



ENVIRONMENTAL COMMISSION MEETING

MONDAY, JULY 8, 2019 – 7:00 P.M.

Community Meeting Chambers, Los Altos City Hall
1 North San Antonio Road, Los Altos, California

ESTABLISH QUORUM

PLEDGE OF ALLEGIANCE

PUBLIC COMMENTS ON ITEMS NOT ON THE AGENDA

Members of the audience may bring to the Commission's attention any item that is not on the agenda. Please complete a "Request to Speak" form and submit it to the Staff Liaison. Speakers are generally given two or three minutes, at the discretion of the Chair. Please be advised that, by law, the Commission is unable to discuss or take action on issues presented during the Public Comment Period. According to State Law (also known as "the Brown Act") items must first be noticed on the agenda before any discussion or action.

ITEMS FOR CONSIDERATION/ACTION

1. **Environmental Commission Minutes**
Approve minutes of the regular meeting of June 10, 2019
2. **Silicon Valley Clean Energy Authority**
2019 Building Electrification and Electric Vehicle Infrastructure Reach Code Initiative
3. **Los Altos Community Foundation Environmental Education Fund**
Select EnviroThon Challenge winners and allocate funding appropriately
4. **Environmental Commission Work Plan**
Commissioner updates on work plan items

INFORMATIONAL ITEMS

5. **City Staff Updates**
Receive information and announcements from City staff

COMMISSIONERS' REPORTS AND COMMENTS

POTENTIAL FUTURE AGENDA ITEMS

ADJOURNMENT

SPECIAL NOTICES TO PUBLIC

In compliance with the Americans with Disabilities Act, the City of Los Altos will make reasonable arrangements to ensure accessibility to this meeting. If you need special assistance to participate in this meeting, please contact the City Clerk at least 48 hours prior to the meeting at (650) 947-2720.

Agendas, Staff Reports and some associated documents for the Environmental Commission items may be viewed on the Internet at <http://losaltosca.gov/committees-commissions/environmental/meetings.html>.

If you wish to provide written materials, please provide the Commission Staff Liaison with **10 copies** of any document that you would like to submit to the Commissioners in order for it to become part of the public record.

For other questions regarding the meeting proceedings, please contact the City Clerk at (650) 947-2720.

**MINUTES OF THE MEETING OF THE ENVIRONMENTAL COMMISSION OF
THE CITY OF LOS ALTOS, HELD ON JUNE 10, 2019, AT 7:00 P.M. AT HILLVIEW
COMMUNITY CENTER, HILLVIEW ROOM 02, 97 HILLVIEW AVENUE, LOS
ALTOS, CALIFORNIA**

ESTABLISH QUORUM

PRESENT: Chair Weiden, Commissioners Klein, Bray, Halkola, Teksler, and Martin (left at 8:17 P.M.)

ABSENT: Vice Chair Yuan

STAFF: Staff Liaison Niday

PUBLIC COMMENTS ON ITEMS NOT ON THE AGENDA

Peter and Isabelle Cnudde (volunteers with Green Town Los Altos) expressed their support of two campaigns called Eating Green and Green Monday – both promoting plant-based foods with the goal of reducing greenhouse gas emissions.

ITEMS FOR CONSIDERATION/ACTION

1. Environmental Commission Minutes

Action: Upon a motion by Commissioner Teksler, seconded by Commissioner Martin, the Environmental Commission unanimously (6-0) approved the minutes of the regular meetings of March 11, 2019 and May 13, 2019.

2. Environmental Commission Work Plan

- a. Reviewed and discussed goals for the 2019/20 Work Plan
- b. Received update from Chair Weiden on the single-use plastics subcommittee efforts
- c. Received update from Chair Weiden on anti-idling subcommittee efforts and reviewed the results of the educational campaign at the schools

Action: None

3. Los Altos Community Foundation Environmental Education Fund (Item taken out of order)

Received an update from Commissioner Klein on the EnviroThon Workshop which is an environmental education program developed with the History Museum for the Apricot STEM Fair that was held in late June

Action: None

Public Comment: Jane M. Packard expressed her support, on behalf of Elisabeth Ward and the Los Altos History Museum, for the EnviroThon Workshop at the Apricot STEM Fair

INFORMATIONAL ITEMS

4. Silicon Valley Clean Energy Authority
Received Member Agency Working Group meeting updates
5. City Staff Updates
Received information and announcements from City staff

COMMISSION REPORTS AND COMMENTS

None

POTENTIAL FUTURE AGENDA ITEMS

2019 Building Electrification and Electric Vehicle Infrastructure Reach Code Initiative

ADJOURNMENT

Chair Weiden adjourned the meeting at 8:34 P.M.



DATE: July 8, 2019

AGENDA ITEM #2

TO: Environmental Commission

FROM: Callie Niday, Staff Liaison

SUBJECT: Silicon Valley Clean Energy Authority (SVCEA) 2019 Building Electrification and Electric Vehicle Infrastructure Reach Code Initiative

RECOMMENDATION:

Review and discuss Reach Code options and make a recommendation to City Council

BACKGROUND

Silicon Valley Clean Energy (SVCE), along with Peninsula Clean Energy (PCE), the San Mateo County Office of Sustainability (OOS), are supporting their municipalities to adopt building codes that will result in safer and more comfortable buildings, increase their electric vehicle charging infrastructure, and reduce their carbon footprint.

In support of municipalities and counties in SVCE and PCE service territory, SVCE and PCE are providing extensive technical assistance plus a \$10,000 incentive to each city that brings reach codes to their councils.

What Are Reach Codes?

Every three years, cities and counties across the state adopt the new Building Standards Code (Standards) or Title 24 of the California Code of Regulations. Cities and counties may adopt building codes more advanced than those required by the state, which are known as reach codes.

Reach codes aim to update local building codes concurrently with the state-required adoption of the 2019 Standards. The previous adoption cycle with new Standards took effect January 1, 2017. The next code adoption cycle, with new Standards, must be adopted by cities and the County by the end of calendar year 2019. Reach codes may include:

Prescriptive Codes: Require one or more specific energy efficiency measures.

Performance Codes: Require a building to perform more efficiently based on accepted computer modeling and allow trade-offs between energy efficiency measures.

Why Establish Reach Codes?

The benefits of greenhouse gas (GHG) free electricity can best be realized by electrification of new and existing buildings and transportation vehicles. Electrifying buildings and vehicles transition them away from the use of natural gas and gasoline to clean energy provided by SVCE. By developing electrification reach codes, cities can save energy and reduce GHG emissions in Santa Clara and San

Mateo County. All-electric buildings are safer and healthier to live in along with being cost effective, especially when adopted at the new construction stage.

It is most efficient for cities to coordinate adoption of reach codes with the adoption of the new 2019 building code, taking effect January 1, 2020.

Staff attends monthly Member Agency Working Group (MAWG) meetings with SVCEA and discusses updates with the reach code initiative.

For more information on Reach Codes with SVCE, please visit:

<https://www.svcleanenergy.org/reach-codes/>

DISCUSSION

SVCEA MAWG Updates (January 2019 – June 2019):

The MAWG did not meet in December 2018. City staff attended the SVCE County-wide Reach Code Working Group Launch on January 15, 2019 to learn more about the Reach Code project described above. Members of the City Manager's Office and Community Development Department attended as well.

At the January 24, 2019 MAWG meeting, the group discussed the potential for SVCEA to form a joint funding mechanism with BAAQMD and other agencies to fund EV infrastructure. SVCEA staff is currently developing an RFP and scope of work to secure a consultant to explore the EVSE market and identify barriers, forecast infrastructure needs, and establish a mechanism to pursue grant funding. SVCEA also updated the group on youth focused programs like the Bike to the Future event, which took place in April 2019 and the creation of a student ambassador program, focused on educating students and schools about ways to reduce GHG emissions.

On March 20, 2019, SVCEA hosted a workshop on the Reach Code project to the appropriate City Staff, the Building/Developer Community and interested stakeholders. The Reach Code project is currently underway, the consultant completed the cost effectiveness study, and the initial draft of the reach codes was released in March.

At the April 25, 2019 MAWG meeting, the group discussed the release of the new PG&E rates for 2019. SVCE gave an announcement that their rates will have a 3% increase effective May 1st; however, they are still 6% below PG&E's rates. Sunnyvale gave a presentation on their Climate Action Playbook. The group received an update from Aimee Bailey, Director of Decarbonization and Grid Innovation, on SVCE Innovation Onramp which went live April 3rd. The Heat Pump Technology Days: Water Heating Meeting was held on May 9th in San Francisco. SVCEA also informed the group that the results of the cost effectiveness study for the Reach Codes project are available. SVCE is looking for input from cities and stakeholders; May 15th is the deadline to provide input before the reach code language is drafted. By the end of May 2019, SVCEA is planning on launching a showcase design grant focused on all-electric projects within the service territory, for which the new, all-electric Los Altos Community Center may be eligible. Also, the group announced that PG&E has delivered gas data for the Climate Action Plan.

At the May 23, 2019 MAWG meeting, SVCE presented the heat pump water heater program, which launched in June 2019. This program is offering funding for 100 residential projects including incentives for new heat pump water heaters and new solar panels. The group received an update on the showcase of all-electric design awards, which also launched in June 2019. The awards are going to be available for all-electric buildings that are already built, rather than future projects. The goal is to showcase the participating projects in SVCE's resource center. SVCE also gave an update on the jurisdictions that have sent in a letter of intent for the reach codes – including Cupertino, Milpitas, Morgan Hill, Mountain View, Campbell, Los Altos, and Sunnyvale. On May 29, 2019, the building model reach code language was shared and on June 6, 2019, the electric vehicle model reach code was discussed.

At the June 27, 2019 MAWG meeting, the group discussed the reach codes initiative with the building officials from various jurisdictions. The building officials from the City of Sunnyvale, City of Milpitas, and the City of Cupertino attended this meeting. As previously discussed, the overall goal of adopting a reach code is to increase the electrification of buildings and decrease buildings overall carbon emissions. Additional benefits of constructing a home that is all-electric is that they are the healthier, cleaner, safer, and more cost-effective option than building a home that has mixed-fuel (electricity and natural gas). Three pathways were presented at the meeting, including: pathway 1 (all-electric), pathway 2 (mixed fuel), and pathway 3 (mixed-fuel with no space and water heating). Pathway 3 would cut the carbon emissions by 80% and would still offer people the option to have their gas stove top. In addition, the group received an update that the all-electric showcase awards are now live; applications will be accepted until July 26, 2019. SVCE will showcase the customers who have successfully constructed an all-electric home and will showcase the design elements to help support the reach code effort. The FutureFit Heat Pump Water Heater program launched on June 28th and about 115 people have already shown their interest. The Heat Pump Cost Effectiveness webinar was given on July 3, 2019.

Attachments:

A. Reach Codes Special Member Agency Working Group Meeting Slides



Member Agency Working Group Special Reach Code Session

June 27, 2019



Today's Objectives

To have SVCE's Santa Clara County jurisdictions share interest and progress on reach codes to facilitate consistency, peer learning, and advancement of cleaner, healthier, safer buildings through the reach code effort.

Agenda

I. Introductions

II. Purpose

III. Review codes

IV. Where are we now

V. How do we go from here to there

VI. MAWG briefing (optional for non-MAWGers)

Summary Timeline

Jan	Kickoff event for city staff
Feb	Statewide cost-effectiveness study draft released
Mar	Held four workshops
April/May	Draft model reach codes released, city-specific stakeholder engagements
May 15	Last input into model code language
May 29	Building model reach code language shared
June 6	EV model reach code language shared
July 15	Final cost effectiveness studies published
Summer	Develop city-specific formats for adoption*
Fall	City councils vote*
Late Fall	Submit Code Packet for CEC approval
January 1, 2020	State 2019 Building Codes go into effect

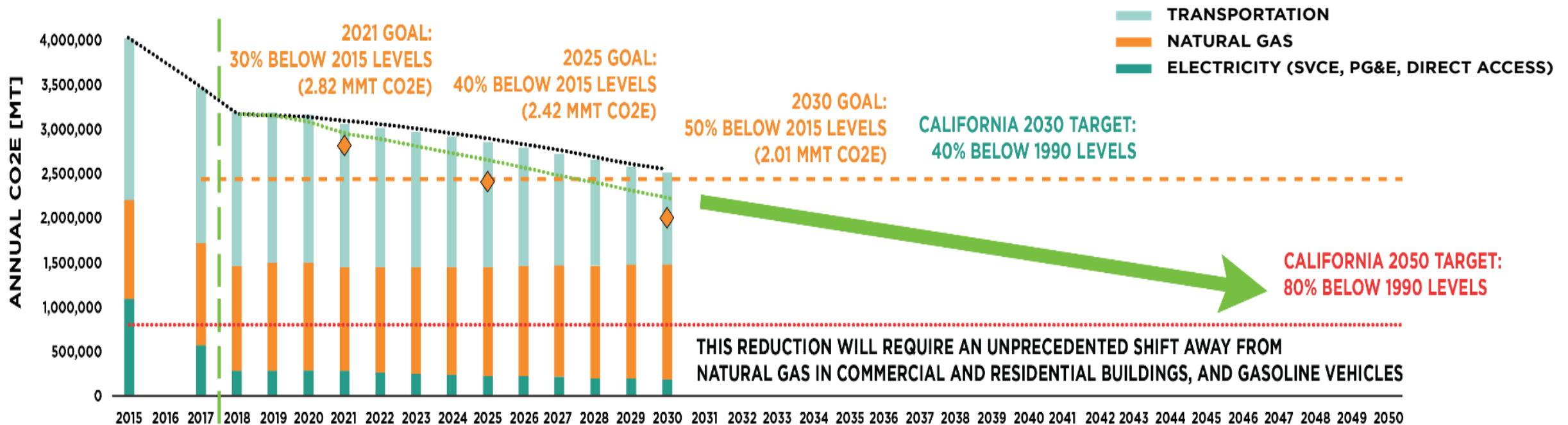
****Timing is not fixed. Cities may adopt Reach Codes at any time.***

Building Energy Code

Title 24 Energy Code Enhancements

Goal - Increase Electrification of Buildings

- **Emissions reductions** and decarbonization
 - CA Executive Order B-55-18 for Carbon Neutrality by 2045
 - Electricity grid getting cleaner every day



Will More Electric or All-Electric Help?

- **Cost Savings**
 - Lower first costs by not constructing natural gas infrastructure
 - Operational costs (dependent on many factors)
- **Lower risk pathway** according to California Energy Commission
- **Healthier air quality** from eliminating indoor combustion according to California Air Resources Board
- **Massive carbon reduction** compared to current dual fuel (natural gas + electricity) buildings

Already included in 2019 Title 24 Code

	Residential	Nonresidential
Performance Compliance Margin	Energy Design Rating (EDR)	Percentage
Solar Photovoltaics (PV) Installation	Sized to offset annual kWh consumption of mixed-fuel	<i>n/a</i>
Electric-ready	120V/20A for future electric water heater installation	<i>n/a</i>

These model codes ...

- Represent maximum found **cost-effective**
- Balance regional **consistency** and ability for **customization**
 - Strong suggestions are not formatted
- Live in **Energy Code**, but can be integrated with other codes
- Should be reviewed and refined through your normal processes

Mandatory for New Construction, Additions, Alterations

Item	Code Reads	Reach Code Reads
Water Heating	120V/20A circuit	240V/30A circuit* Condensate drain
Clothes Drying	-	240V/40A circuit*
Cooking	-	240V/50A circuit*
Space Conditioning	-	-

Optional add-on to Reach Code
Location/design addressing air source and footprint
240V/30A circuit*

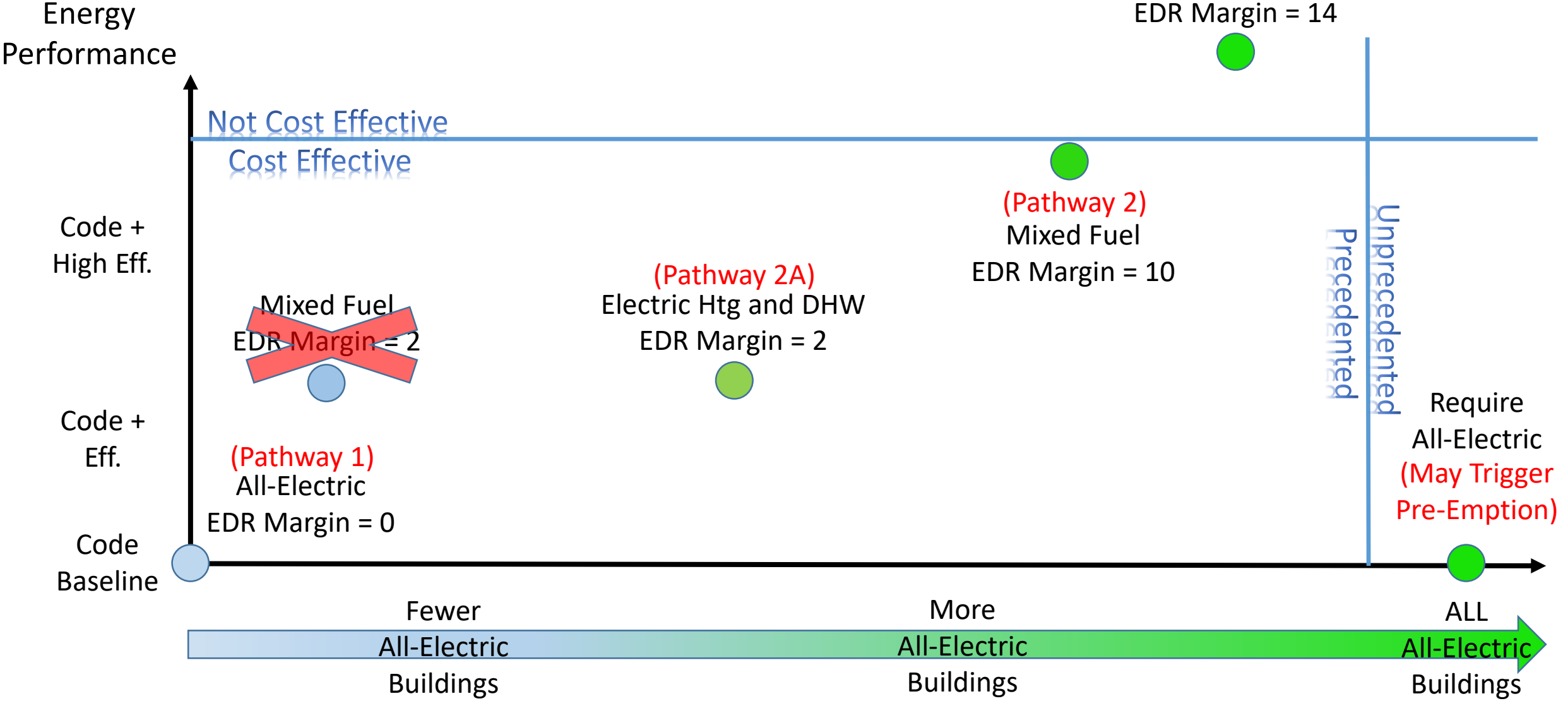
**or adequate capacity*

Reach Code Optional Requirements

Item	Reach Code Option
Solar (PV) installed	Require PV (non-residential only)
Performance documentation	Encourage building simulation and compliance forms by certified energy analysts (must include definition of what meets certified standard)

Options are formatted with green highlights

Code Supporting Electrification Residential



Single and Two-family New Construction

	Performance Path	Prescriptive Path
1 + 2 OR	1. All Electric. Demonstrate that the proposed home will be all electric, OR 2. Mixed Fuel Building. Proposed Design Building shall be at least <u>10 EDR points less</u> than the Total Energy Design Rating calculated for the Standard Design Building, OR	Build All Electric. Meet 2019 Title 24 Part 6. Mixed Fuel Building <ul style="list-style-type: none"> a. Low leakage ducts b. R-10 perimeter slab insulation c. Compact hot water distribution d. Fan efficacy of 0.35 Watts/cfm e. Either 1) 5 kWh battery OR 2) A solar water heating system.
	2A. Electrically Heated Building (electric space and water heating, gas cooking and/or clothes drying). Proposed Design Building shall be at least <u>2 EDR points less</u> than the Energy Efficiency Design Rating calculated for the Standard Design Building, OR	Electrically Heating Building <ul style="list-style-type: none"> a. Low leakage ducts. b. R-10 perimeter slab insulation. c. Compact hot water distribution. d. Fan efficacy of 0.35 Watts/cfm.

1 + 2
OR

1 + 2 + 2A

"Menu options" are formatted with green highlights

Multifamily New Construction (≤ 3 stories)

	Performance Path	Prescriptive Path
1 + 2 OR	1. All Electric. Demonstrate that the proposed home will be all electric, OR 2. Mixed Fuel Building. Proposed Design Building shall be at least <u>10 EDR points less</u> than the Total Energy Design Rating calculated for the Standard Design Building, OR	Build All-Electric and Meet 2019 Title 24 Part 6. Mixed Fuel Building <ul style="list-style-type: none"> a. low leakage ducts in conditioned space b. 0.25 ASR cool roof c. R-10 slab insulation d. compact Hot Water distribution e. 0.35 W/cfm HVAC fan d. Either 1) 2.75 kWh battery/dwelling OR 2) A solar water heating system.
	2A. Electrically Heated Building (electric space and water heating, gas cooking and/or clothes drying). Proposed Design Building shall be less than the Energy Efficiency Design Rating calculated for the Standard Design Building	Electrically Heated Building Meet 2019 Title 24 Part 6

1 + 2
OR

1 + 2 + 2A

"Menu options" are formatted with green highlights

Nonresidential

	Performance Path	Prescriptive Path
1 + 2 OR	1. All Electric. Demonstrate that the proposed building will be all electric, OR 2. Mixed Fuel Building, All Occupancies. Demonstrate that the energy use of the proposed building is <u>9% more efficient</u> than the 2019 State Energy Code, OR	Build All Electric and meet 2019 Title 24 Part 6. Mixed Fuel Building <ol style="list-style-type: none"> Fenestration with a solar heat gain coefficient ≥ 0.22. Airflows to be equal to the zone ventilation minimums. Economizers in air handlers $\geq 33,000$ Btu/h Reduced the lighting power density (Watts/ft²) by ten percent (10%) In common areas, improve lighting: 1) Daylight dimming plus off AND 2) Institutional Tuning Install drain water heat recovery.
	2A. Mixed Fuel Building, Office and Mercantile. Demonstrate that the energy use of the proposed building is <u>15% more efficient</u> than the 2019 State Energy Code	Mixed Fuel Building <ol style="list-style-type: none"> Fenestration with a solar heat gain coefficient ≥ 0.22. E/W fenestration area is $< \frac{1}{2}$ of the N/S fenestration. Airflows to be equal to the zone ventilation minimums. Economizers in air handlers $\geq 33,000$ Btu/h Reduced the lighting Watts/ft² by 10% Improve lighting: 1) Daylight dimming plus off AND 2) Institutional Tuning AND 3) Occupant sensing in open plan offices

1 + 2
OR

1 + 2 + 2A

Frequently Asked Questions

- **Additions/Alterations/ADUs?** – Electric-ready req's only
- **High Rise Multifamily?** – Carve-out added to code with results ~Aug/Sep
- **Mixed Use?** – Average of compliance margins required in other spaces, weighted by floor area
- **Core and Shell Nonresidential?** – Exception for core-and-shell which allows plumbing to be installed with no increased performance required. When gas meter is installed (i.e., the tenant would like gas) reach code is required. *(currently under development)*

Where Are We Now?

- For each building type, select **1 & 2**, **1 & 2 & 2A**, or **Other (specify)**
 - Single and Two-Family
 - Multifamily (≤ 3 stories)
 - Nonresidential
- Report out on current thinking. This is not a commitment.

Discussion

- What works?
- What is still unresolved?
- How closely aligned are we? How important is that?



Electric Vehicle Code

CALGreen Enhancements



EV Terms, Charge Rates

Level 1 "Trickle Charging"

Standard household outlet 15-20 Amp, 120v AC
Driving distance provided: 3-4 miles/hour



Level 2 "Standard Charging"

Equivalent to a dryer outlet. 40+ Amp, 208/240v AC
Driving distance provided (standard charging): 25-30 miles/hour



Level 3 "DC Fast Charging / SuperCharging"

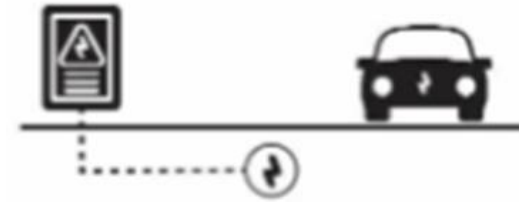
24-350kW
Driving distance provided 72-1,200 miles/hour



EV Terms, Readiness of Charging Station

EV Capable - Some Assembly Required

Panel **capacity**, raceway (**conduit**) only at critical areas (underground, pinch points, etc.) Definition is less stringent than CALGreen 2019



EV Ready - Plug & Play

Panel **capacity**, raceway (**conduit**), overcurrent protection device (**breaker**), **wire**, **receptacle** & signage.
Can refer to Level 1 or Level 2





EV Charging Station (EVCS) - Level 2 Charge!

Charging station fully installed. All the equipment needed to deliver electrical energy from an electricity source to the EV at Level 2



Single and Two-family New Construction

	2016 CALGreen	2019 CALGreen	PCE/SVCE Proposed
	Mandatory	Mandatory	
Single Family Two-Family Townhome	<p>(1) Level 2 EV Capable for one parking space per dwelling unit</p>  <p>"EV Capable" is more extensive than that proposed by PCE/SVCE</p>	<p>2 EV spaces total:</p> <ul style="list-style-type: none"> • 1 Level 2 EV Ready circuit • 1 Level 1 EV Ready circuit  <div data-bbox="2181 739 2435 922" style="border: 1px solid gray; padding: 5px; text-align: center;">ELECTRIC VEHICLE OUTLET</div>	

Multifamily New Construction




	2016 CALGreen	2019 CALGreen	PCE/SVCE Proposed
	Mandatory	Mandatory	
Multi-Family	<p>3%</p> <p>3% Level 2 EV Capable for buildings with ≥ 17 units</p>	<p>10%</p> <p>10% Level 2 EV Capable</p>	<p>100%</p> <p>≤ 20 dwelling units</p> <p>25% 75%</p> <p>> 20 dwelling units</p> <p>≤ 20 units: One Level 2 EV Ready per dwelling > 20 units: Of all dwelling units, <ul style="list-style-type: none"> • 25% Level 2 EV Ready (10% in affordable housing) • 75% are Level 1 EV Ready (90% in affordable housing) </p>

Non-Residential, Office & Commercial



	2016 CALGreen	2019 CALGreen	PCE/SVCE Proposed	
	Mandatory	Mandatory		
Non-Residential		<p>6%</p>		
		<p>~6% Level 2 EV Capable (for buildings with at least 10 parking spaces)</p>	<p>10% 10% 30%</p> <p>Office building:</p> <ul style="list-style-type: none"> • 10% Level 2 EVSE • 10% Level 1 EV Ready • 30% EV Capable or EV Ready 	<p>6% 5%</p> <p>Commercial: Of all parking spaces,</p> <ul style="list-style-type: none"> • 6% Level 2 EVSE • 5% Level 1 EV Ready • Over 100 spaces: option for 80kW DC Fast Charger per 100 spaces

Where Are We Now?

- For each building type, identify  **OK as is**, or
Increase **Quantity**, **Readiness**, or **Charge Rate**
 - Single and Two-Family
 - Multifamily (≤ 3 stories)
 - Nonresidential
- Report out on current thinking. This is not a commitment.

Discussion

- What works?
- What is still unresolved?
- How closely aligned are we? How important is that?

Tools and Resources



Adoption Tools & Resources

TO: <Name of Environmental Sustainability Subcommittee>
FROM: <Name, Title>
PREPARED BY: <Name, Title>
MEETING DATE: <Date>

SUBJECT
Reach Codes – Proposed Electrification Reach Codes for 2019 Energy Code

RECOMMENDATION
Staff recommends the City Council adopt electrification reach codes as written, to be established on January 1, 2020, to help reduce carbon emissions associated with new construction and increase ease of adoption of electric vehicles for its constituents.

BACKGROUND
The City of <Name of City> demonstrated leadership in sustainability when <proof that this City has demonstrated leadership in sustainability> effectiveness study, details findings, and p for the 2019 building code.
City of X Adopts California Energy Code, 2019 Edition, Title 24, Part 6 of the California Code of Regulations in <3>, full form with the following local amendments:

Reach Code Adoption Process
Every three years, the State of California as the California Code of Regulations, refers update is referred to as a "code cycle." The live on January 1, 2017. The next code cycle 2020. Cities and counties can adopt reach code requirements. However, these reach Energy Commission (CEC) requires that all local amendments to the Energy Code (Title CEC, using a cost-effectiveness study, that do not represent an unreasonable burden's effectiveness study is not required for ame

Statewide Cost-Effectiveness Study for
Funded by the California Investor-owned Program (Statewide Program) set the deve codes that examined different performance types. There are two kinds of reach code as ordinance. Performance-based ordinance but leave flexibility for the builder on how to mandate implementation of a specific meas Program's analysis focused on performance measures can be made from the results.

Building Prototypes
The Statewide Program's analysis estimate one-story and two-story single-family home a one-story retail building, and a four-story are directly applicable to <city name> deve homes permitted since new single-family h. Additionally, many approved development; permitted.

Electric Vehicle Charging Infrastructure
Electric Vehicle (EV) charging requirements:
• Level 2 EV charging infrastructure
• 200kW, 40-amp capacity include

ARTICLE 1 – ENERGY BUILDING REGULATIONS
SECTION 10.101 – DEFINITIONS
In this article the following definitions apply:
ALL-ELECTRIC BUILDING or ALL-ELECTRIC DESIGN is a building or building design that uses a permanent supply of electricity as the only source of energy for space heating, water heating (including pools and spas), cooking appliances, and clothes drying appliances, and has no natural gas or propane plumbing installed at the building.
CERTIFIED ENERGY ANALYST is a person registered as a Certified Energy Analyst with the California Association of Building Energy Consultants as of the date of submission of a Certificate of Compliance as required under Section 10.101.
ELECTRICALLY HEATED BUILDING or ELECTRICALLY HEATED DESIGN is a building or building design that uses a permanent supply of electricity as the only source of energy for space heating and water heating (including pools and spas), and uses natural gas or propane as fuel for cooking appliances or clothes drying appliances or is plumbed for such equipment.
MIXED-FUEL BUILDING or MIXED-FUEL DESIGN is a building or building design that uses natural gas or propane as fuel for space heating, water heating (including pools and spas), cooking appliances or clothes drying appliances or is plumbed for such equipment.

NONRESIDENTIAL
SUBCHAPTER 5 NONRESIDENTIAL, HIGH-RISE RESIDENTIAL, AND HOTEL/MOTEL OCCUPANCIES – PERFORMANCE AND PRESCRIPTIVE COMPLIANCE APPROACHES FOR ACHIEVING ENERGY EFFICIENCY

SECTION 140.0 – PERFORMANCE AND PRE
Nonresidential, high-rise residential and hotel
(a) The requirements of Sections 100.0 through measures for all buildings).
(b) The requirements of Sections 120.0 through residential and hotel/motel buildings) and:
1. Retrofit-Ready Mixed Fuel Building
cooking, and/or clothes drying, shall:
A. Water Heating

Carbon Emissions, 2,100 sqft Home
MT CO2e/yr

Category	Carbon Emissions (MT CO2e/yr)
Mixed-Fuel Emissions	1.9
All-Electric Emissions (2017)	0.2
All-Electric Emissions (2030)	0

Presentation to Council

- Staff Report Template
- Reach Code Ordinance Language
- Presentation Template

Information for Council

- Carbon Emissions Savings
- Housing Impacts
- FAQs
- Cost Effectiveness Presentation

Implementation Tools & Resources

Compliance with Building Electrification Reach Code – Single Family

Instructions: Fill out form and attach form directly on drawing set for permit review. This form is only required for New Construction projects.

Is the building applying for a permit all-electric, or is it mixed-fuel (using gas or propane for some end uses)?

All-Electric Mixed-Fuel

If All-Electric:

- Does the building's energy model meet California Energy Code (CEC) Compliance?

If Mixed-Fuel

- Does the building meet each of the following requirements? *Call-out specifically on electrical and mechanical plans*
 - Is a dedicated 240V, 30A electrical receptacle located within 3 feet of each water heater?
 - Is a dedicated 240V, 30A electrical receptacle located within 3 feet of each clothes dryer?
 - Is a dedicated 240V, 50A electrical receptacle located within 3 feet of each cooktop?
 - Is the air conditioning system capable of operating in heat pump mode?
- Does the building's energy model perform 15% better than CEC requires?
- If prescriptive performance path is selected, does the building meet each of the following requirements in addition to requirements? *Call-out specifically on plans*
 - Verified low leakage ducts in conditioned space
 - R-10 perimeter slab insulation
 - Meets requirements for "basic compact hot water distribution"
 - Fan efficacy of 0.35 Watts/CFM verified by HERS rater
 - If building uses gas or propane for space heating or water heating:
 - Includes 5 kWh battery storage system
 - Includes solar water heating with 0.20 solar fraction or greater

Permitting, enforcement, and inspection resources

- Permit Checklist
- Inspection Checklist
- Training for Building Department Staff
- FAQs

Implementation Tools & Resources

2019 Energy Reach Code Amendments Promoting Healthy, Safe Homes & Buildings



What Are Reach Codes?

Reach codes provide an opportunity for local governments to amend the 2019 state building code for new homes and commercial buildings. The amendments or "reach codes" are designed to encourage low-cost all-electric new construction of healthier, safer, and zero emission buildings while making it easier to charge electric vehicles.

Why Reach Codes?

- Incentivize lowest-cost construction options
- Encourage development of healthier, safer, lower emission buildings
- Reflect the sustainability-related values of our community
- Improve indoor air quality and reduce the risk of fires

New all-electric homes and apartments can save thousands!

Single Family Home Reach Code Options

Builders and developers can choose between an all-electric or mixed fuel construction option. The code encourages the all-electric option as it is less expensive, provides a healthier, safer residence while significantly reducing pollution.

Construction Options	All-Electric Construction	Mixed Fuel Construction (Electric & Natural Gas)
Efficiency required above state code (compliance margin)	0%	Additional 17 to 29%
Estimated increase in construction cost	\$0	Extra \$6,800 to \$7,000
Emissions from gas	Zero	4+ metric tons of CO2 per year
Indoor air quality	Best	Worse
Equipment utilized	All electric appliances	Gas connection, gas meter, gas furnace and water heater, CO monitor, electrical wiring to all gas appliances for future switch to electric with additional options for additional PV/solar and storage required



To learn more, visit PeninsulaReachCodes.org

Public and Building Owner Resources

- Case Studies
- Website
- Homeowner Flyer
- FAQs on website
- Trainings for Environmental Advocates
- Community Advocates List
- Cost Effectiveness Presentation Tool
- Carbon Emissions Savings
- Housing Impacts

How do we go from here to there?

Conceptual Next Steps

- **Staff agreement on proposal**
 - What is needed for this?
- **Stakeholder Engagement(s)**
 - What is needed for this?
 - Refine as warranted
- **Including this topic on Council calendar**
 - What Month are you planning to vote on Building Codes?
 - What is needed? Staff Report? Other?

Wrap-up

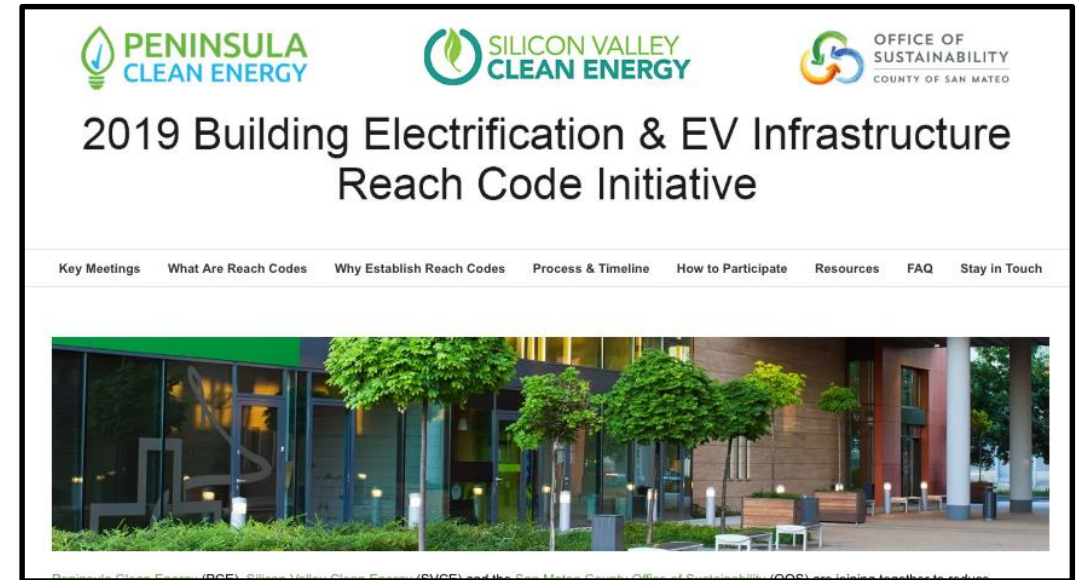
- Summarize findings of “Where are we Now”
- Schedule support for your upcoming internal, stakeholder, or council meetings
- Develop additional tools/resources

“Together, we can make an incredible difference – Economics and the Environment both win in this Reach Code.”

-- Unnamed SVCE staff member

Questions?

Reach Code Websites:
PeninsulaReachCodes.org
SiliconValleyReachCodes.org



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Member Agency Working Group

June 2019

Agenda

- SVCE Updates
- Program Status
 - EVSE
 - All Electric Design Awards
 - Heat Pump Water Heater

EVSE Strategy - Summary

Multi-Unit Garden Apartment Technical Assistance and Incentives

- Provides EV charging technical assistance and incentives
- Focus on garden apartments
- Site visits and electrification plans

Workplace EV Charging Rebates

- Rebates for workplace charging deployment
- Technical assistance through Regional Recognition Program

Solicitation for DC Fast Charging Near Priority Charging Zones

- RFP for DCFC deployment near target population zones (defined by SVCE)
- Incentives for each port deployed

Regional Recognition Program

- Recurring recognition for best practices and information sharing
- Participants take Electrification pledge
- Tie to SVTEC funding

Fleet Electrification Planning Grants

- Competitive Grants for fleet electrification planning and site upgrades
- Focus on visible fleets, school buses, and public agencies

Single Family Customer Resource Center

- Web based home charging resources
- Installer connect feature
- Pre-qualified charger list

All-Electric Showcase Awards

- Program is now live – accepting applications through July 26th
- Up to \$6,000 per project
- Please promote through your channels!
- Goal is to create material for our website highlighting design elements, community member narratives and lots of pictures
- Show our customers successful all-electric construction projects in this area



**Cash Prizes Available to Homeowners,
Developers, Builders and Architects for Non-
Polluting Electric Homes and Buildings**

*Local agency offers awards to exemplary all-electric residences and
developments*

Sunnyvale, Calif. – Silicon Valley Clean Energy (SVCE) launched a new program that offers cash awards to owners, developers, builders, architects and designers of all-electric homes and buildings. The goal of the [All-Electric Showcase Awards Program](#) is to feature building examples that showcase the benefits of all-electric construction in Silicon Valley. Utilizing innovative and



All-Electric Showcase Awards

- Program is now live – accepting applications through July 26th
- Up to \$6,000 per project
- Please promote through your channels!
- Goal is to create material for our website highlighting design elements, community member narratives and lots of pictures
- We want to show our customers that all-electric construction projects have already been successful in this area



**Cash Prizes Available to Homeowners,
Developers, Builders and Architects for Non-
Polluting Electric Homes and Buildings**

*Local agency offers awards to exemplary all-electric residences and
developments*

Sunnyvale, Calif. – Silicon Valley Clean Energy (SVCE) launched a new program that offers cash awards to owners, developers, builders, architects and designers of all-electric homes and buildings. The goal of the [All-Electric Showcase Awards Program](#) is to feature building examples that showcase the benefits of all-electric construction in Silicon Valley. Utilizing innovative and

FutureFit – Heat Pump Water Heaters

Program Rebates		
Incentive Amounts	Up to \$4,500 Up to \$2,000	Heat Pump Water Heater + 200A service panel upgrade Heat Pump Water Heater installation only
Incentive Amounts (CARE/FERA Customers)	Up to \$6,000 Up to \$3,500	Heat Pump Water Heater + 200A service panel upgrade Heat Pump Water Heater installation only



- Program Launches June 28th!
 - Funding for about 100 systems
 - partially funded by an Air District Climate Protection Grant
- **Soft Launch. Limited promotion for now.** We have 32 115+ folks already “Interested” and only a few contractors capable of handling their inquiries.



DATE: July 8, 2019

AGENDA ITEM #3

TO: Environmental Commission

FROM: Callie Niday, Staff Liaison

SUBJECT: Los Altos Community Foundation Environmental Education Fund

RECOMMENDATION:

Select EnviroThon Challenge winners and allocate funds appropriately

BACKGROUND

In November 2003, the Los Altos Community Foundation (LACF) entered into a Donor Advised Fund Agreement with the Los Altos Environmental Commission (formerly the Los Altos Environmental Committee) for the purposes of creating and maintaining an Environmental Education fund, “the Fund”. The Fund is maintained and administered by LACF and was initially created for the purpose of funding the reprinting of the *Trees of Los Altos* booklet. Upon an initial grant of \$1,000 by LACF, the fund received donations from the public to aid in the printing and distribution of the *Trees* booklet. The books were printed and distributed, though LACF reports hundreds of copies remaining in storage. The current balance of the account is \$3,528 and is to be used specifically for “environmental education”.

DISCUSSION

LACF has informed the City that the \$3,528 balance remains available for environmental education efforts. The Environmental Commission has the authority to make recommendations to LACF for disbursement of the funds.

At the January 14, 2019 meeting, the Environmental Commission discussed potential uses for the environmental education fund. The Commission determined that a brainstorming session would help determine potential uses for the funds and directed Commissioners to bring ideas to the February meeting. The Commissioners will share their ideas and begin to narrow the focus of the environmental education fund.

The Environmental Commission continued its discussion of potential uses for the environmental education fund at the February 11, 2019 meeting. Vice Chair Yuan and Commissioner Teksler formed a subcommittee to distill the February 11, 2019 discussion and develop a list of the group’s top ideas from the brainstorming session.

At the March 11, 2019 meeting, the Environmental Commission continued to discuss the potential uses for the environmental education fund. Commissioner Klein expressed interest to work with the History Museum to develop specific activities and programs to use the funding for engagement and community involvement focused on environmental education as both organizations deem fit, and bring back a generalized proposal with review and input from the Commission.

At the May 13, 2019 meeting, Commissioner Klein gave an update that the Commission is going to work with the Los Altos History Museum to host an activism workshop during the Apricot STEM Fair on Sunday, June 30, 2019. The goal is for participants to form a team, design an environmental protection campaign, and pitch their campaign for cash funding. The pitches will be recorded, and the Environmental Commission will select the winners. The details of how the environmental education fund is being allocated is being discussed and will be presented at the June meeting.

At the June 10, 2019 meeting, Commissioner Klein updated the Commission that 12 applications representing 7 schools across 4 cities were received for the Los Altos EnviroThon Challenge at the Apricot STEM Fair. Despite the challenge of getting the attention of teachers and students at the end of the school year and the challenge of holding the event during the summer break, a great number of students signed up for the event. Commissioner Klein informed the group that the pitch presentations will be recorded and published on the web. Once the videos are reviewed by the Commission, the winners will be selected and the amount of funding to award each team will be decided. Awards will be judged on the basis of both the feasibility of the project idea and the persuasiveness of the presentation. The grand prize-winning team will also receive a session of personalized tutoring in advance of reprising their pitch in front of an audience at the Los Altos Night of Ideas event in September.

Attachments:

A. EnviroThon Scoring Criteria

Scoring: (1) Strongly Disagree (2) Disagree (3) Undecided
(4) Agree (5) Strongly Agree

<u>Criteria</u>	<u>Next Generation</u>	<u>Vroom Vroom</u>	<u>Stand Up Fight Back</u>	<u>Field Trippers</u>
<i>The presenter introduced themselves well</i>				
<i>The project goal is stated clearly and succinctly</i>				
<i>I get why the presenter cares so much about the project goal</i>				
<i>I care about the goal</i>				
<i>The goal is measurable</i>				
<i>The goal is challenging</i>				
<i>The presenter articulated why the goal is challenging or yet unmet</i>				
<i>The goal is achievable</i>				
<i>The team has proposed an effective strategy</i>				
<i>I believe the team can execute their strategy</i>				
<i>It is clear how the winnings could be used to execute the strategy</i>				
<i>The goal relates strongly to Los Altos and the surrounding communities</i>				
<i>The goal involves a broad positive impact in the region</i>				
<i>Achieving the goal can serve as a model for others in other regions</i>				
<i>The presenter made it clear that is important to start the project now</i>				
<i>I felt engaged throughout the presentation</i>				



DATE: July 8, 2019

AGENDA ITEM #4

TO: Environmental Commission
FROM: Callie Niday, Staff Liaison
SUBJECT: Environmental Commission Work Plan

RECOMMENDATION:

Review and take action, as appropriate, on the 2019/20 Environmental Commission Work Plan

BACKGROUND

The Environmental Commission met in a Joint Meeting with the City Council on May 7, 2019 to review the Commission's 2018/19 Accomplishments and Draft 2019/20 Target areas and discussed issues and projects for the upcoming year. Based on this discussion, the targets were finalized, and the 2019/20 Work Plan was developed. The Targets and Work Plan are intended to focus the Commission's agenda items and will serve as a roadmap for projects and actions, as appropriate, during the 2019/20 year.

DISCUSSION

Environmental Commission Targets and resulting Work Plan for 2019/20 are:

1. Climate Action Plan
2. Water Conservation and Stormwater Management
3. Solid Waste Diversion
4. Community Outreach and Education

The Commission will review the targets, projects, and status updates at each of its monthly meetings and act appropriately.

Attachments:

- A. 2019/20 Targets and Work Plan

ENVIRONMENTAL COMMISSION

2019/20 Targets & Work Plan

July 8, 2019

Targets	Projects	Assignments	Target Date	City Priority related to	Status
Climate Action Plan	Review and comment on Building and Electric Vehicle Reach Codes	<ul style="list-style-type: none"> Subcommittee -Don Weiden, Laura Tekler and Lei Yuan 	January 2020	CAP Goals	<ul style="list-style-type: none"> SVCE presentation of Building Model Reach Code language on 5/29/2019 SVCE presentation of Electric Vehicle Model Reach Code language on 6/6/2019 SVCE presentation of Reach Codes to Environmental Commission on 7/8/2019
	Update of City's CAP	<ul style="list-style-type: none"> Subcommittee to work with staff and Subconsultant 	Monthly	CAP Goals	<ul style="list-style-type: none"> The Sustainability Coordinator position was approved by the City Council for the Fiscal Year 2019-20 / 2020-21 Operating Budget on 6/11/2019 This is on hold until the new Sustainability Coordinator is on board
Water Conservation & Stormwater Management	Green Infrastructure Plan	<ul style="list-style-type: none"> Assist staff in development and review of Plan 	June 2019	Storm Water Regional Discharge Permit	<ul style="list-style-type: none"> Staff made a presentation of their final plan to the Environmental Commission on May 13, 2019 Staff to present to Council in June 2019

Solid Waste Diversion	Provide review comments on Solid Waste Disposal Contract	<ul style="list-style-type: none"> Subcommittee Don Weiden, Laura Teksler and Chad Martin 	January 2020	Solid Waste Disposal	<ul style="list-style-type: none"> Subcommittee met with staff and City Consultant on March 20, 2019 for a study session City held a Community Meeting on May 15, 2019
	Investigate initiatives on limiting single use plastics	<ul style="list-style-type: none"> Subcommittee to work with staff and Subconsultant 	Monthly	Recycling	<ul style="list-style-type: none"> Update on June 10, 2019 Santa Clara County Recycling and Waste Reduction Division is looking for a Los Altos participant to join their Ad Hoc committee to begin developing a model ordinance for their Draft Zero Waste Plan
Community Outreach & Education	Develop program in collaboration with the Los Altos History Museum	<ul style="list-style-type: none"> Environmental Education Fund held by LACF David Klein 	June 2019	Public outreach and education	<ul style="list-style-type: none"> Coordination with History Museum Apricot Stem Fair EnviroThon Challenge held at the Apricot STEM Fair on 6/30/2019
	Update environmental measures on the City web site	<ul style="list-style-type: none"> Chad Martin 	Ongoing	Public outreach and education	
	Continue gas-powered leaf blower ban outreach and education	<ul style="list-style-type: none"> Laura Teksler 	Ongoing	Public outreach and education	
	Continue anti-idling outreach and education	<ul style="list-style-type: none"> Don Weiden 	Ongoing	Public outreach and	<ul style="list-style-type: none"> June 10, 2019 Report on Los Altos HS Survey Results
	Continue to support SVCEA community outreach and education		Ongoing	Public outreach and education	
	Assist staff with various outreach and education efforts	<ul style="list-style-type: none"> Climate Action Plan Water Conservation Storm Water Management Solid Waste Diversion Urban Forest / Trees Downtown Vision 		Public outreach and education	



DATE: July 8, 2019

AGENDA ITEM #5

TO: Environmental Commission

FROM: Callie Niday, Staff Liaison

SUBJECT: City Staff Updates

RECOMMENDATION:

Receive staff report

BACKGROUND

Monthly staff reports and updates will be discussed as listed below.

DISCUSSION

1. Environmental Commission attendance for upcoming Council meetings

Attachment:

- A. 2019 City Council Meeting Attendance Assignments



1 North San Antonio Road
Los Altos, California 94022-3087

M E M O R A N D U M

DATE: July 8, 2019
TO: Environmental Commission
FROM: Callie Niday, Staff Liaison

SUBJECT: TENTATIVE 2019 City Council Meeting Attendance Assignments

Please sign up to attend or view (Channel 26 or online) three (3) Regular City Council meetings for 2019.
Tentative 2019 Schedule

2019 Regular City Council meeting dates:	Attendance by:
January 8, 2019	Don Weiden
January 22, 2019	Laura Teksler
February 12, 2019	Lei Yuan
February 26, 2019	Don Bray
March 12, 2019	Don Weiden
March 26, 2019	David Klein
April 9, 2019	Laura Teksler
April 23, 2019	Don Weiden
May 14, 2019	Don Weiden
May 28, 2019	Chad Martin
June 11, 2019	Don Bray
June 25, 2019	Heather Halkola
July 9, 2019	Lei Yuan
August 27, 2019	
September 10, 2019	
September 24, 2019	
October 22, 2019	
November 12, 2019	
November 26, 2019	
December 10, 2019	

The All-Commission training was on May 15, 2018, 10:00 A.M. The Joint Meeting with the City Council and the Environmental Commission was on Tuesday, May 7, 2019. All Commissioners were expected to attend.

Regular City Council meetings are scheduled to begin at 7:00 p.m. and are held on the 2nd and 4th Tuesdays of the month. If you are unable to attend or view one of the City Council meetings to which you are assigned, please arrange for another Commissioner to attend in your place.