



Marin's Transition to an All-electric Future

Workshop Series Meeting 3 of 3

County of Marin
Community Development Agency
November 15, 2023

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Welcome



Brian Reyes, Molly Kron, Sabrina Cardoza,
Kellen Dammann, Julie Chew

Agenda

Buffer (5 Minutes)

**Welcome Back and
Agenda (5 Minutes)**

**Activity 1: Rapid
Community
Presentation Series
(45 Minutes)**

Break (10 minutes)

**Activity 2: Key
Components:
Proposed and
Prioritizing (75
minutes)**

**Thank you and
Reflection (10
minutes)**



House Rules





Activity 1

Rapid Community Presentations (45
Minutes)



John Rising

[Rising Design & Construction](#)

Transforming a Single-Family Home

An All-electric Renovation Case
Study



Background and the whys

General Contractor “B”

Certified Green Building Professional – Sonoma State

Building Performance Institute – building analyst and shell professional

HERS rater – former GreenPoint rater – former

The electrification of our buildings is a giant step forward in making our structures more efficient, safer and cleaner for the environment.

We did our first quasi home electrification in 2019 with a HPWH, induction cooktops and a mini-split.

Since then, we have done a few more and am currently working on my own house here in Marin.

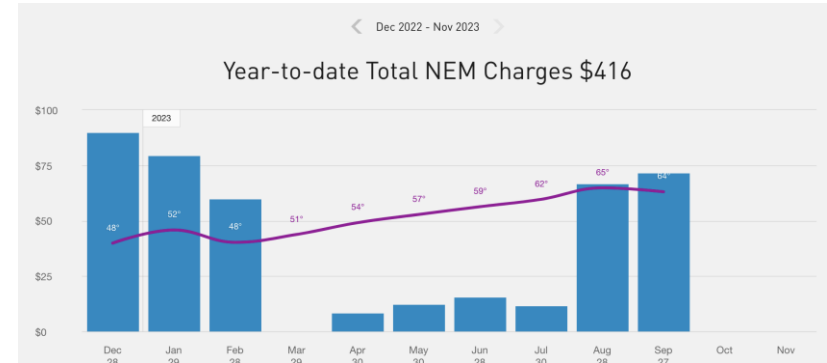
Renovation details

- Scope of project includes the excavation of earth to create a new living space and garage.
- Existing home is roughly 1638 SF with an ADU.
- Currently 3 bedrooms, 2 bathrooms, 2 kitchens and 2 laundry areas.
- Addition will add a 500 SF bedroom/bathroom and a new garage and storage area.



Existing systems and energy costs

- Water heating: A.O. Smith Vertex 100k Btu, .96 AFUE
- Fan coil (FirstCo) rated to 40k Btu heating, combined hydronic system, forced air
- Dual fuel stove (gas cooktop, electric oven)



New systems and approximate costs

- Water heating: Sanden SanCO, 3.34 UEF – AO Smith, .96 UEF, \$9000
- Fan coil (FirstCo), rated to 40k Btu heating, combined hydronic system, forced air, \$12,000
- Possible mini-split, \$4-6000
- Induction stove, \$3500
- Heat pump hot tub, \$5500
- 200 amp panel upgrade, \$3100
- Rebate (Marin County) \$2000



Challenges faced

- Permit process:
 - Not one discussion during process about fuel switching, HERS test, Manual J,D or S calcs, blower door, Qll, nothing!
 - Over 50% remodeled space triggered fire sprinklers, same should be true for energy upgrades.
- PGE
 - First week of excavation we discovered a PGE gas line. Initially I was not given any future dates on when gas line could be moved or capped.
 - I was not ready to go all-electric but when PGE gave me a timeline of several months and high cost to move line, I decided the time was right and the costs would work out in the end.



Easy wins

- I was hesitant about the induction cooktop as we enjoy cooking and cook a lot and we are very satisfied with the quality and simplicity of the induction cooktop.
- Rebate from the county helped offset some costs.
- Peace of mind that I don't have a flammable gas pulsing through old pipes in my house.
- Hands on experience with going all-electric to help current and future clients.





Molly Kron

County of Marin

Conquering (or not) Condo Electrification

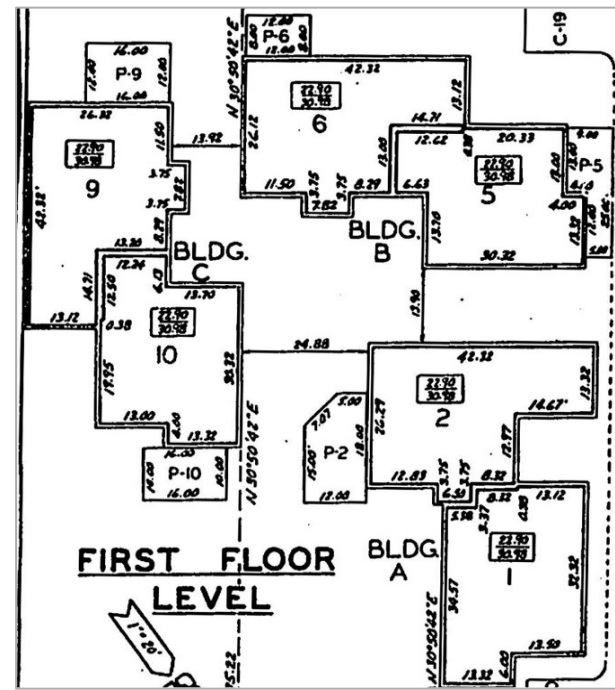
The Complexities for a Multi-unit
Homeowner

Background

- Purchased all electric condominium in 2009.
- 12-unit complex, built in 1979.
- Contains no gas connections.

Electrification is a **lifestyle...**

Amenities included...baseboard heaters with original thermostat controls, electric resistance water heater, original single-paned windows and sliders, Nutone electric radiant (coil) ceiling bathroom heater, aging appliances, and...a Zinsko electrical sub-panel!



What we've accomplished!

- Upgraded electrical resistance water heater.
- Double paned windows and sliders
- Programmable thermostats
- Bathroom fan/heater combo
- Energy efficient appliance
- Induction range
- Replaced electrical sub-panel



What we'd still like to do...

- Mini-split system
- Heat pump or solar water heater
- Solar with battery back-up

Ongoing challenges...

- Homeowners Association and common space/shared assets
- Costs
- Lack of rebates and financial incentives



Aaron Burnett

[Canal Alliance](#)

People Leading the Way

Powering a Brighter Future through
Community-led Planning



Marin Climate Justice Collaborative

Healthy Community Plans
for Climate Resilience

Our Vision

Marin CJC is the local table where decisions about our shared climate future and community health and resilience are made, with leadership from historically disadvantaged communities.

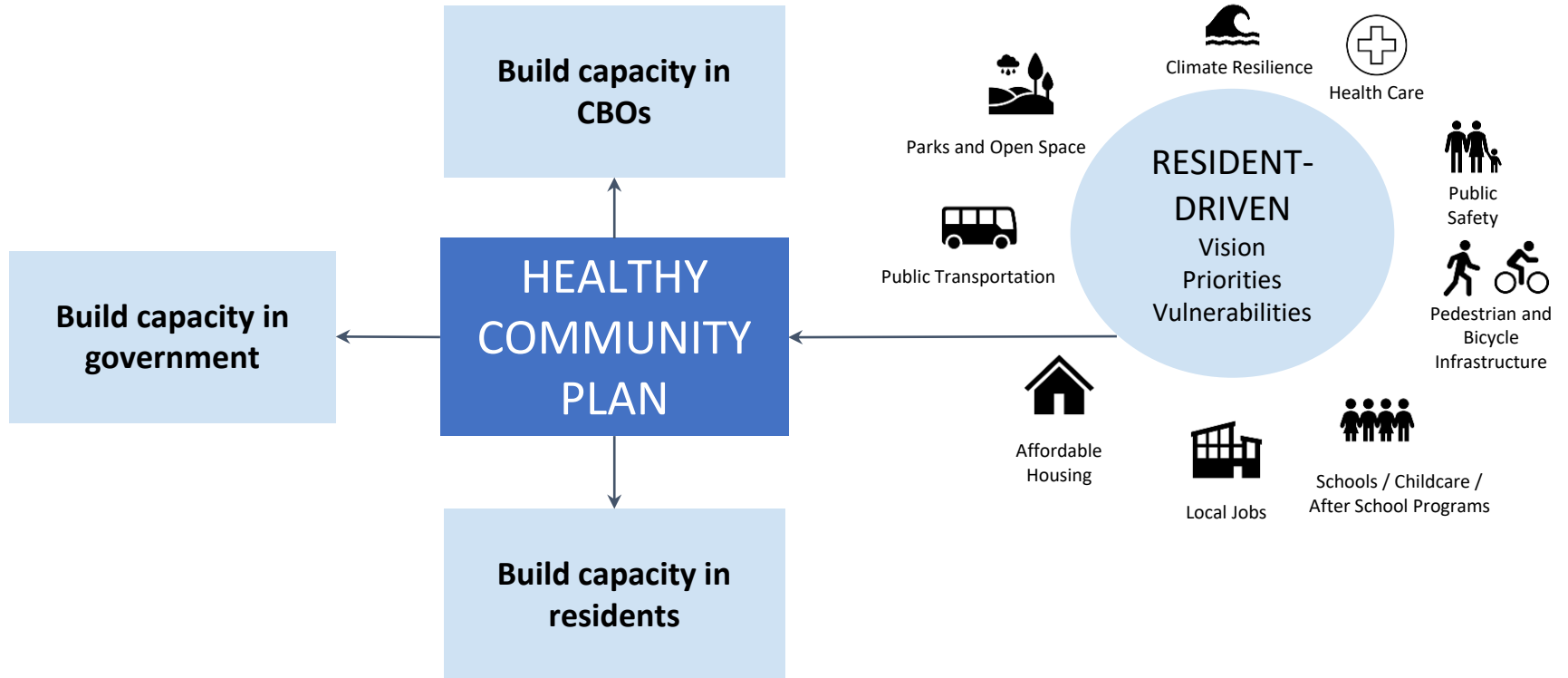


Who is most vulnerable in Marin?

Marin CJC Objectives

1. Build Trusted Relationships & Generous Collaboration
2. Healthy Community Plans & Placemaking
3. Environmental Justice & Inverting the Pyramid of Power
4. Securing Resources & Investing in our Future

Healthy Community Plans & Placemaking



PUSH GREEN DEVELOPMENT ZONE

Clean and green lots
265 W Delevan Ave
128 18th St

MAP farm plot
and plant nurseries

Mass Ave. Park

THE HEART

The Heart, or central area, of the GDZ is made up of three vital community resources—the Butler-Mitchell Boys & Girls Club, the Mass Ave Park, and the MAP Growing Green Urban Farm—along the Zone's main corridor, Massachusetts Avenue. GDZ partners are working to strengthen these existing resources through community planning and organizing for community control of resources

- New iconic bus shelter
- Garden walls, gateways and bike racks
- Planters, benches, trash receptacles and pavers
- Enhanced tree planting and expanded green space
- Redesigned Park with landscaped connections

Community garden
planned for 2012
309 and 315 14th Street

Maintenance crew
work yard

Community Garden
with School 30

Vacant structure,
waiting to be
renovated
257 Massachusetts Ave

Birds, bees and
butterfly garden

Net Zero house -
geothermal lot

Completed
Net Zero house

MAP Farm

- Clean and Green Lot
- Community Garden
- Completed Green Affordable Housing
- Green renovation in progress
- Vacant structure, waiting to be renovated
- Neighbor cultivated lot



Project By:
eco_logic STUDIO
Charles Gordon Architecture
Graphic Design By:
Rachel Gottorf

Environmental Justice & Inverting the Pyramid of Power

Inverting the Pyramid of Power

- Resident-driven (co-creators, implementers & priority setters)
- Residents work in tandem with local government to address racial equity and equal protection issues
- Residents and CBOs must build capacity to lead; local government must build capacity to partner
- Intergenerational approach to ensure elders, adults and youth all participate





Attention, Resources, Influence

Local/Regional/State Government

- City of San Rafael: *local resiliency, specific plan*
- Marin County: *BayWAVE vulnerability planning*
- SF Bay Restoration Authority: *Measure AA and Community Grant funding*

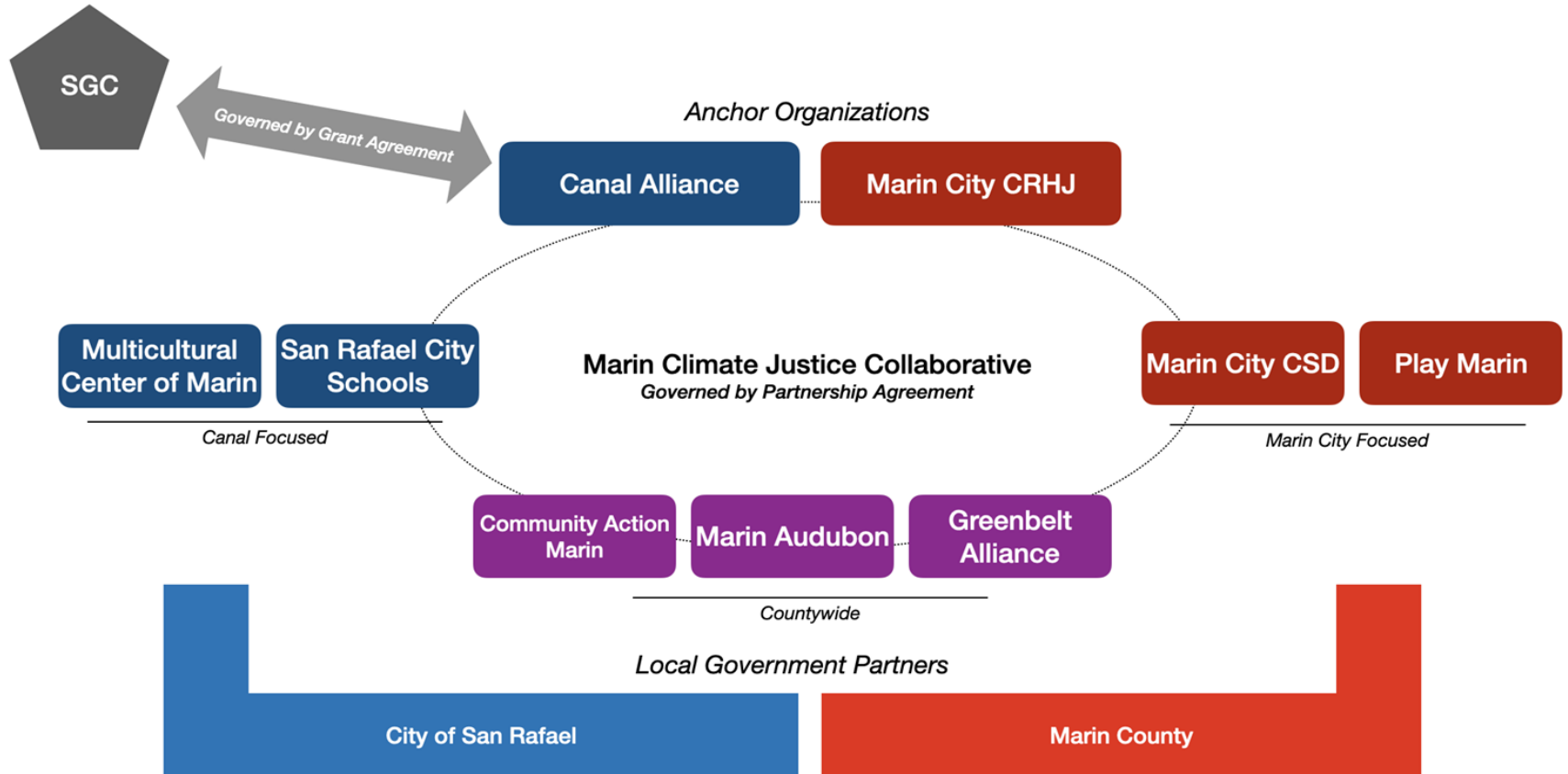
Foundation/Donor Support

- MCF: *Community Climate Resilience funding*
- PG&E: *Better Together Resilient Communities*
- Major Donors: *Individual giving campaign*

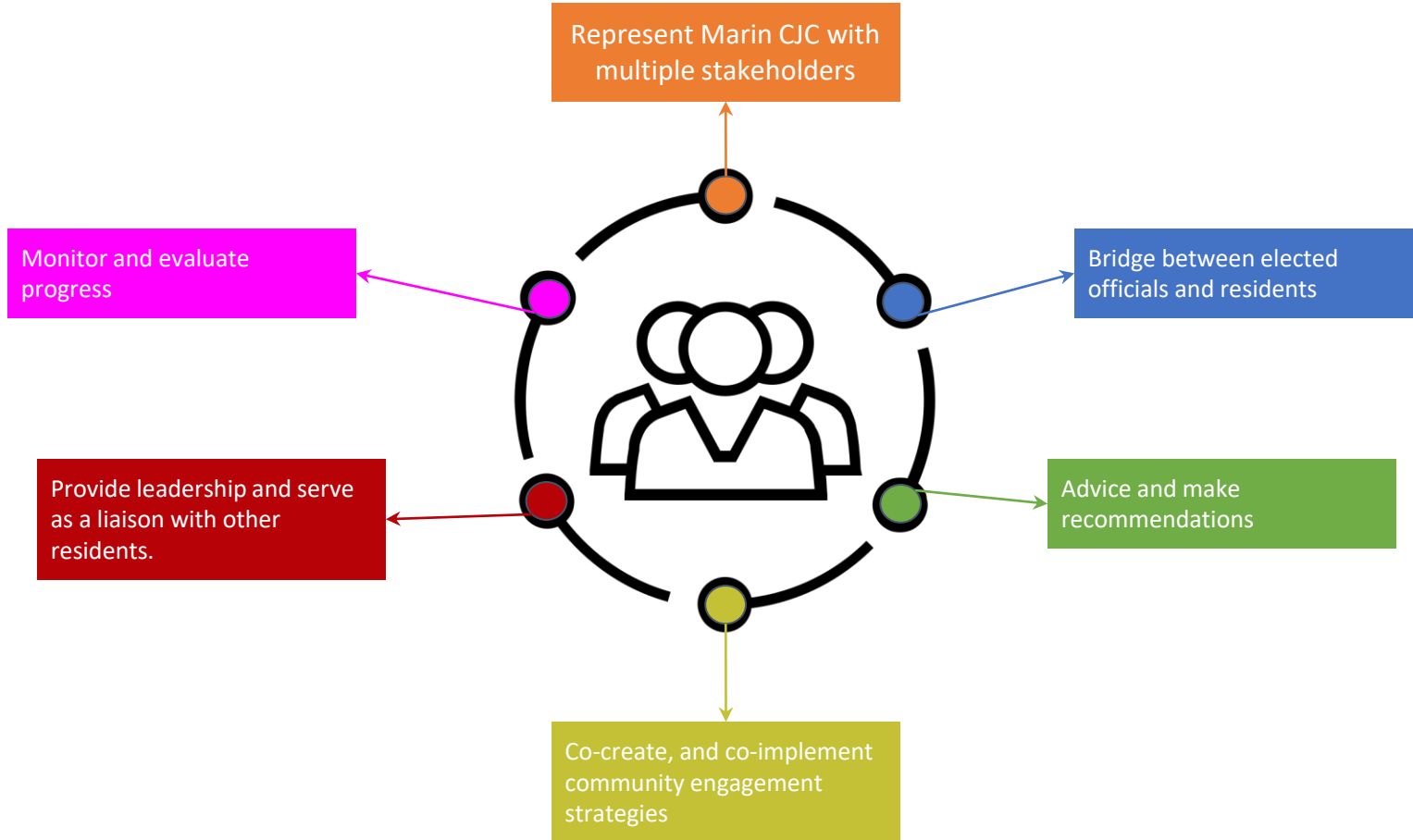
Partners/Allies


- Mainstream environmental organizations
- Community planning/design consultants
- Local elected officials and department staff

1. Project Governance Structure



Marin CJC Resident Advisory Structure



A woman with glasses and a distressed expression holds a large, hand-drawn sign. The sign has a blue border and white background with the text "Now that the neighborhood is nice, why do I have to move?". The words "nice" and "move" are underlined. The woman is wearing a dark jacket and jeans. In the background, other people are visible, some looking downcast. A woman in the foreground is pushing a stroller covered with a blue blanket featuring Mickey Mouse and stars. The setting appears to be a residential street with a fence and buildings in the background.

Now that the
neighborhood is
nice, why do I
have to move?



Kellen Dammann

County of Marin

Cultivating Marin's Workforce

Trends and Building the Contractor
Base



Workforce Development in Marin

- Contractor training on newer technologies
- Enrolling contractors into rebate programs
- LIME Foundation NexGen Training Academy
 - Marin cohort in 2023 funded by Marin County, MarinCAN, BayREN, MCE Clean Energy, and others
 - Introduction to the trades for young people
 - Support in job placement and soft skills development (resume, interview skills, nutrition, etc.)
- Rising Sun Center for Opportunity
 - Green House Call Program
 - Employs local college and high school aged youth to deliver the program
 - Moving into further job development
- High Road Training Partnership
 - Advancing job quality in the trades
- Marin Builders Association Education and Workforce Roundtable
 - Making the connections between workforce dev programs, schools, contractors, and other stakeholders



Questions?



Break (10 Minutes)



We Agree

The cost of failing to act is great.

The County, Towns, Cities, and constituents have shared interests in climate change



What's so "NATURAL" about "Natural Gas"?!?!

We need to scale up our transition away from gas ASAP

We must do this transition equitably

Workshop Participants, Your Deliverable

"By ~~October~~ November 2023, provide feedback, insight, and suggestions that will shape the countywide building electrification plan/roadmap"



2023/2024 Plan Development Timeline



Community Updates

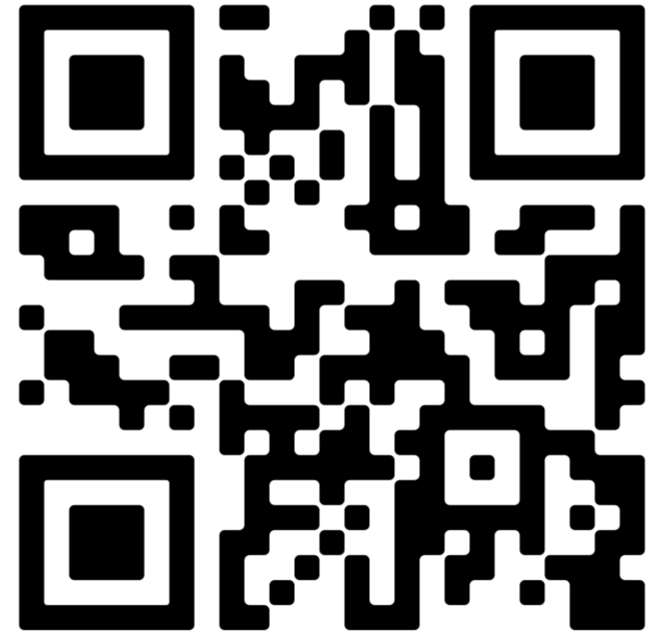
10/26 (virtual) Green Home Tours ([Recording Available Online](#))

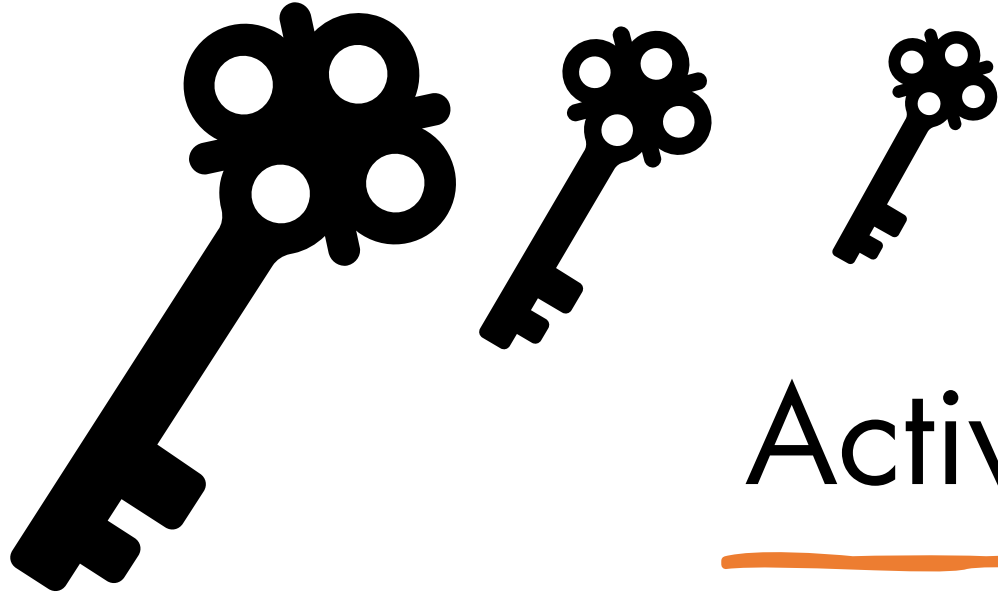
11/2 - 11/16 (virtual) Public Learning Workshop Series Hosted by County of Marin and Partners

- ~~11/2 Heat Pump Water Heaters~~
- ~~11/7 Solar+Battery Storage~~
- ~~11/9 Heat Pump Space Heaters~~
- ~~11/14 Electrification Planning~~
- 11/16 EV 101

Electrify Marin Rebates re-structured

- Standard Rebate ↓
- Income Qualified (remains)





Activity 2

Key Components and Prioritization
(75 Minutes)

Workshop
Series
Reflections



Next Steps (Feedback Loop)

- **Early December** Re-distribute modified “Key Components” to Participants for feedback
- **Early December** Begin Drafting Roadmap aka Plan Document’s Structure
- **Mid-December** “Key Component” release to Public for feedback via Survey
- **Mid-January** Initial Draft Roadmap Document release for MCEP review
- **Beginning February** Draft Roadmap Document Release to Participants (You) to Review
- **(Pending) End February** Draft Roadmap Document Release to Public via Open Source Platform
- **March** Final Roadmap Document Published