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Draft Outline 2019 Statewide Energy Efficiency Savings Action Plan

Guidance to Stakeholders

Energy Commission staff would like to receive your input on the following draft outline. This outline is for the new Statewide Energy Efficiency Savings Action Plan, which combines the content, recommendations, and savings estimates from the Existing Buildings Energy Efficiency Action Plan, Senate Bill 350 Doubling Energy Efficiency by 2030 report, the Senate Bill 350 Low Income Barriers report, and the Clean Energy Low Income Multifamily Buildings Action Plan.

Specifically, staff would like your help identifying topics that we have omitted, recommending literature to inform the included and your suggested topics, and suggesting locations to visit on the planned roadshow in the second quarter of 2019. In particular, please help us with identifying local energy efficiency programs, including financing programs, barriers to increased energy efficiency adoption, advancements in properly valuing energy efficiency within the real estate markets, and ways to evaluate energy savings using interval meter data. Please provide these comments to the Integrated Energy Policy Report docket 18-IEPR-07, Doubling Energy Efficiency Savings.

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Abstract

Executive Summary

- Policy Updates
- Goals
- Energy Efficiency Savings Projections

Chapter 1: Introduction

Overview of Action Plan

This report fulfills the reporting requirements under Assembly Bill (AB) 758 (Skinner, Chapter 470, Statutes of 2009) and Senate Bill (SB) 350 (De Leon, Chapter 574, Statutes of 2015). The requirements to report are combined into a single report. This new Statewide Energy Efficiency Savings Action Plan will include topics related to existing buildings energy efficiency, low-income barriers to energy efficiency, and doubling energy efficiency by 2030 process.

State of the Energy Efficiency Market

- Opportunities
- Barriers

Sector Characterization

- Residential
- Multifamily
- Commercial
- Agriculture
- Industry
- Public Buildings

Framework of Action Plan

- Vision
- Framework

Figure on page five.

Timeline for Action Plan Work

Q2, 2018	June 7th and 14th workshops- Comments due June 21 and 28, respectively
	Complete outline
Q3, 2018	Prepare first draft of action plan
Q4, 2018	Continue drafting report, incorporating findings as they are released.
Q1, 2019	First draft prepared for internal review
Q2, 2019	Road show to several cities to solicit feedback on action plan
Q3, 2019	Continue incorporating new material into draft
	Revise draft from road show comments and suggestions
	Release draft report and present at workshop
Q4, 2019	Make final edits to action plan
	Release in December 2019 following business meeting approval

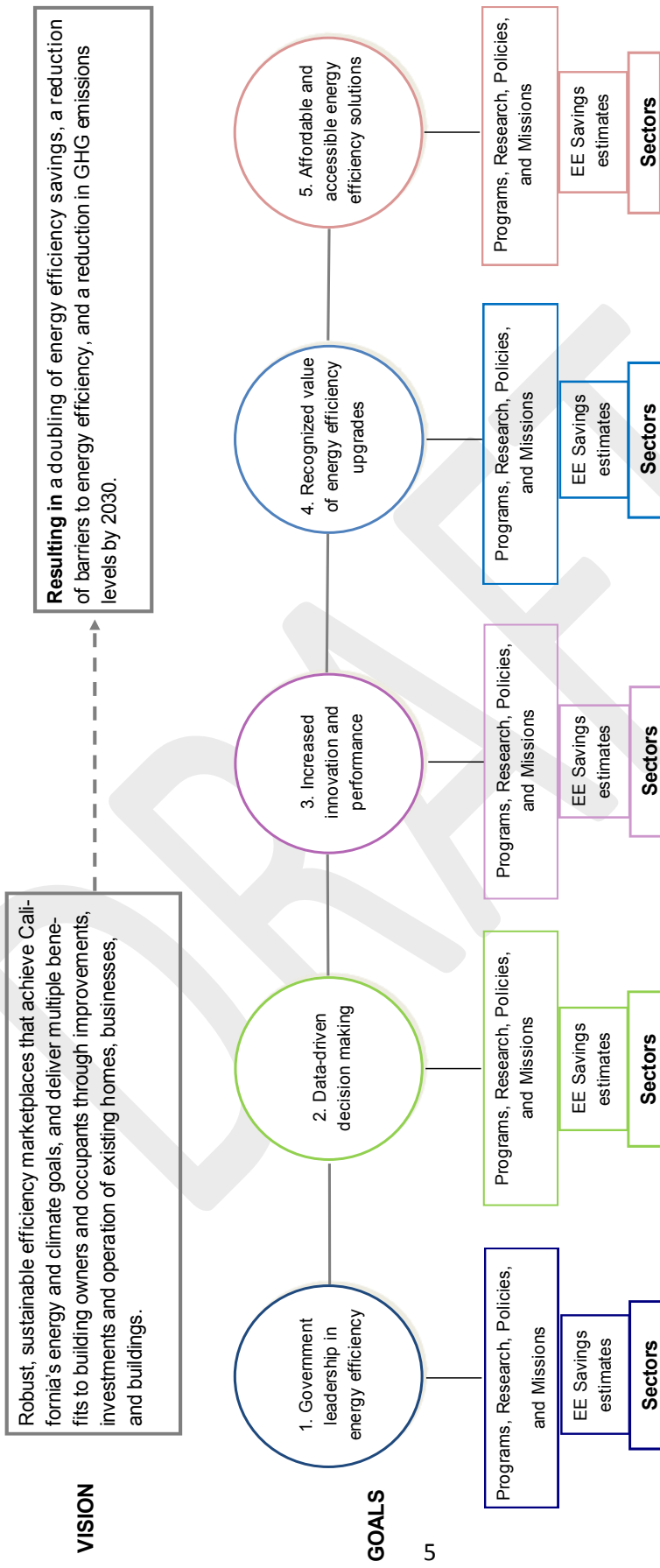
Milestones and Outcomes

A discussion of the results, updates, and accomplishments since the release of the 2016 update, and an update on the SB 350 targets including metrics and progress on recommendations.

Integration of 2016 Existing Buildings Energy Efficiency Update with SB 350 Doubling Energy Efficiency Content

The Existing Buildings Energy Efficiency (EBEE) Action Plan provided a framework to focus the state and local governments, the building contracting industries, and many other stakeholders, on issues related to achieving much greater energy efficiency in existing residential, commercial, and public buildings. The legislation that mandated this reporting has since been updated by SB 350 (2015). The SB 350 Doubling of Energy Efficiency by 2030 report expanded beyond existing buildings to include agriculture, industry, newly constructed buildings, conservation voltage reduction, and electrification. This report combines these topics with the scope of the EBEE Action Plan to create a comprehensive statewide energy efficiency action plan. This action plan will cover energy efficiency programs, estimate savings from those programs where applicable, review energy efficiency goals, policies, and legislation, and provide a timeline that works to achieve the state's energy efficiency goals.

Vision and Goals: 2019 Statewide Energy Efficiency Savings Action Plan



Chapter 2: Policy Updates

Legislative Updates

- ***AB 758 (Skinner, Chapter 470, Statutes of 2009)***
 - Amended by Senate Bill 350 (2015)
 - Required the development of the Existing Building Program, which resulted in the triennial Existing Buildings Energy Efficiency Action Plan
- ***SB 350 (De Leon, Chapter 547, Statutes of 2015)***
 - Update initial targets and goals published in November 2017.
 - Energy efficiency targets connect to goals in this action plan.
 - Includes updates to low income barriers report energy efficiency recommendations
- ***AB 802 (Williams, Chapter 590, Statutes of 2015)***
 - Adoption of benchmarking regulations, researching existing conditions baseline, implementation of normalized metered energy consumption (NMEC) programs.
- ***SB 1414 (Wolk, Chapter 678, Statutes of 2016)***
 - Heat-pumps and HVAC Compliance
- ***Placeholder (Author, Chapter, Statutes of 2018)***
 - New legislation passed Fall-Winter 2018

Recent Regulatory Updates

- 2019 Building Energy Efficiency Standards
- Appliance Regulations
- Home Energy Rating System
- Responsible Contractor Policy
- Statewide Benchmarking and Disclosure

Recent Policies

- **Clean Energy in Low-Income Multifamily Buildings Action Plan**
 - Schedule for Action Plan
 - September 2018 Framework Adopted
 - Late 2019 Action Plan Adopted
 - Goals
 - Expand coordination among existing programs
 - Develop a cohesive understanding of the multifamily market
 - Improve existing and future program design
 - Identify additional resources and deployment opportunities
 - Increase outreach, awareness, and access
- **SB 350 Low Income Barriers Report**
 - Energy efficiency recommendations
 - Progress on overcoming barriers

- Next steps
- **Energy Decarbonization**
 - Pacific Coast Collaborative Thermal Decarbonization Working Group Guidelines
 - Zero-emission Buildings
 - Fuel Substitution
- **Agricultural and Industrial Energy Efficiency**
 - Ongoing Research
 - Expected contribution to the doubling of energy efficiency
- **Non-Energy Benefits**
 - How will non-energy benefits be identified, quantified, and implemented into program designs?
 - Are they appropriate to include in cost-effectiveness tests?
- **2018 and 2019 Integrated Energy Policy Report**
 - Topics
 - Stakeholder feedback
 - Next Steps

Chapter 3: Statewide Energy Efficiency Savings Goals

Overview

Goal 1: Government Leadership in Energy Efficiency

This section describes the programs government entities operate that increase energy efficiency across the state, as well as, estimate the savings associated with those programs. Additionally, this goal section covers the ongoing research, policies, and missions at federal, state, and local agencies that will generate greater energy efficiency.

Programs

- State Agency Energy Efficiency Programs
 - *Energy Commission:*
 - *Proposition 39*
 - *Energy Conservation and Assistance Act Loans*
 - *Local Government Challenge*
 - *American Reinvestment and Recovery Act Energy Efficiency Programs*
 - *Building Energy Efficiency Standards*
 - *Title 20: Appliance Efficiency Regulations*
 - *Electric Program Investment Charge*
 - *Benchmarking and Disclosure*
 - *California Public Utilities Commission*
 - *Energy Savings Assistance*
 - *Investor Owned Utility Program Activity*
 - *Department of General Services*
 - *State Buildings Energy Savings Program*
 - *Department of Water Resources*
 - *Water-Energy Grant*
 - *California Department of Food and Agriculture*
 - *State Water Efficiency and Enhancement Program*
 - *California Department of Community Services and Development:*

- *Low-income Weatherization Program*
- *California Department of Housing and Community Development*
 - *Affordable Housing and Sustainable Communities Program*
- *California Alternative Energy and Advanced Transportation Financing Authority*
 - *California Hub for Energy Efficiency Financing (CHEEF)*
 - *PACE Loan Loss*
 - *Clean Energy Bond Financing*
- **Federal Energy Efficiency Programs**
 - *U.S. Department of Energy*
 - *State Energy Program*
 - *Appliance Standards*
 - *Better Buildings Program*
 - *Weatherization Assistance Program*
 - *U.S. Department of Health and Human Services:*
 - *Low-Income Home Energy Assistance Program*
 - *U. S. Department of Housing and Urban Development*
 - *Section 108 Loan Guarantee Program*
 - *Community Development Block Grant Program*
- **Local Government Energy Efficiency Programs**
 - *Air Quality Mitigation Districts and Air Pollution Control Districts*
 - *Local Benchmarking Programs*
 - *Building Energy Efficiency Reach Codes*

Energy Efficiency Research, Policies, and Missions

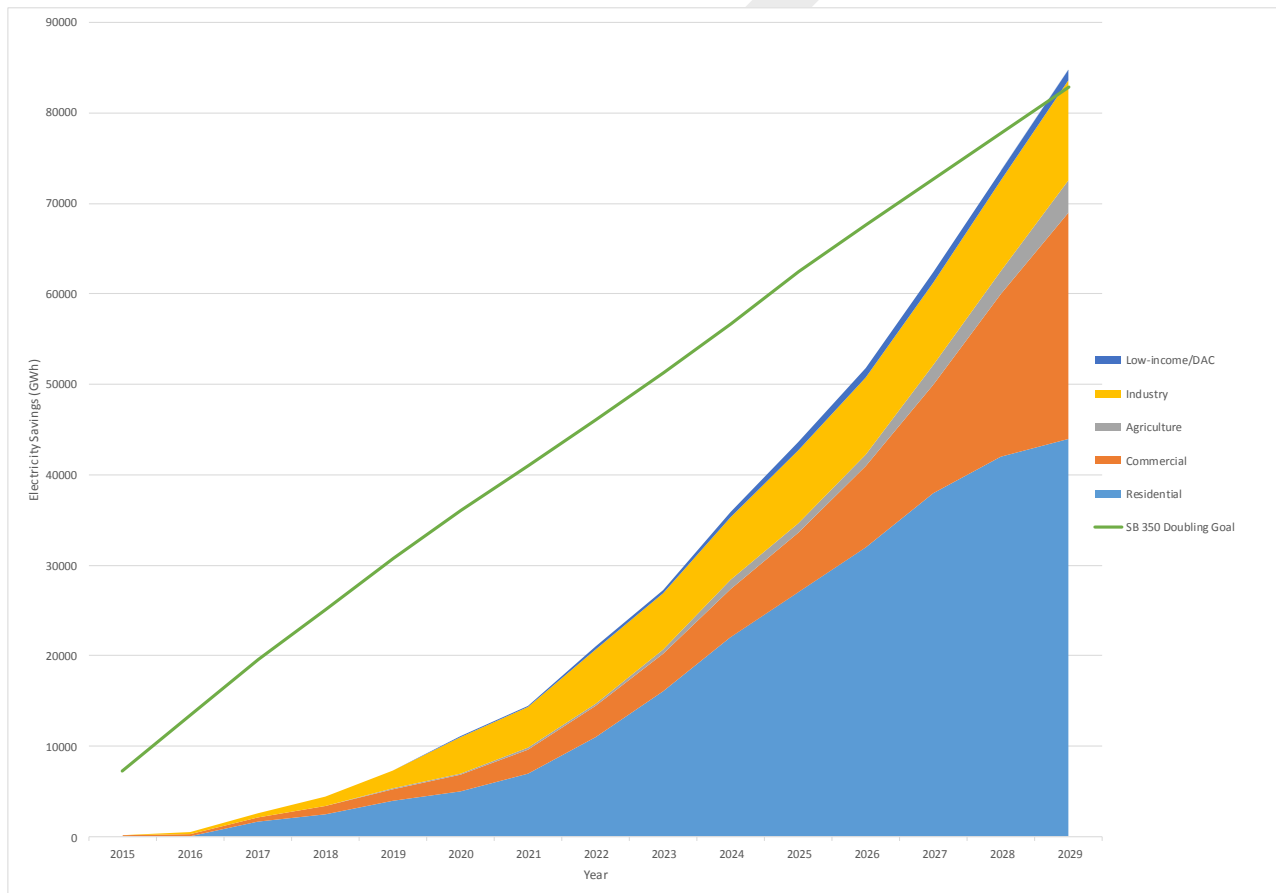
- **Building Energy Efficiency Standards**
 - *2019 Building Energy Efficiency Standards*
Major changes to Title 24 Part and Title 24, Part 11 (CalGREEN)

- *2022 Building Energy Efficiency Standards and Beyond*
Discuss roadmap for future standards, and why this is the path, we currently expect to take.
- Plug Load Efficiency and Appliance Regulations
- Home Energy Rating
 - Some local jurisdictions require existing buildings to be rated. This allows comparisons between similar buildings excluding the effects of tenants or plug loads. The Energy Commission currently offers a voluntary whole-house rating program.
- Energy Efficiency as a Distributed Energy Resource
- EPIC
- CPUC Proceedings
 - *Energy Efficiency Rolling Portfolio*
 - *Integrated Distributed Energy Resources*
 - *Integrated Resource Planning*
- Clean Energy Low Income Multifamily Buildings Action Plan
 - Timeline
 - Goals
- Building Decarbonization Plan
 - Roadmap to Building Decarbonization and Zero-emission Buildings
 - Pacific Coast Collaborative- Thermal Decarbonization Working Group
 - Fuel Substitution Working Group
- California Energy Efficiency Coordinating Committee
 - Discuss role of CAEECC in energy efficiency
- California Technical Forum
 - Discuss role of California Technical Forum
- To-code Energy Efficiency Savings
 - Discuss progress being made by CPUC and others towards defining an energy efficiency baseline to offer To-code savings programs
- Senate Bill 350 Low Income Barriers Recommendations
 - Describe ongoing work related to recommendations from the SB 350 Low Income Barriers Report
- California Strategic Growth Council

Energy Efficiency Savings

- Residential Savings
- Commercial Savings
- Agricultural Savings
- Industrial Savings

Example figure of energy savings expected from programs described in Goal 1



Goal 2: Data-driven Decision Making

This section discusses the need for data access for customers, building owners, regulators, researchers, and the industry at-large. This includes the creation of data exchange standards, development of common building identifiers, accepted energy baselines, energy data analysis tools, and data storage solutions. This section also covers the new ways energy consumption data can be analyzed and used to improve energy efficiency programs.

Programs

- Behavioral Programs
 - *Ohmconnect*
 - *Opower*
 - *Other Programs?*

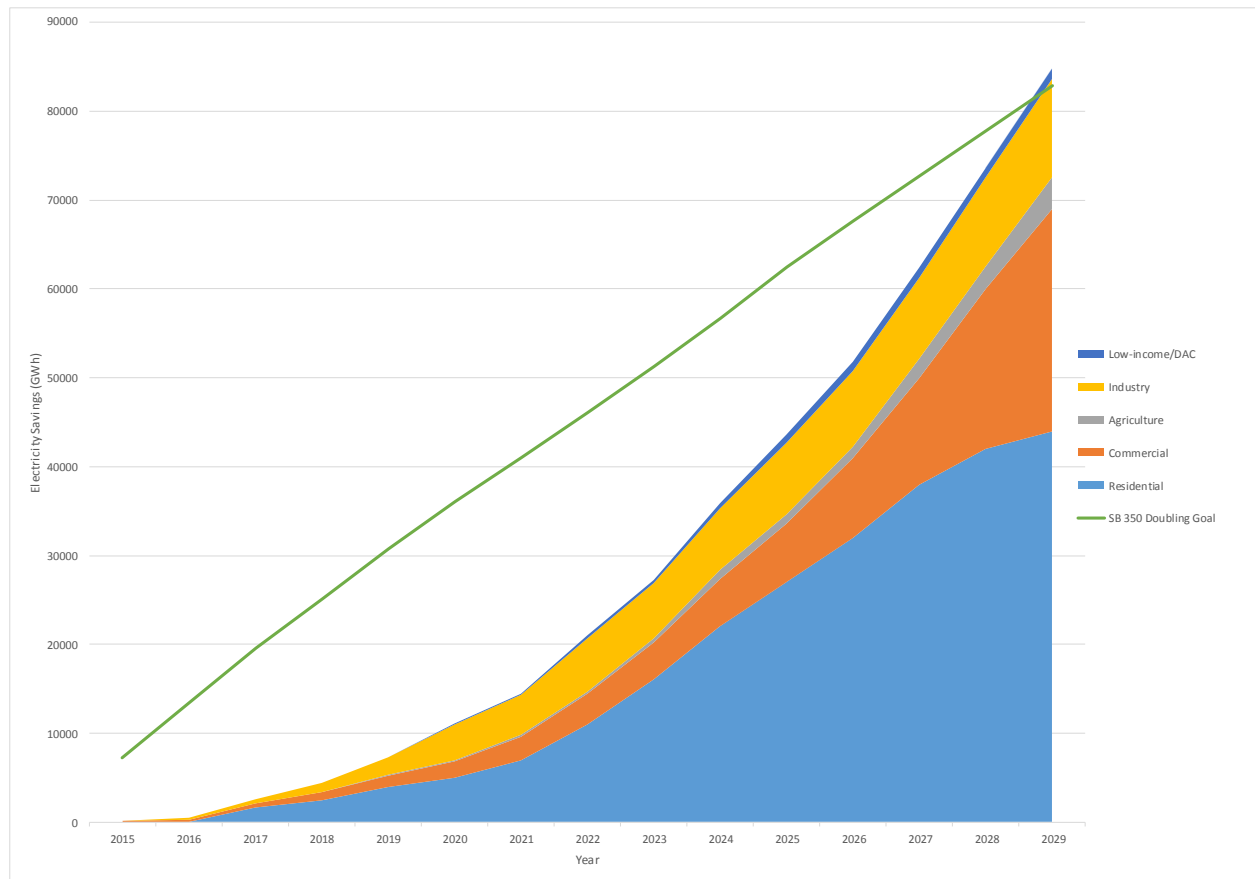
Energy Efficiency Research, Policies, and Missions

- Energy Equity Indicators
- Energy Commission Enterprise-wide Data Effort
- Leverage Energy Consumption Data to Create Hourly and Locational Energy Efficiency Projections
- Unique Building IDs
- Energy Consumption Baselines
- Public Web Portals
- Continue to Develop the Energy Efficiency Market
- Consumer Marketing and Outreach

Energy Savings

- Residential Savings
- Commercial Savings
- Agricultural Savings
- Industrial Savings

Example figure of energy savings expected from programs described in Goal 2



Goal 3: Increased Innovation and Performance

This section goes into the ways the energy efficiency industry is addressing demand and offering innovative programs. This section will delve into the way IOUs, Community Choice Aggregators, Regional Energy Networks, under CPUC-guidance, and the Publicly-owned Utilities, procure, measure, and fund energy efficiency. Savings for these types of programs are discussed at the end of the goal section and the methodology to determine the EE savings will be available in an attachment.

Programs

- Investor Owned Utilities Energy Efficiency Programs
 - *Savings expected from potential and goals study.*
 - Residential buildings programs
 - Commercial buildings programs
 - Public buildings programs
- Community Choice Aggregators and Regional Energy Networks Energy Efficiency Programs
 - Residential buildings programs
 - Commercial buildings programs
 - Public buildings programs
- Publicly-owned Utilities Energy Efficiency Programs
 - *Saving from potential and goals report.*
 - Residential buildings programs
 - Commercial buildings programs
 - Public buildings programs
- Agriculture and Industrial Efficiency
 - IOU programs
 - POU programs
 - Other programs
- Conservation Voltage Reduction Potential

Energy Efficiency Research, Policies, and Missions

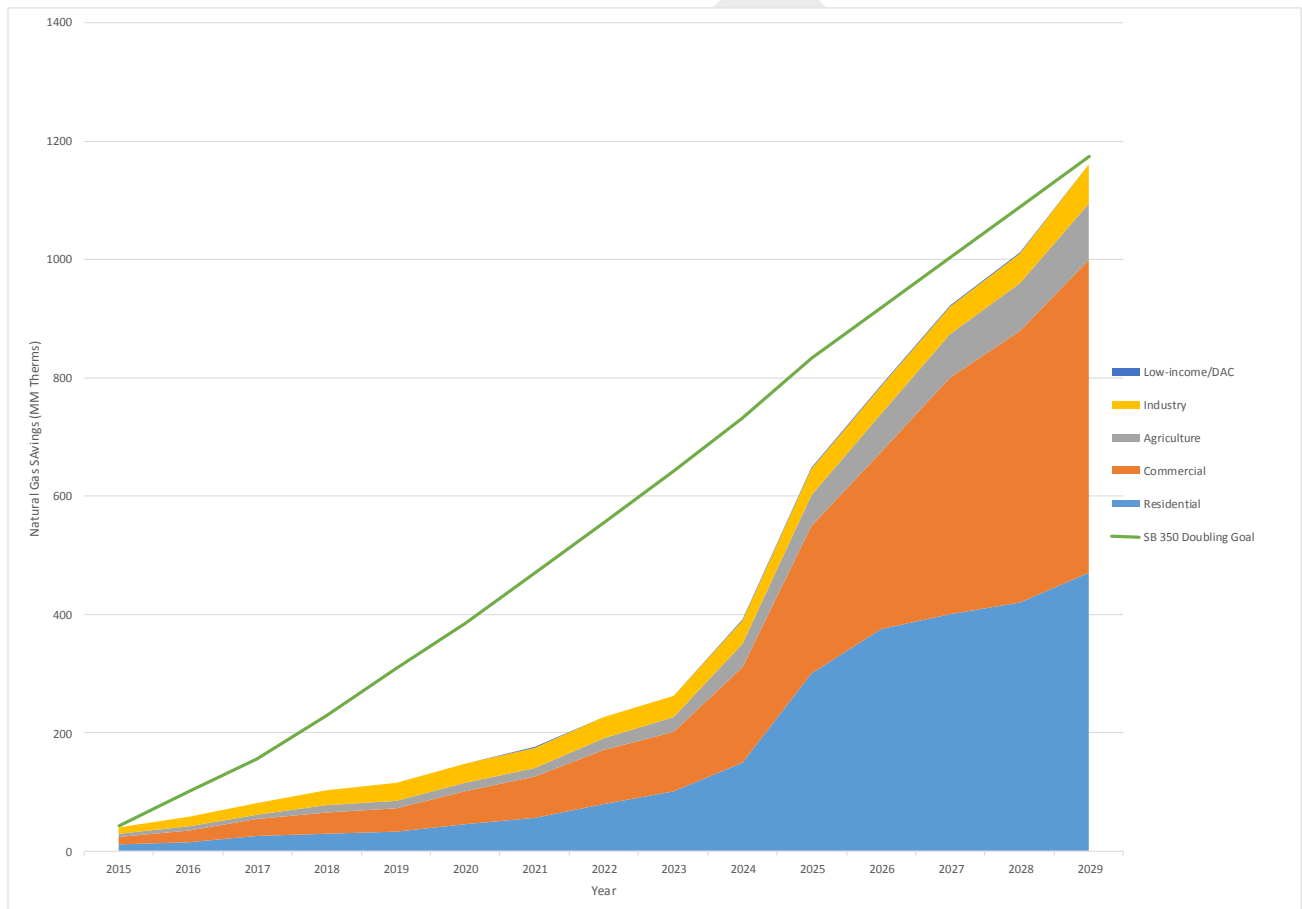
- Energy efficiency as a procurable resource
- Workforce alignment and development
 - Describe the various needs to improve workforce development. How it results in both energy and non-energy benefits.
 - Responsible Contractor Policy- Energy Commission
 - Employment Training Panel

- Employment Development Department- workforce training

Energy Savings

- Residential Savings
- Commercial Savings
- Agricultural Savings
- Industrial Savings

Example figure of energy savings expected from programs described in Goal 3



Goal 4: Recognized Value of Energy Efficiency Upgrades

This section describes efforts properly value energy efficiency performance and benefits in buildings. This includes changes to how energy efficiency is valued, rated, and assessed in the marketplace.

Programs

- Energy Upgrade California

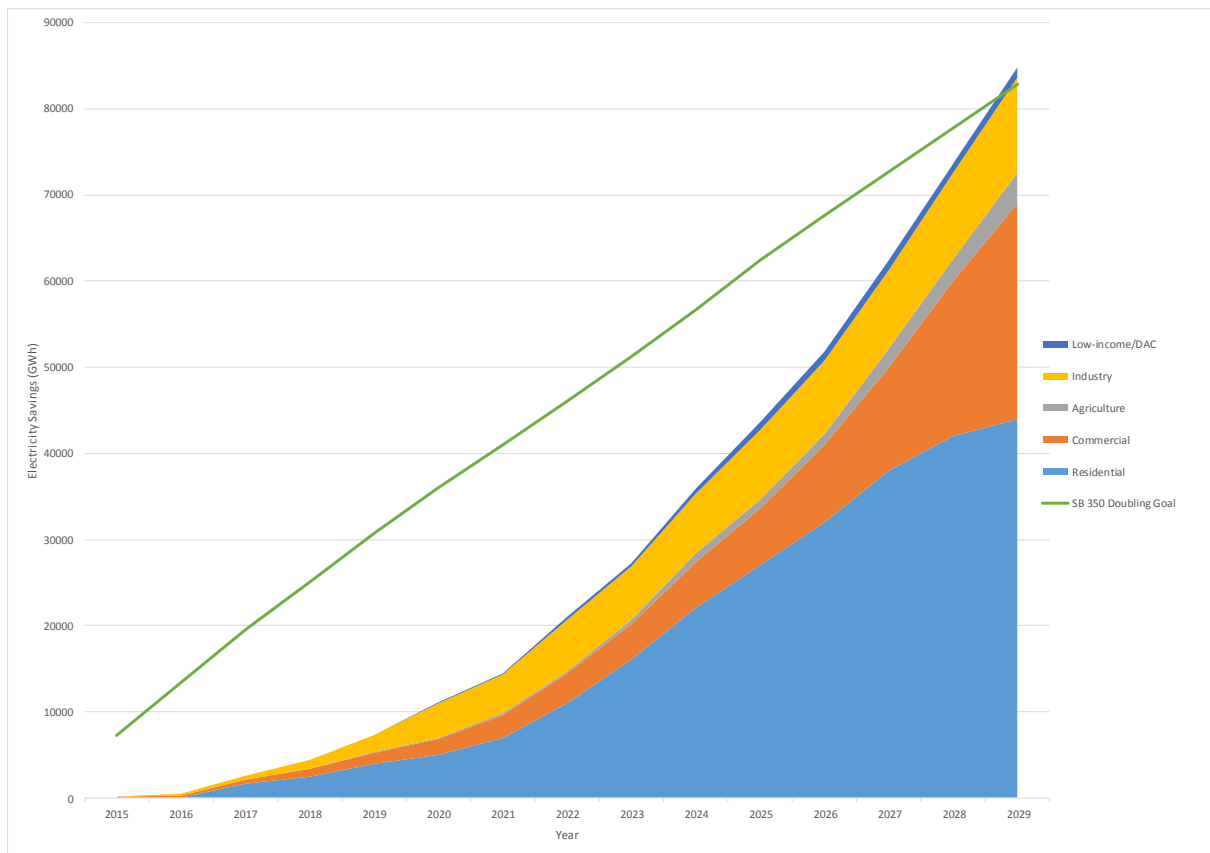
Energy Efficiency Research, Policies, and Missions

- Building Asset Scores
 - Home Energy Rating System
 - Potential commercial asset scores
- Third Party Energy Efficiency Implementation
- Green Banks
- Trigger Point Financing for Energy Efficiency Retrofits
- Green Leases
- Increase Energy Efficiency Appraisals

Energy Savings

- Residential Savings
- Commercial Savings
- Agricultural Savings
- Industrial Savings

Example figure of energy savings expected from programs described in Goal 4



Goal 5: Affordable and Accessible Energy Efficiency Solutions

This section describes energy efficiency financing programs, policies, research, and estimated savings. Affordable energy efficiency is achieved via various financing programs and policies that reduce the upfront capital or other barriers customers face when considering energy efficiency upgrades.

Programs

- Bright Schools
- Pay-4-Performance
 - Describe IOU programs and other pilots that utilize normalized metered energy consumption and pay-for-performance program design.
- Utility Financing Programs
- Financing Pilots
 - *Example: High Opportunity Projects and Programs (CPUC-IOUs)*
- Residential and Commercial Property Assessed Clean Energy
- Financing tax credits, loans, and grants
 - Tax Credit Allocation Committee- tax credits
 - California Department of Housing and Community Development- soft loans
 - Private sector loans
 - Grants- Greenhouse Gas Reduction Fund

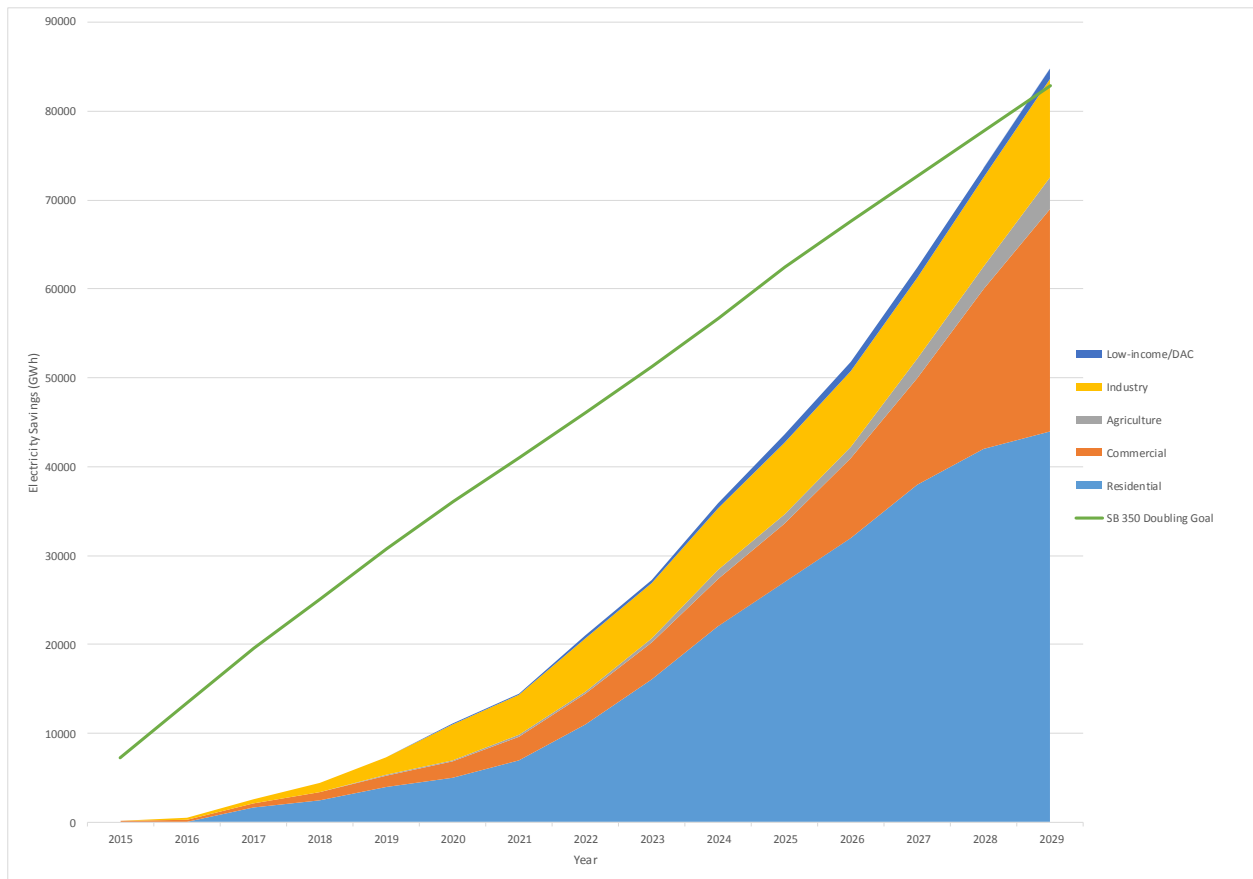
Energy Efficiency Research, Policies, and Missions

- Tax credits and energy efficiency financing
- Greenhouse Gas Reduction Fund
- Expand borrower-based Financing
- Increase financing available to low income households

Energy Savings

- Residential Saving
- Commercial Savings
- Agricultural Savings
- Industrial Savings

Figure of energy savings expected from programs described in Goal 5



Chapter 4: Implementation Summary and Timeline

Implementation of Goals

Plan to Track Energy Efficiency Savings

Example Timeline of Tasks for Responsible Entities

This table will include all responsible entities identified through the report.

	Time	2018	2019	2020
Entity	Task			
Energy Commission	Benchmarking			
	SB 350 Doubling			
	BEES			
	Title 20			
	Low Income Barriers			
	MF Action Plan			
	EPIC			
	BEES			
CPUC	IRP			
	EE as DER			
	IDER			
	Potentials and Goals			
	EM&V			
	Fuel Substitution WG			

Appendices

Energy Savings Calculations and Methodologies