



SVCE Program Introduction

SVCE Board of Directors Meeting
August 9, 2017



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Why Programs?

SVCE Mission

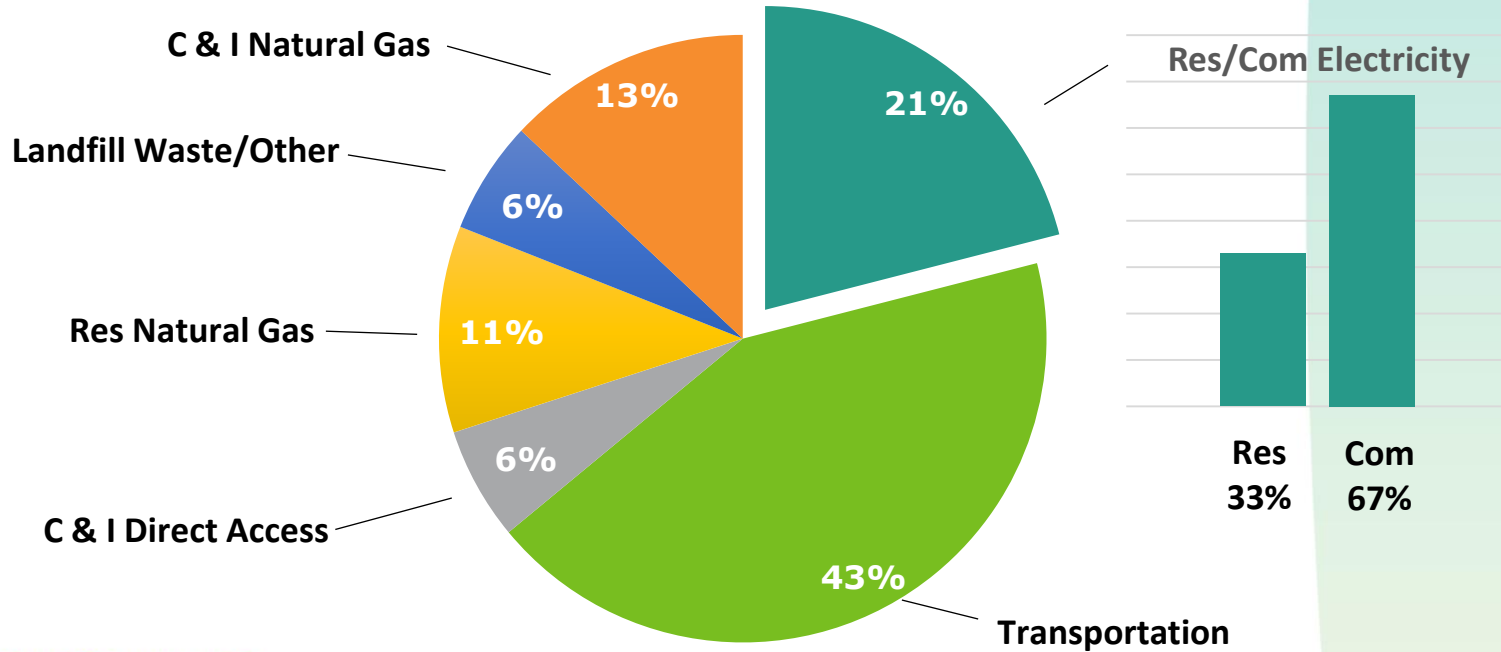
- Reduce dependence on fossil fuels by providing carbon free, affordable and reliable electricity and innovative programs for the SVCE community.

Approach

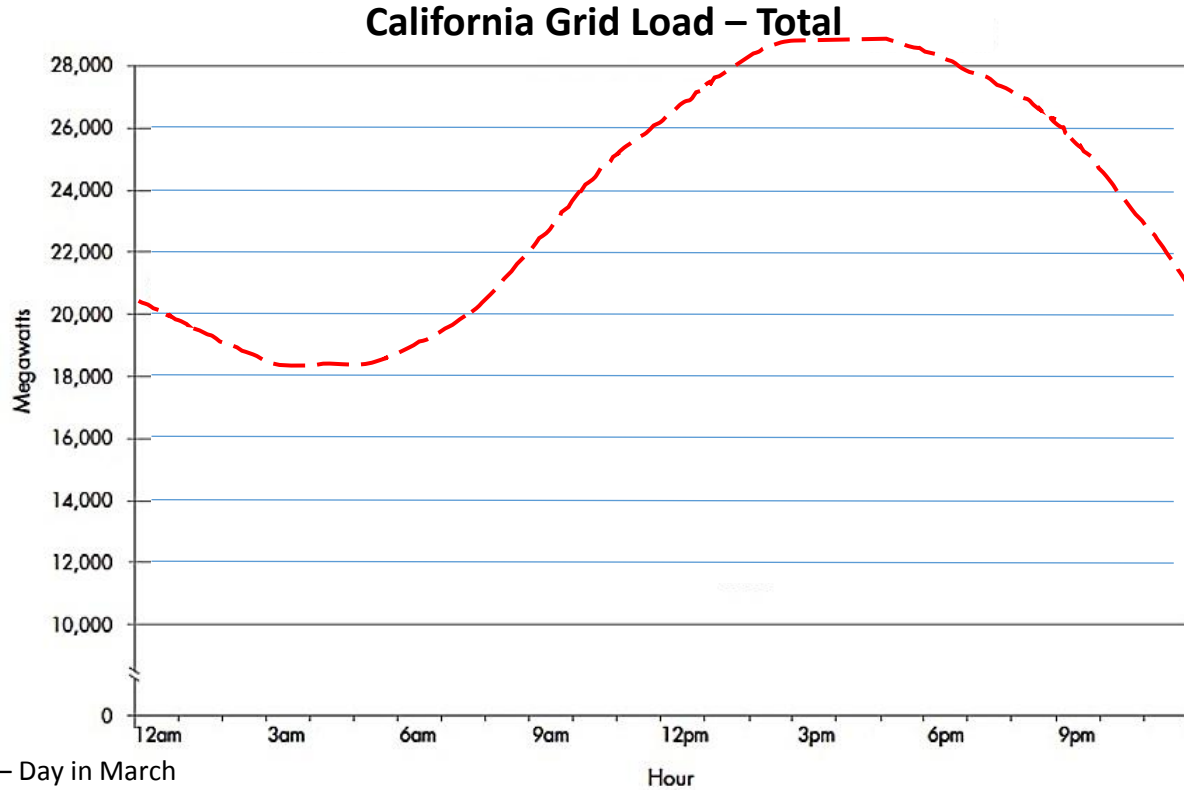
- Budget reserved for 2017, 2018
- Establish program context and evaluation criteria
- Begin identification and vetting of candidate programs:
 - lower investment and time-sensitive, deliver early results
 - higher-investment, for conduct of 'Phase 0' planning efforts
- Launch selected programs as broader 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*

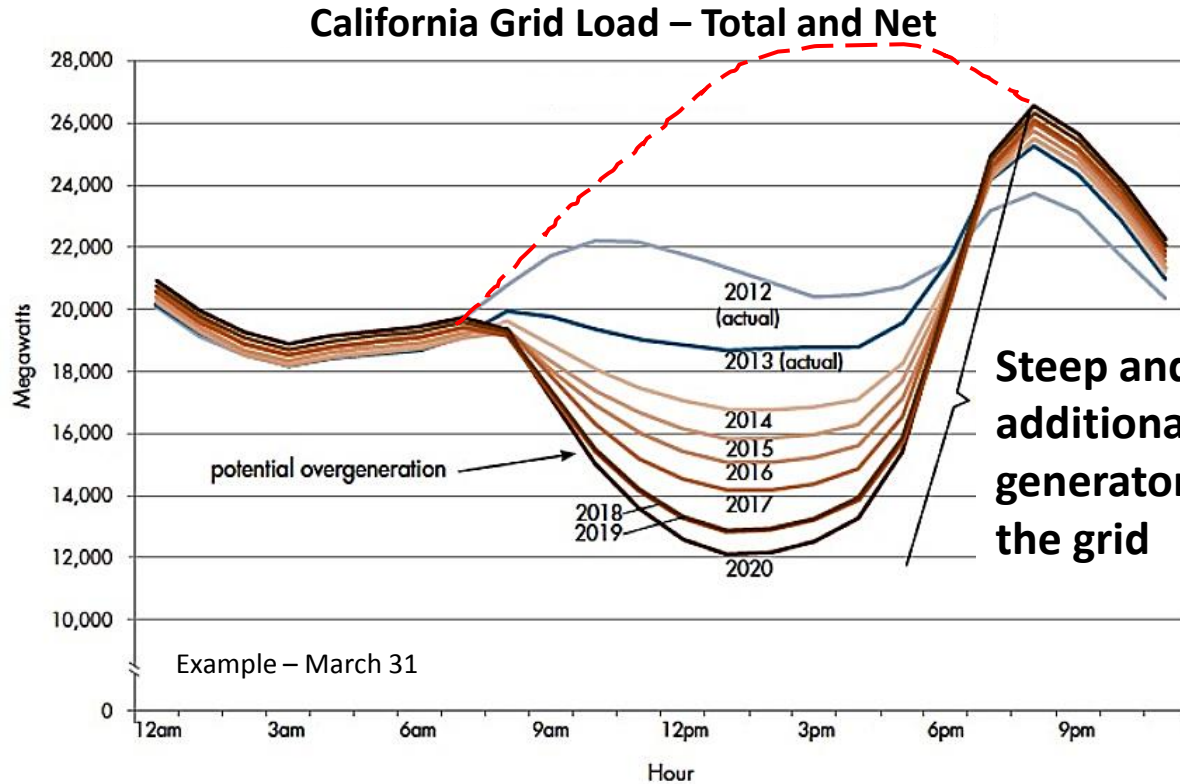


Duck Curve Considerations



Example – Day in March

Duck Curve Considerations

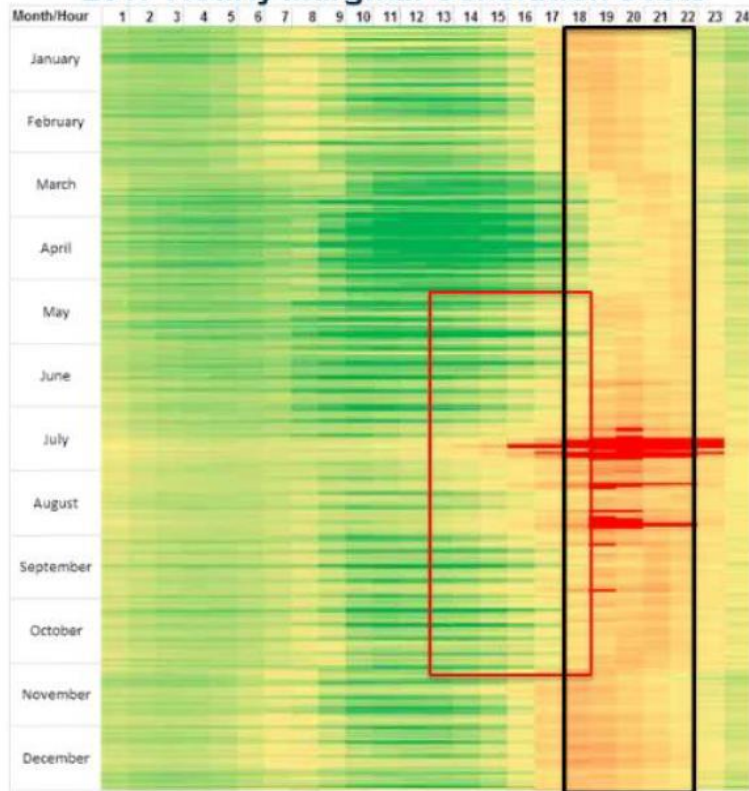


Steep and brief peak requires additional CO2-emitting gas generators to come online on the grid

Impact on Grid Pricing and GHGs



2017 Hourly Marginal Generation Costs



*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	Commercial Demand Management	DA Local Customer Pilot
EV Accelerator	Managed EV Charging	GHG Inventory Data and Metrics
Heat Pump Water Heater Accelerator	Connected Home Energy & Demand Management	Model Ordinance Adoption
eBike Accelerator	Large-Scale Storage Study	Commercial/Residential Education and Community Building
EV Seed Initiative		

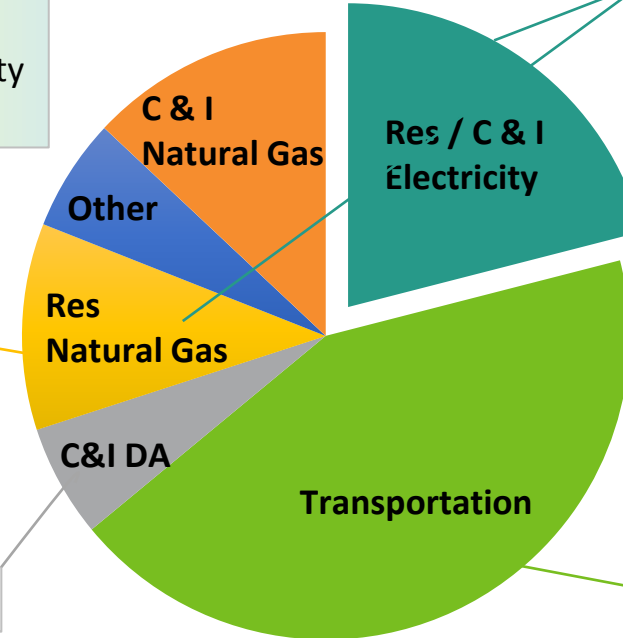
Candidate Programs by Sector

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



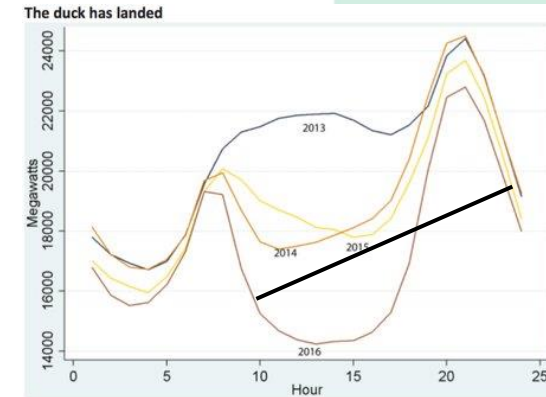
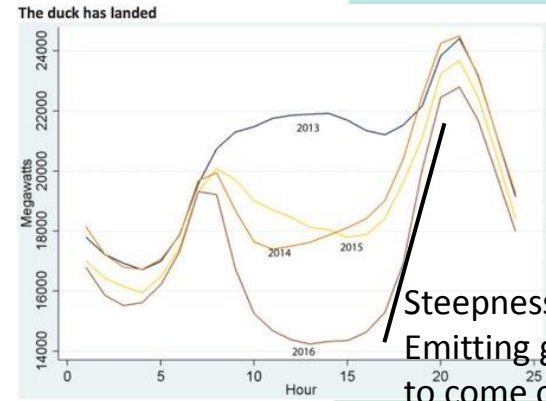
Commercial Demand Management

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

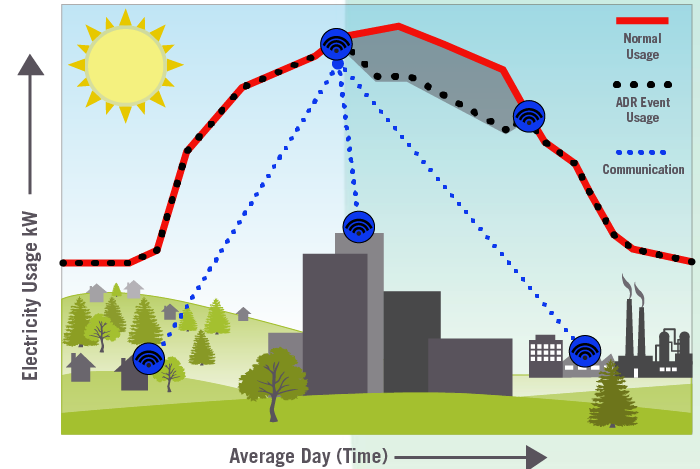


Commercial Demand Management

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 CO₂ 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.