



# SVCE Program Introduction

SVCE Board of Directors Meeting  
August 9, 2017



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# Why Programs?

# SVCE Mission

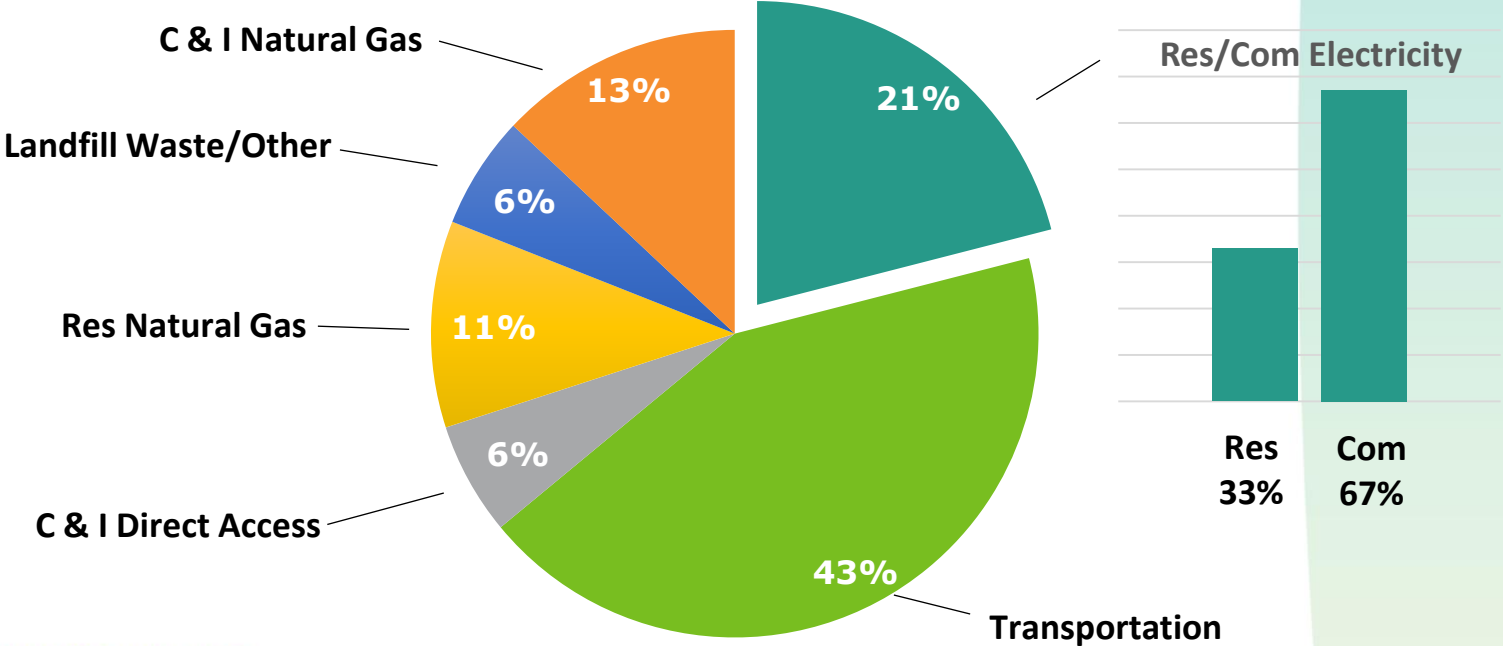
- Reduce dependence on fossil fuels by providing carbon free, affordable and reliable electricity and innovative programs for the SVCE community.

# Approach

- Budget reserved for 2017, 2018
- Establish program context and evaluation criteria
- Begin identification and vetting of candidate programs:
  - lower investment and time-sensitive, deliver early results
  - higher-investment, for conduct of 'Phase 0' planning efforts
- Launch selected programs as broader plan evolves; contract approval required for some programs
- Begin to define/refine processes for additional stakeholder input, program development and tracking

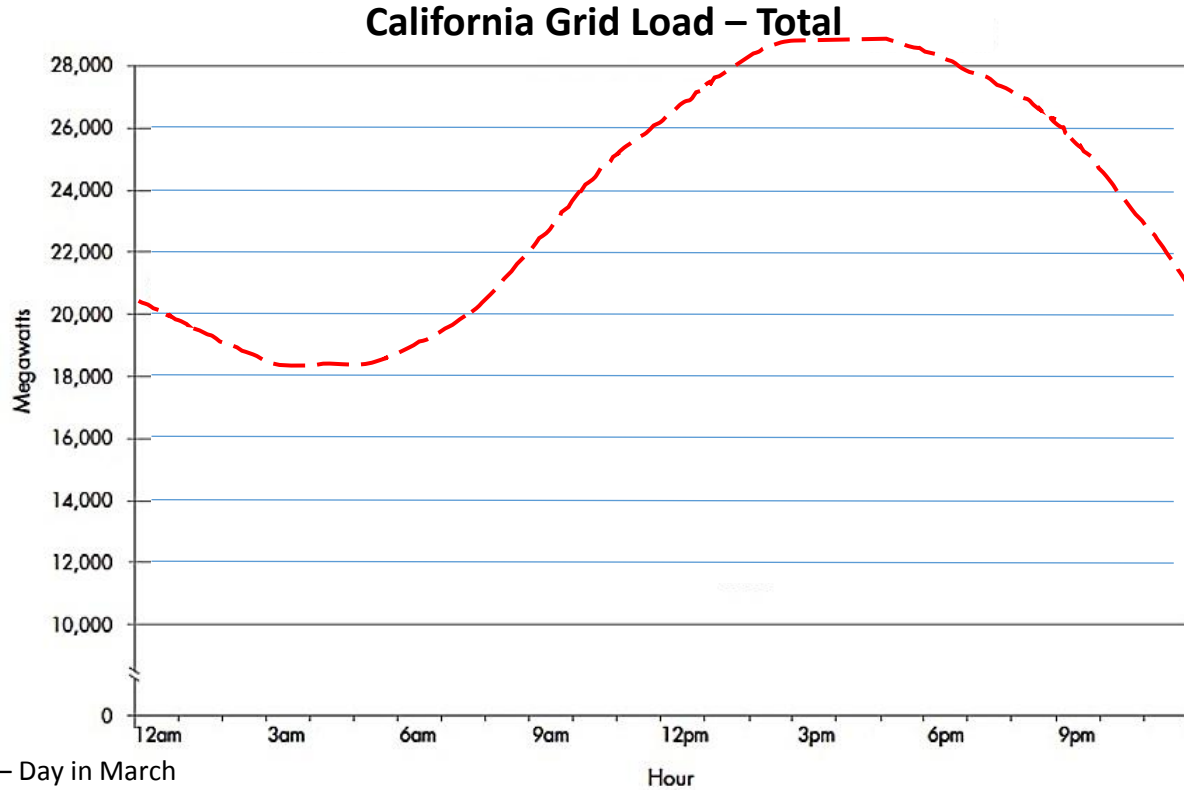
# Context - Targeting GHG Emissions

## 2015 Carbon Emissions by Source\*



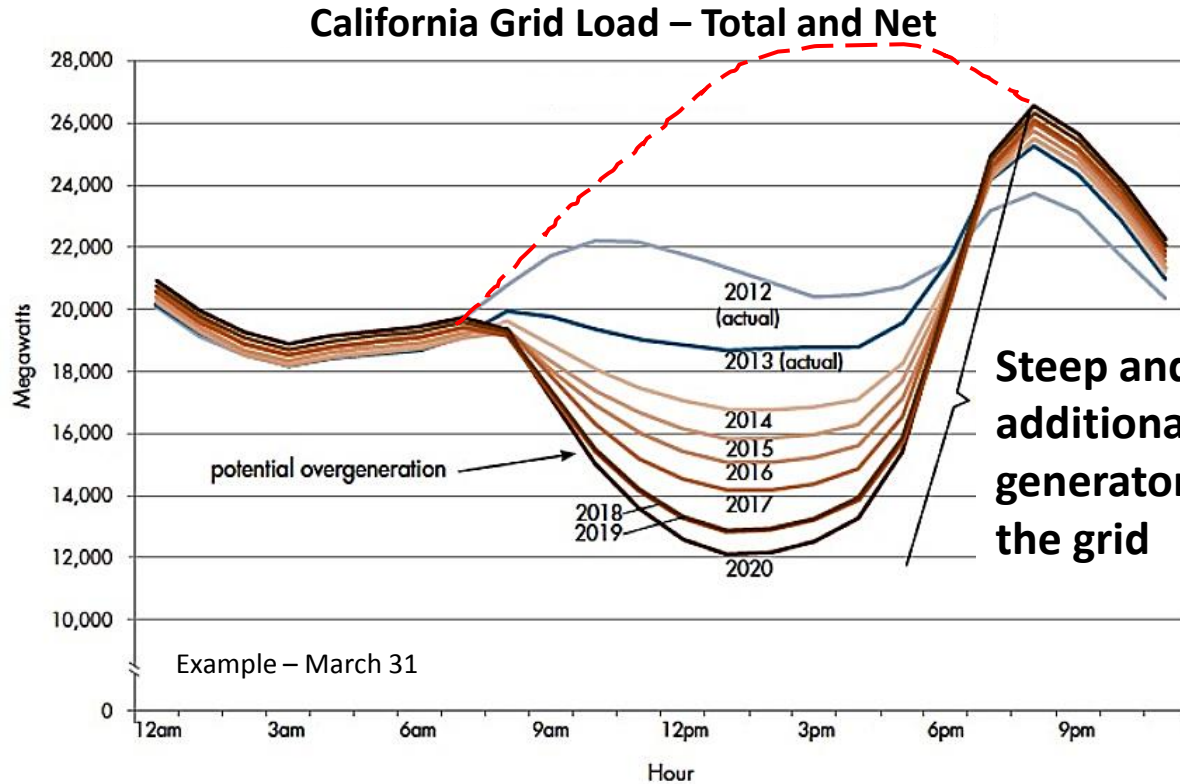
\*Preliminary SVCE estimate, calendar year 2015, SVCE Territory  
Subject to change pending service area GHG study for fall 2017

# Duck Curve Considerations



Example – Day in March

# Duck Curve Considerations

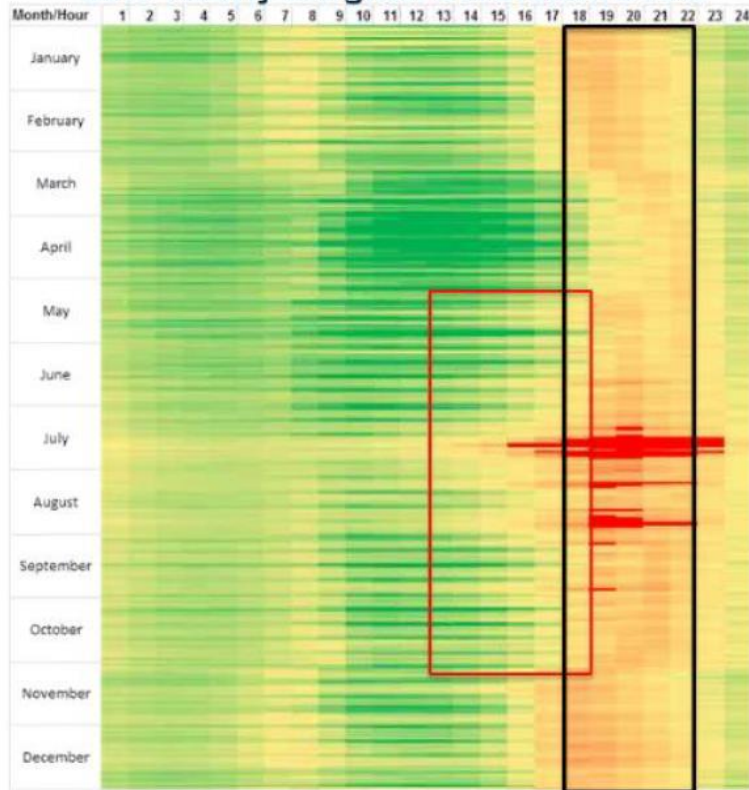



**Steep and brief peak requires additional CO2-emitting gas generators to come online on the grid**

# Impact on Grid Pricing and GHGs



### 2017 Hourly Marginal Generation Costs



-  Current Summer Non-Residential Peak
-  Proposed Year Round Non-Residential Peak\*

\*Under consideration at CPUC



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# Program Criteria

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- **GHG Reduction**
  - directly measurable and attributable carbon reduction, and addressable potential
- **Unit Cost**
  - SVCE unit cost of GHG reduction, after leverage of third-party resources
- **Time to Value**
  - speed, level and likelihood of achieved customer value
- **Grid Performance**
  - improved grid resources and demand alignment to optimize use of clean energy
- **Community Engagement**
  - local stakeholder involvement, customer education and awareness building
- **Market Transformation**
  - addresses critical need(s) for development of essential new markets

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# Candidate Programs and Categories

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Electrification	Demand Management	Foundational Programs
MUD/Workplace EV Charging Assist	<b>Commercial Demand Management</b>	DA Local Customer Pilot
EV Accelerator	Managed EV Charging	<b>GHG Inventory Data and Metrics</b>
Heat Pump Water Heater Accelerator	<b>Connected Home Energy &amp; Demand Management</b>	Model Ordinance Adoption
eBike Accelerator	Large-Scale Storage Study	Commercial/Residential Education and Community Building
EV Seed Initiative		

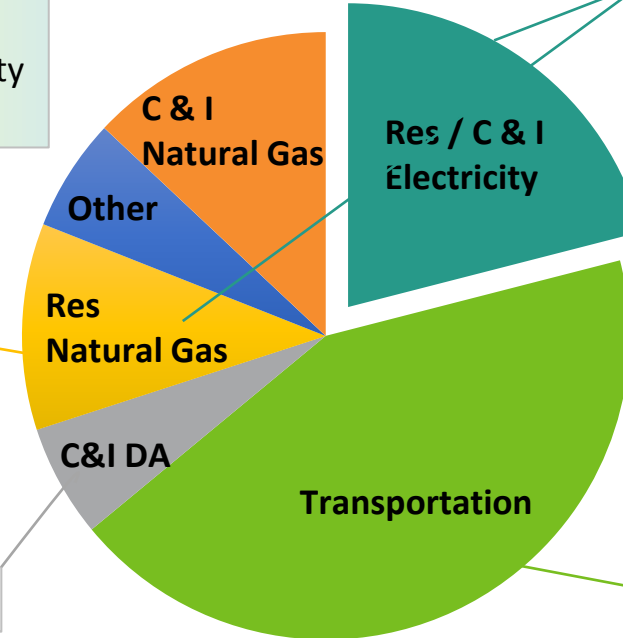
# Candidate Programs by Sector

## *Affecting all sectors:*

- GHG Inventory Data and Metrics
- Model Ordinances
- Com/Res Education & Community Building

- Heat Pump Water Heater Accelerator

- DA Local Customer Pilot



- Connected Home Energy & Demand Management

- Commercial Demand Management
- Large-Scale Storage Study

- MUD/Workplace EV Charging
- EV Accelerator
- Managed EV Charging
- eBike Accelerator
- EV Seed Initiative

# Connected Home Energy & Demand Management

## Challenge

- Heating and cooling is energy-intensive
- Thermostat “set it and forget it” common
- 10-15% now internet-connected
- Demand management and optimization are emerging

## Goal

- Leverage connected thermostats to further:
  - reduce gas use, GHGs from winter heating
  - reduce electricity use for cooling during summer peak, and better align with supply



# Connected Home Energy & Demand Management

**Opportunity:** Partner with Nest in co-branded 'Seasonal Savings' program:

- remotely enable reduced gas use from winter heating, peak electricity use from summer cooling
- program is ready to launch to ~25,000+ total deployed Nests in SVCE territory
- customers will save ~\$10-15/year
- total CO2 reductions of ~530MT+ in year 1
- NTE ~\$110k/year, enrollment-based, M&V data
- impact will grow with more thermostats, linkages
- explore similar opportunities with other vendors



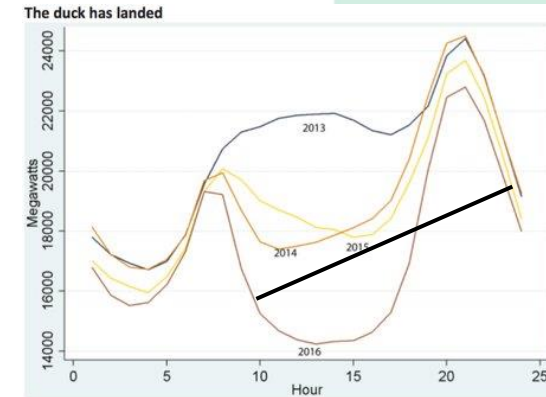
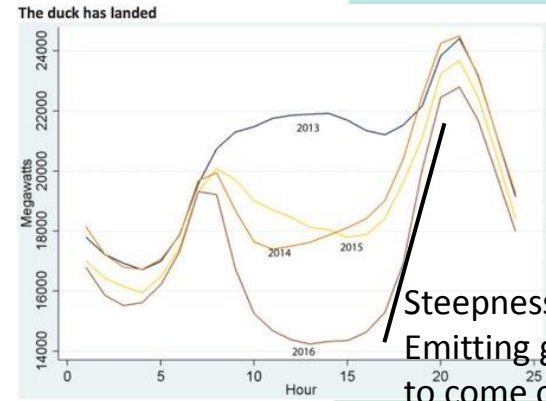
# Commercial Demand Management

## Challenge

- Lack of Peak Day Pricing (PDP) program is a barrier to customer retention
- Modest market adoption
- No SVCE ability to supply Demand Response, higher in CA loading order than renewables
- Existing tariffs do not reflect true daily energy costs

## Goal

- Retain commercial customers, and develop capability to encourage use or conservation of power at the most beneficial times



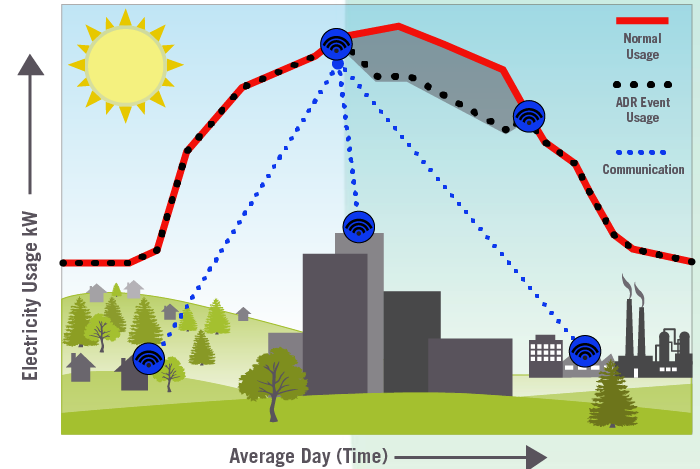


# Commercial Demand Management

## Opportunity:

- 2017 – Deliver interim program to substitute for PDP, and engage customers with flexible loads
- 2018 – Develop & pilot strategic energy consumption and reduction incentives:
  - reward customers for CO<sub>2</sub> reduction efforts and build customer engagement
  - reduce costs to serve customers during high demand days, and increase revenue during low cost windows

## Automated Demand Response



# GHG Inventory Data and Metrics

## Challenge

- Top SVCE goal to help reduce transportation and energy GHGs by 30% from 2015 by 2021
- No SVCE area-wide baseline GHG data and tracking mechanism
- Several (but not all) SVCE jurisdictions developing or maintaining Climate Action Plans (CAPs), and methods vary

## Goal

- Establish annual inventory data for GHG, and electrification metrics e.g. EV, DG, storage, to help inform SVCE priorities

# GHG Inventory Data and Metrics

## Opportunity

- To help guide SVCE activity, establish:
  - 2015 baseline GHG data for energy, transportation
  - Ongoing process for measurement
  - 2017 GHG data and electrification metrics
- Retain GHG inventory consulting assistance, leveraging related work with member jurisdictions
- Projected budget \$50k in 2017, \$50k in 2018; .25 FTE
- Work closely with the Sustainability Managers Roundtable, and make resulting datasets available



# Next Steps

- Move to launch selected programs as broader plan evolves; contract approval required in some cases
- Continue identification and vetting of candidate programs, including 'Phase 0' activities where applicable
- Begin to develop processes for additional stakeholder engagement, program portfolio mapping and timelines, budgeting, reporting, etc.