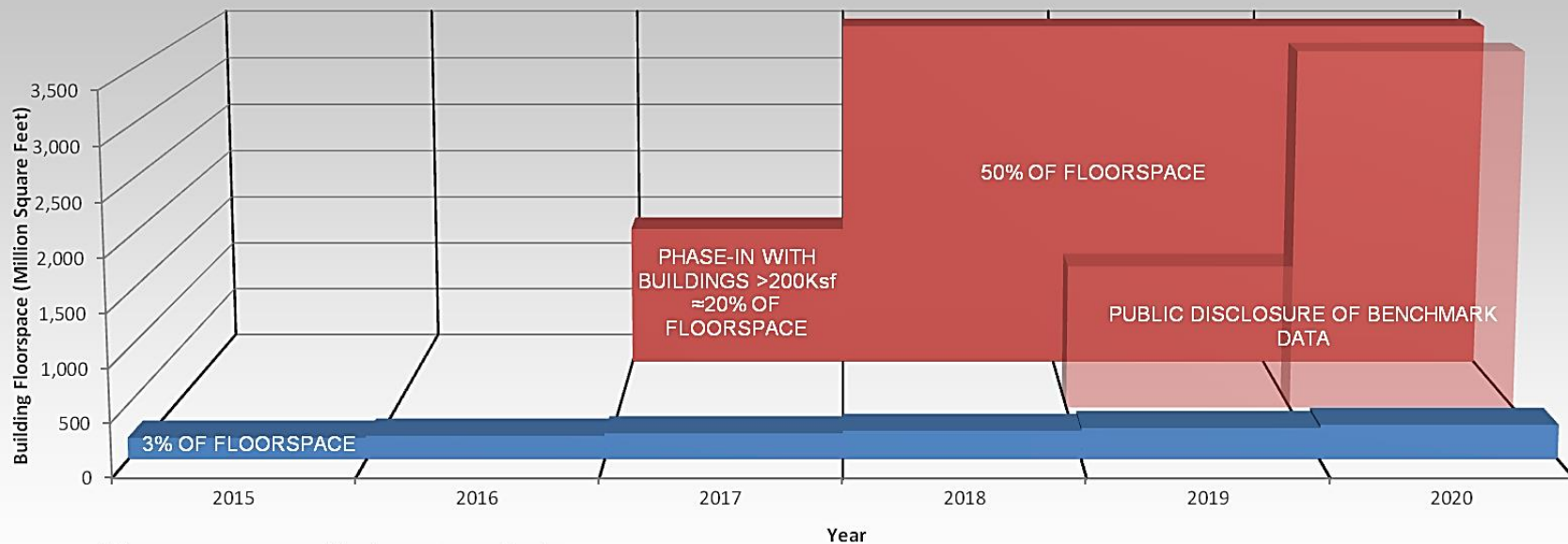
*Objective: Policies, initiatives and programs lead a long-term commitment to achieve EE at scale*

- **Government Leadership by Example**
  - Local Government Challenge Program
- **Nonresidential Energy Benchmarking and Disclosure**
  - Large, nonresidential buildings initially
- **Modernize Assessments, Asset Ratings and Labels**

# 1.2 Nonresidential Benchmarking & Disclosure



### Nonresidential Building Benchmarking Program Impact<sup>1</sup>



<sup>1</sup> Floorspace coverage estimates are approximate

■ Building Coverage-Transaction Based (>10,000 sf)   ■ Building Coverage-Time-Certain (>50,000 sf)

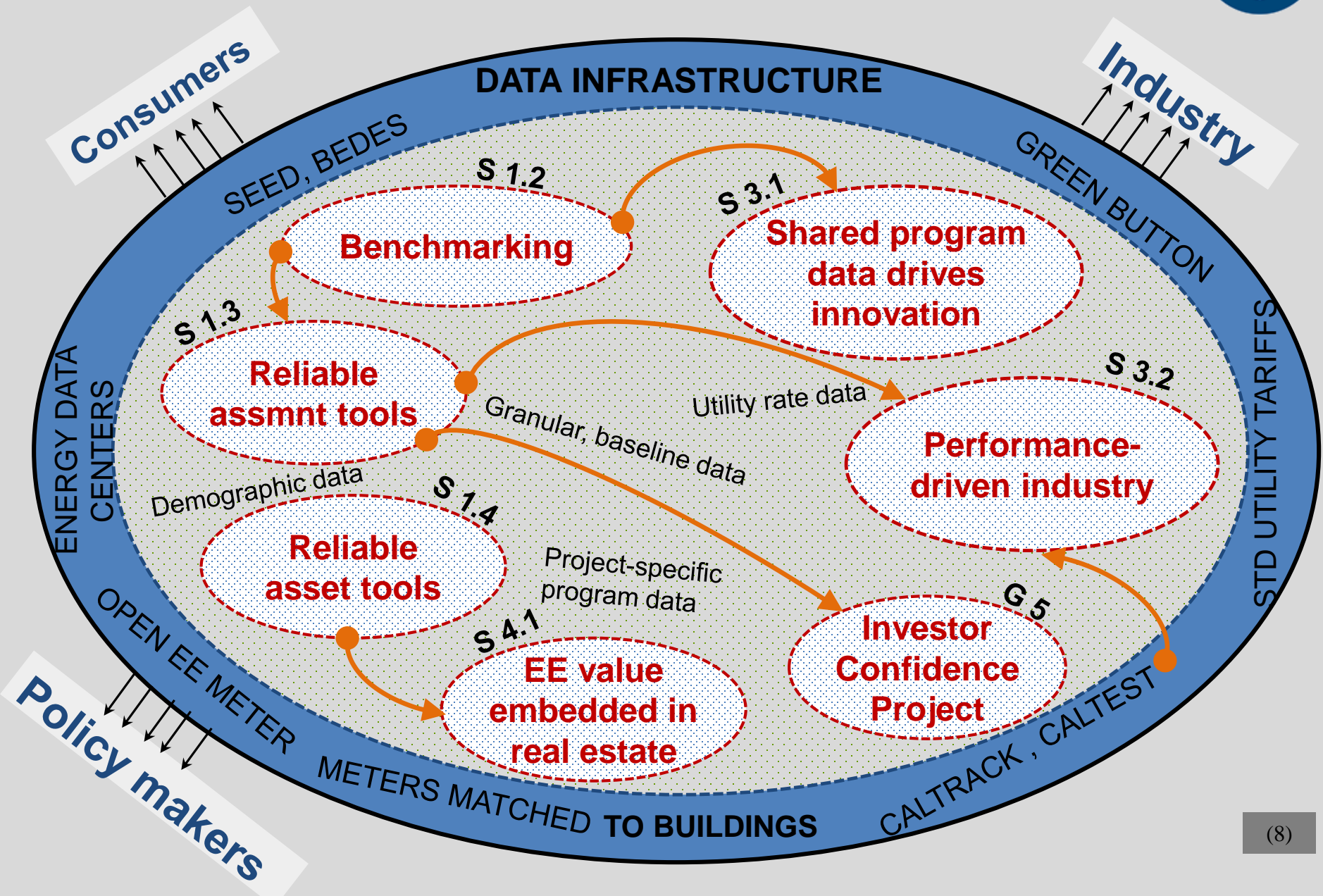


## Goal 2 - Data Drives Informed Decisions

*Objective: Building owners and residents expect EE services informed by the full range of relevant information*

- **Increased accessibility and availability of energy use data is foundational to improving existing buildings**
  - Data analytics rapidly evolving
  - Customer specific insight
  - Monitoring and persistence of savings
  - Standardized protocols and data interchange
  - Energy use baselines for policy

# Data-related strategies







## Goal 3 - Building Industry Delivers Innovation and Performance

*Objective: A robust and sustainable building industry drives and satisfies demand*

- **Performance-driven industry and programs**
  - Industry Partners Programs
  - Performance Assurance
  - Incentives tied to Performance
- **High-performance workforce, education and training**
- **Explore and encourage zero net energy retrofits**



## Goal 4 - Californians Recognize and Benefit from the Value of Efficiency Upgrades

*Objective: Building values reflect energy performance and associated benefits*

- **Adopt property asset-related energy characteristics in building valuation**
  - Introduce uniform property valuation approaches
  - Evaluate Appraisal Institute's Green Addenda
  - Support development and deployment of Green Leases
- **Energy performance information included in property listings**
- **Develop best practices for targeted ME&O**



## Goal 5 - Solutions are Accessible and Affordable for all Californians

*Objective: Efficiency is an integral part of routine transactions and readily financed*

- Database of finance payment and project performance informs capital markets for risks & returns
- Ensure availability of financing matched to building trigger points
- Incorporate EE into the mortgage valuation and underwriting process
- Leverage PACE programs as appropriate



## Goal 5 - Solutions are Accessible and Affordable for all Californians

*Objective: Efficiency is an integral part of routine transactions and readily financed*

- Encourage new investment cost recovery mechanisms to combat split incentive problem (e.g. tenant meter-based, green leases).
- Expand funding options for local and state governments, and schools
- Expand funding resources for revolving funds
- Promote expanded use of energy service agreements



# THANK YOU

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EBEE Draft Action Plan:

<http://www.energy.ca.gov/ab758>

# 5.1 Foster Private Capital Market



## State Finance Council

5.1.1

- Establish council to shepherd offerings and identify priority initiatives. (I-Bank, CAEATFA)

## Database

5.1.2

- Ensure database of finance payment and project performance informs capital markets for risks & returns (CAEATFA).

## Pilots

5.1.3

- Assess IOU financing pilots, PACE, & other financing products. (CPUC, CAEATFA)

Goal

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# 5.1 Foster Private Capital Market cont.

## Evaluation of Priorities

5.1.4

- Review priorities for new/modified finance products. (Council)

Goal

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## Trigger Point Financing

5.1.5

- Ensure availability of financing matched to trigger points. (Council)

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## 5.2 Asset-Based Financing



### Mortgages that Value Efficiency

5.2.1

- Incorporate energy efficiency into the mortgage valuation and underwriting process. (Mortgage and appraisal industry)

### PACE

5.2.2

- Increase uptake of PACE finance transactions. (Local governments, real estate industry, energy service providers, contractors)

### Split Incentives

5.2.3

- Encourage new investment cost recovery mechanisms to combat split incentive problem (e.g. tenant meter-based, green leases). (CPUC, POUs, multi-family and commercial real estate industries)

Goal

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# 5.3 Borrower-Based Financing



## Loans

- Facilitate broader eligibility for unsecured loans.
- Test alternative credit criteria, where helpful.
- Target credit support, where needed.
- Enable bundled loan securitization on secondary market.

(CAEATFA, Council)

## Goal

- 1
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- 4
- 5

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# 5.4 Integrated and Streamlined Delivery of Efficiency Solutions, Finance and Utility Incentives



## Streamlined Timing

5.4.1

Goal

- Coordinate EE delivery timing through standardized project and performance data platforms and automation that enable prompt processing of loans and incentives. (EE program implementers, EE industry, lenders, utilities)

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## Targeted Incentives

5.4.2

- Transition incentives to fill gaps for selected technologies, markets, depth, and/or trigger points to scale EE transactions with sustainable levels of ratepayer or public funding. (CPUC, CEC, POU)

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# 5.4 Integrated and Streamlined Delivery of Efficiency Solutions, Finance and Utility Incentives



## Alternative Models

### 5.4.3

#### Goal

- Explore alternative capital sources and turnkey efficiency services (e.g. energy performance contracts, Measured EE Transaction Structure, Investor Confidence Project). (Council, CPUC, POU's)

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# 5.5 Government Building Finance Mechanisms



Expand funding options for local and state governments, and schools. Determine needs and best options (I-Bank, CA Dept. of Finance, Public finance organizations)

## Revolving Funds

5.5.1

- Expand funding resources for revolving funds (I-Bank, CA Dept. of Finance, Legislature and local governments)

## Energy Service Agreements

5.5.2

- Promote expanded use of energy service agreements. (Public finance organizations, ESCOs)

Goal

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## 5.6 Leveled Tax Playing Field



### Align tax treatments of efficiency and renewable energy

- **Align federal and state tax treatments (credits and depreciation) for energy efficiency improvements with those for renewable energy. (EE industry, National Association of State Energy Offices, US Department of Energy, Congress)**

**Goal**

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**5**

**Solutions are Accessible and Affordable for all Californians**

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