Peninsula Clean Energy Executive Committee Meeting

September 14, 2020

PENINSULA CLEAN ENERGY

Agenda

- Call to order / Roll Call
- Public Comment
- Action to set the agenda and approve consent items

Regular Agenda

1. Chair Report (Discussion)

Regular Agenda

2. CEO Report (Discussion)

Regular Agenda

3. Review Draft Board Retreat Agenda (Discussion)

Draft Board Retreat Agenda 9-26-20

8:30 – 8:45	Call to Order / Roll Call
	Public Comment
	Action to Set Agenda and Approve Consent Agenda Items
8:45 – 8:50	Citizens Advisory Committee Report
8:50 – 9:30	Strategic Plan Update
	- Review and Discussion of Strategic Plan Dashboard
9:30 – 10:10	High Level Review & Discussion of Market Research Results
10:10 – 10:20	Break
10:20 – 11:00	Financial Status/Scenarios/Risks
11:00 – 11:45	Review of Approved Energy Programs Budgets/Allocations
11:45 – 12:00	Conclusions and Wrap-Up

Regular Agenda

4. Discuss Curbside Charging Program (Discussion)

Curbside Charging Pilot Update

Executive Committee

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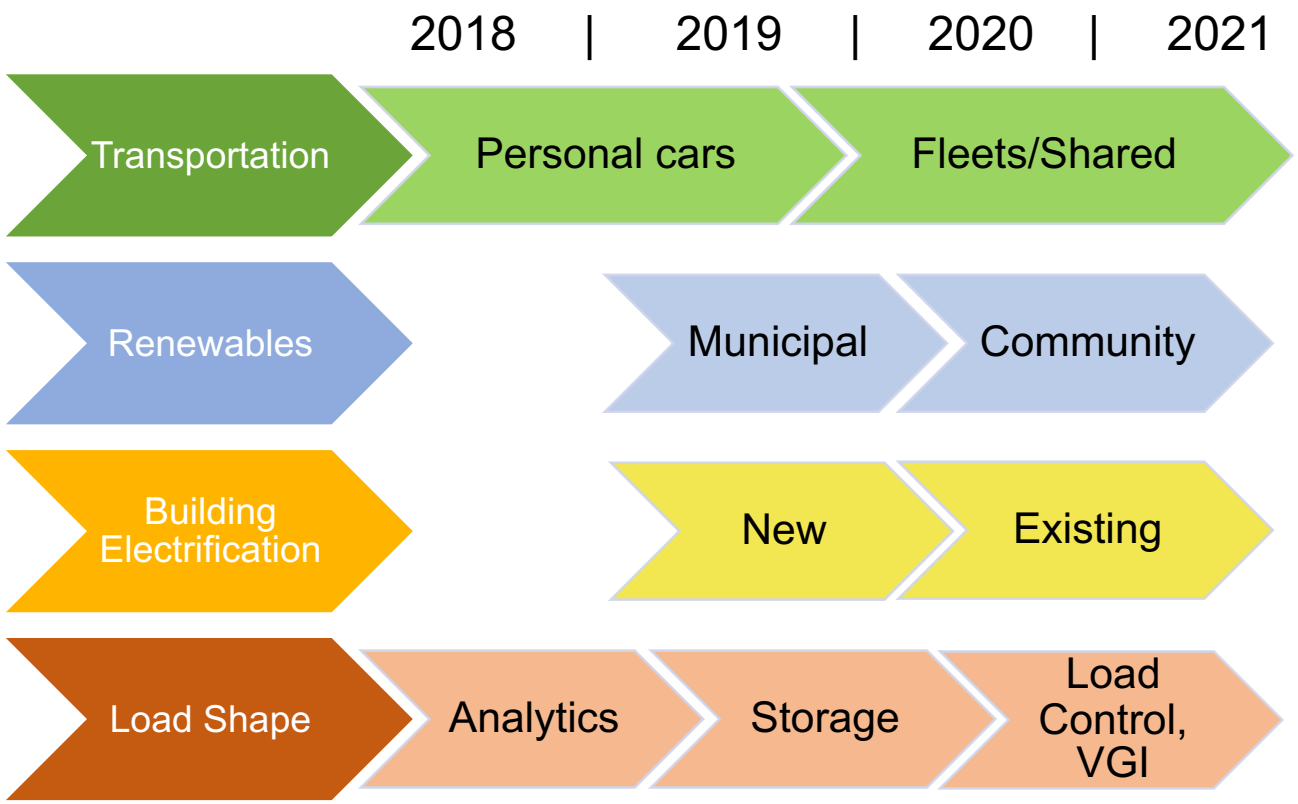
PENINSULA CLEAN ENERGY

High-Level Roadmap: Transportation



TRANSPORTATION ELECTRIFICATION

Current
- EV Ride & Drive Campaign
- New EV Incentive Program
- Low Income Used EV Program
- EV Ready (EV Charging Infrastructure Program)

Pilots
- Smart Charging
- Low Power Charging

Forthcoming
- Ride-Hailing Electrification
- Curbside Charging Pilot
- Local Gov Fleets
- E-bikes

Curbside Charging

Streetlight or ground-mounted EV chargers in public right of way, connected to streetlight electrical circuit.

LED streetlight retrofits provide surplus power availability.

Improved charging access to:

- MUD residents
- Renters
- Drivers who lack off-street parking

Curbside charger in Los Angeles

Process To-Date

1. Originally authorized June 2018 for $1M as part of DOE grant opportunity
   - Grant was not approved
2. Split into two projects:
   - Low Power Pilot (ongoing)
   - Curbside Pilot
3. Monitoring other curbside pilots
   1. Berkeley and Palo Alto: residential curbside
   2. LA Dept. Water and Power: 130 installed
   3. EBCE: Exploring the concept

Key Issues to Evaluate

1. Potential scale
2. Options and Costs
3. Asset ownership
4. Submetering
5. Regulatory (ADA, etc.)
6. Competing uses for curbside
7. Local approvals (RoW, city, etc.)
8. Community concerns

Curbside charger in downtown Los Angeles, blocking a newly constructed bicycle lane

Phases

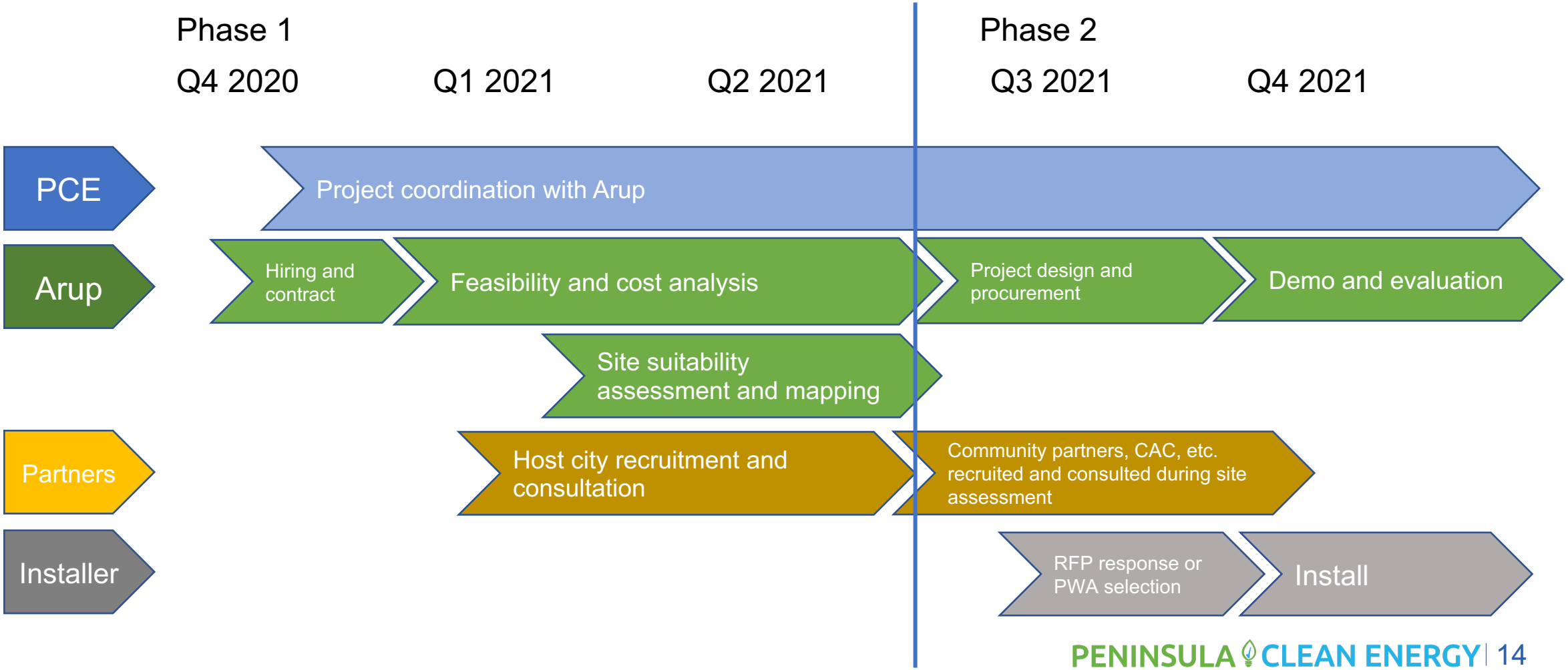
Phase 1: $98,000

- **Objective**: Feasibility analyses for 2-3 cities that includes projected costs, identified barriers, scaling analysis, and opportunities for implementation.
- **Consultant**: ARUP. Providing technical & cost assessment, issues analysis, scaling potential, and facilitation.

Phase 2: $500,000

- **Objective**: 2+ curbside charging demonstrations at 1-2 partner agencies.
  - 2 of these demonstrations would be for on-road electric vehicles (with at least 1 focusing on underserved communities)
  - Optional: 1 would be an innovation demonstration of new e-mobility or other electrification uses.
  - Project report that summarizes findings and analyzes ongoing operating costs and station utilization with recommendations for future opportunities.

Timeline


Phase 1
Phase 2
Q4 2020
Q1 2021
Q2 2021
Q3 2021
Q4 2021
PCE
Project coordination with Arup
Arup
Hiring and contract
Feasibility and cost analysis
Project design and procurement
Demo and evaluation
Site suitability assessment and mapping
Partners
Host city recruitment and consultation
Community partners, CAC, etc. recruited and consulted during site assessment
Installer
RFP response or PWA selection
Install

Agency Opportunity

PCE currently seeking:

1. 2 – 3 interested cities to participate in feasibility analysis & pilot
2. Commit Public Works or other appropriate staff familiar with:
   - Streetlight infrastructure
   - Curb quality
   - Curb and other right of way policies

Estimated staff commitment per agency: 1 meeting/month over 6 months

Regular Agenda

5. Discuss Constraints for Organization and Event Sponsorships (Discussion)

PENINSULA CLEAN ENERGY

Regular Agenda

6. Review Existing Building Electrification Incentives (Discussion)

PENINSULA CLEAN ENERGY

Existing Buildings Appliance Incentives

Executive Committee

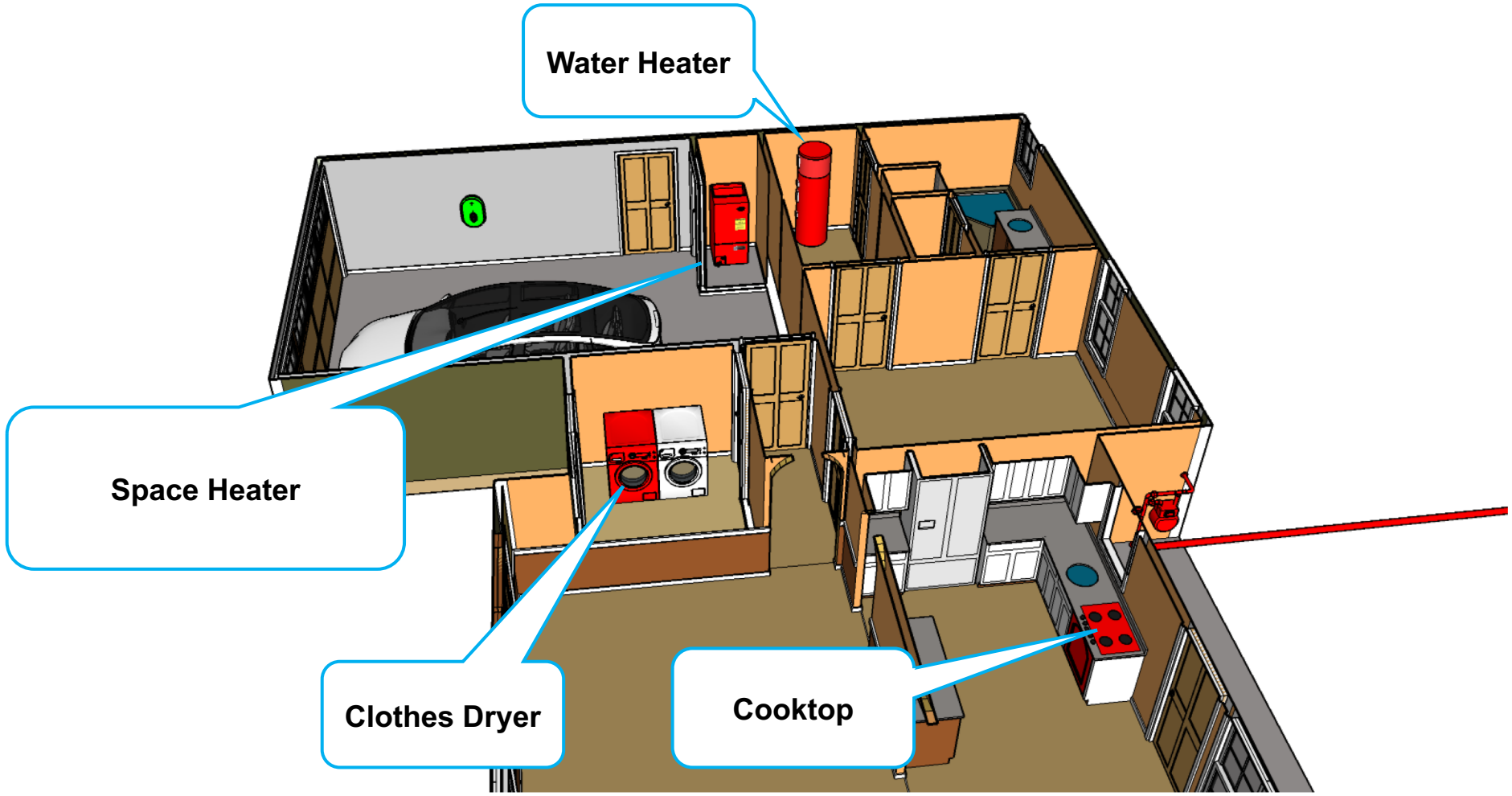
September 14, 2020

PENINSULA CLEAN ENERGY

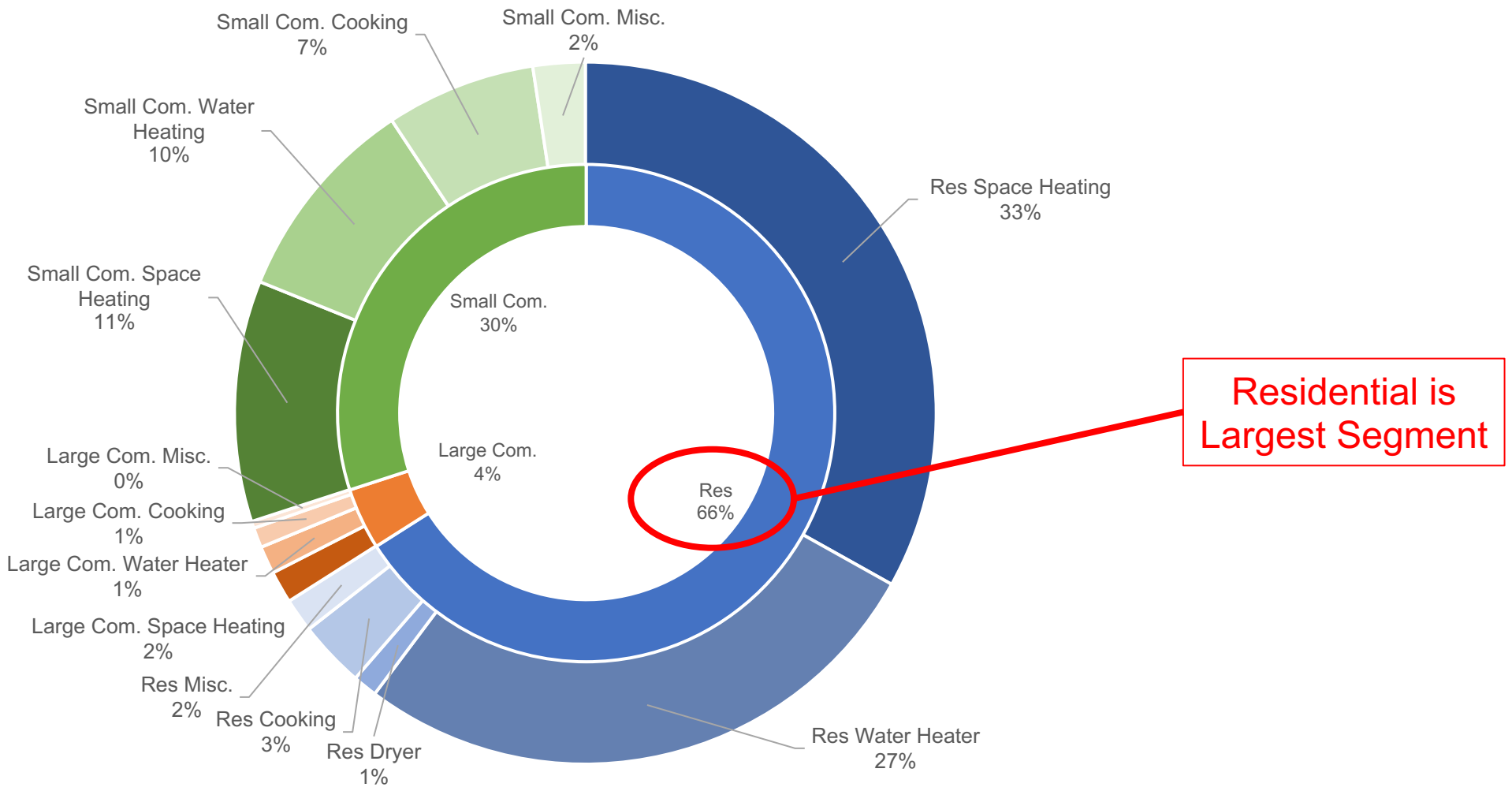
Agenda

1. Emissions breakdown
2. Building electrification plans recap
3. Retrofit costs for space & water heating

Residential natural gas appliances

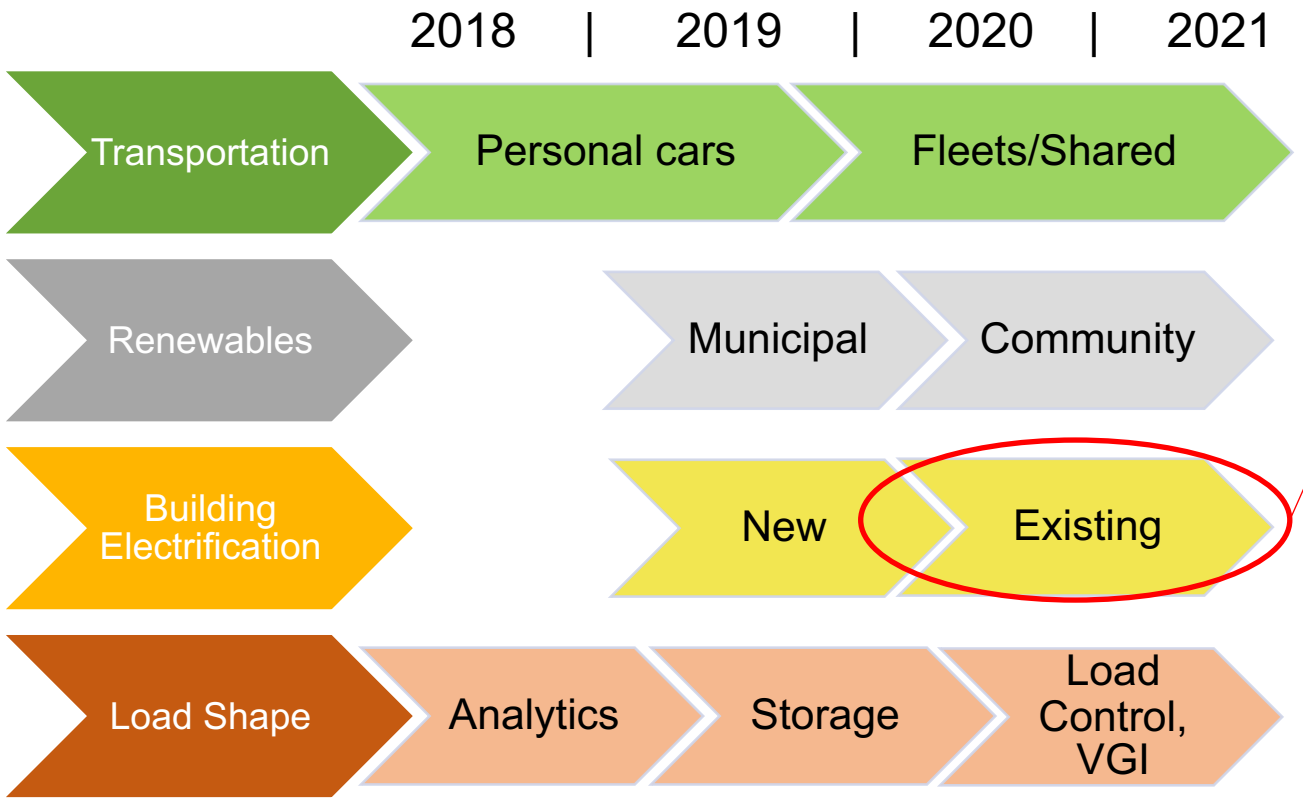


Natural Gas Emissions Breakdown in SMC



Sources: 2018 PG&E Gas data
2010 California Residential Appliance Saturation Survey,
2006 California Commercial End-Use Survey

High-Level Roadmap: Buildings



NEW BUILDINGS
- Reach codes
- Technical assistance for building industry members

EXISTING CONSTRUCTION
- Heat Pump Water Heater Incentives (forthcoming)
- Low Income Home Upgrade Program (forthcoming)
- Harvest Thermal Pilot (forthcoming)

OTHER
- Awareness & education campaign (forthcoming)

Water Heating Retrofit Costs

Vintage	Heat pump	Gas
1990s	$4,662 - $4,952	$2,598
Pre 1978	$4,662 - $4,662	$2,598

- Typical appliance life: 8-12 years
- Current available incentive: $1,000 through BayREN Home+
- Prospective incentive: ~$2,000 ($1,000 from PCE, $1,000 from Home+)
  - Additional PCE incentive: $1,500 for panel upgrade

Source: E3 2019 Study "Residential Building Electrification in California"

Space Heating Retrofit Costs

Vintage	Heat pump*	Gas*** Without AC install	Gas With AC install
1990s	$16,772 - $17,985	$15,000	$18,468
Pre 1978	$20,056 - $23,376**	$22,000	$25,331

- Typical appliance life: 15-20 years
- Current available incentive: $1,000 through BayREN Home+

* Assumes no existing AC in the home
** Assumes panel upgrade required (~$2.5k)
*** Estimated AC cost (~$3.5k)

Source: E3 2019 Study "Residential Building Electrification in California"

Backup slides

Water & Space Costs

Total Costs					
HP HVAC	NC	$9,683	$12,041	$10,587	
	1990s	$16,772	$17,985	$17,273	Assumes NO existing AC (save ~$1.5k) and no panel upgrade
	Pre 1978	$20,056	$23,376	$21,355	Assumes NO existing AC (save ~$1.5k) and includes panel upgrade estimated at $800
HP WH	NC	$4,358	$5,065	$4,712	
	1990s	$4,662	$4,952	$4,807	
	Pre 1978	$4,662	$4,662	$4,662	

Total Costs			
Gas HVAC	NC	$5,962	
	1990s	$18,468	Assumes NO existing AC and that AC is added ($3.5k of the cost is AC alone)
	Pre 1978	$25,331	
Gas WH	NC	$5,702	
	1990s	$2,598	
	Pre 1978	$2,598	

4 YR Budget Breakdown

	FY 2021	FY 2022	FY 2023	FY 2024	4 yr Total	% of Total budget
Incentives	$ 500	$ 450	$ 750	$ 1,100	$ 2,800	46%
Low Income	$ 450	$ 400	$ 550	$ 600	$ 2,000	33%
Load Shaping	$ 50	$ 50	$ 100	$ 250	$ 450	7%
Innovation Pilots	$ 250	$ 50	$ 50	$ 100	$ 450	7%
Admin & Other	$ 150	$ 50	$ 50	$ 150	$ 400	7%
Total Budget	**$ 1,400**	**$ 1,000**	**$ 1,500**	**$ 2,200**	**$ 6,100**	**100%**

*1000s of $s

Existing Buildings Electrification Plan Summary

In May 2020, the Board approved a four-year $6.1 million Existing Building Electrification plan. Initial programs outlined were:

1. **Heat Pump Water Heater (HPWH) Program**
   - Gas to HPWH replacement incentives. Combine with BayREN incentives.
2. **Low Income Home Upgrade Program**
   - Turnkey no-cost home upgrades, energy efficiency, and electrification for low-income residents.
3. **Harvest Thermal Technology Pilot**
   - Pilot combined space and water heating system with load shifting thermal storage and potentially lower cost than separate retrofits.

Regular Agenda

7. Committee Members' Reports (Discussion)

Regular Agenda

Adjourn