CITY OF NOVATO
CALIFORNIA

Sustainability Commission

AGENDA

Thursday, February 16, 2023 - 6:00 p.m.

Novato City Hall, 901 Sherman Avenue

Chair
Nicole Tai

Vice Chair
Chris Yalonis

Members
Tim Blofeld, Bob Brown, Zach Brownstone, Bryn Ichinaga, and Kolby Gleeson

Staff Liaison
Gretchen Schubeck

The Sustainability Commission welcomes your attendance at its meetings, which are held on the third Thursday of each month at 6:00 p.m. Your interest is encouraged and appreciated.

Public Participation Options

Members of the public may provide public comments and participate in Sustainability Commission meetings as follows:

- **Written Public Comments:** May be submitted via sustainability@novato.org. Written public comments received more than 3 hours before the start of the meeting will be distributed to the Commission prior to the meeting. Written public comments will not be read during the meeting.
- **In-person Public Comments:** May be made during the meetings, which are held at Novato City Hall, 901 Sherman Avenue.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the City Clerk at (415) 899-8986. Notification at least 48 hours prior to the meeting will enable the City to make reasonable accommodation to help ensure accessibility to this meeting. The Sustainability Commission may discuss and/or take action on any or all of the items listed on the agenda irrespective of how the agenda items are described.

A. CALL TO ORDER AND ROLL CALL

B. APPROVAL OF FINAL AGENDA

C. PUBLIC COMMENT
There is a three-minute time limit to speak, although the Chair may shorten the time based on the number of speakers or other factors. A speaker may not yield their time to another speaker.

novato.org
Phone No. (415) 899-8900
Fax No. (415) 899-8213

For issues raised during Public Comment that are not on the published agenda, except as otherwise provided under the Ralph M. Brown Act, no action can legally be taken. The Commission may direct that the item be referred to the Staff Liaison for action or may schedule the item on a subsequent agenda.

D. CONSENT ITEMS

D.1 Approve minutes of meeting held January 19, 2023.

E. GENERAL BUSINESS

These items include significant and administrative actions of special interest and will usually include a presentation and discussion by the Commission. They will be enacted upon by a separate vote.

E.1 Stakeholder Analysis and Community Engagement Strategies

- **Presentation:** Accelerating Equitable Climate Action – *Maria Albuja Pavon, Climate Action Coordinator and Maria Jaramillo-Botero, Co-Director of Latine Services North Marin Community Services*
- **Presentation:** Stakeholder Analysis Tools – *Gretchen Schubeck, Sustainability Coordinator*

E.2 Climate Action Plan Development Timeline – *Gretchen Schubeck, Sustainability Coordinator*

F. CONTINUING ITEMS

This section is for items that have previously been discussed at a Commission meeting.

F.1 Discussion on Reach Code Study Session – *Commissioner Brown*

F.2 Revised FY2022-23 Workplan – *Gretchen Schubeck, Sustainability Coordinator*

F.3 Single-Use Foodware Ordinance – *Gretchen Schubeck, Sustainability Coordinator*

F.4 Sustainability and Climate Action Analysis and Prioritization – *Gretchen Schubeck, Sustainability Coordinator*

G. COMMISSIONER AND STAFF LIAISON REPORTS

This section is used for Commissioners and the Staff Liaison to orally report on topics that can be considered for discussion at a future meeting.

G.1 Commissioner Reports

G.2 Staff Liaison Reports

H. ADJOURNMENT

Materials that are submitted to members of the Commission after the distribution of the meeting's agenda packet will be available upon request.

AFFIDAVIT OF POSTING

I, Gretchen Schubeck, certify that on February 10, 2022, the agenda was posted on the City Community Service Board at 922 Machin Avenue and on the City's website www.novato.org.

/ Gretchen Schubeck /
Gretchen Schubeck, Sustainability Coordinator

CITY OF NOVATO
CALIFORNIA

Sustainability Commission

MINUTES

Thursday, January 19, 2023 - 6:00pm

Novato City Hall, 901 Sherman Avenue, Novato

Chair
Nicole Tai

Vice Chair
Chris Yalonis

Members
Tim Blofeld, Bob Brown, Zach Brownstone, Bryn Ichinaga, and Kolby Gleeson

Staff Liaison
Gretchen Schubeck

A. CALL TO ORDER AND ROLL CALL

The Commission was called to order at 6:01pm.

Commissioners Present: Tim Blofeld, Bob Brown, Zach Brownstone, Kolby Gleeson, Bryn Ichinaga, Nicole Tai, and Chris Yalonis

Staff Present: Gretchen Schubeck, Sustainability Coordinator and Jessica Deakyne, Assistant City Manager

B. APPROVAL OF FINAL AGENDA

Upon a motion of Commissioner Brown and second by Commissioner Blofeld the Commission voted 7-0 to approve the final agenda.

AYES: BLOFELD, BROWN, BROWNSTONE, GLEESON, ICHINAGA, TAI, YALONIS
NOES: NONE

Motion carried.

C. PUBLIC COMMENT

None

D. CONSENT ITEMS

Upon a motion of Commissioner Blofeld and second by Commissioner Gleeson, the Commission voted 7-0 to approve the meeting minutes of December 15, 2022.

novato.org

Phone No. (415) 899-8900
Fax No. (415) 899-8213

AYES: BLOFELD, BROWN, BROWNSTONE, ICHINAGA, GLEESON, TAI, YALONIS
NOES: NONE

Motion carried.

E. GENERAL BUSINESS

E.1 Study Session – *Building Electrification and Electric Vehicle Infrastructure Reach Codes as a Climate Action Tool (PowerPoint presentations are attached to minutes)*

- The study session opened with presentations from David Moller, P.E., Community Advocate and member of the Marin/Sonoma Building Electrification Squad and Sebastian Conn, MCE Senior Community Development Manager. A presentation prepared by Bryan Reyes, Sustainability Planner with the County of Marin Community Development Agency was presented by David Moller, with support from Commissioner Brown.
- Moller's presentation focused on the opportunity to employ building electrification and electric vehicle reach codes as a tool to reduce greenhouse gas (GHG) emissions. He noted that according the 2020 GHG emissions inventory for Novato, transportation and natural gas used in buildings comprise 88% of local GHG emissions.
- Moller then provided an overview of three model reach codes that were developed in 2022 through a collaborative process that involved all Marin jurisdictions and stakeholders. To date, five Marin jurisdictions have adopted the all-electric model reach code for new construction, four have adopted the electric vehicle infrastructure model reach code, and two have adopted the energy efficiency model reach code for existing single-family residences. Several jurisdictions have indicted that they intend to adopt one or more of the model reach codes in 2023.
- Conn's presentation detailed MCE's process for forecasting energy demand. He also discussed the various State agencies that are responsible for forecasting energy demand load, monitoring peak demand, and ensuring grid reliability, maintenance, and transmission planning. Conn noted that MCE is committed to contributing to a clean, reliable grid and this includes increasing battery storage and exploring distributed energy resources, as well as creating virtual power plants.
- MCE is also focused on supporting energy efficiency and load demand response programs for its customers and offers a range of initiatives to assist these efforts.
- Reyes presentation reviewed the California building code update process and Marin's long history of "reaching" beyond state minimum standards in regard to green building practices. The presentation also detailed the stakeholder engagement process the County facilitated in 2022 to develop the three model reach codes.
- Reyes presentation provided several sample construction scenarios with projected costs, in addition to the GHG reduction potential of each. Reyes worked with the State reach code team to develop these scenarios. An overview of technical support, rebates, and incentives to support building electrification (local, state, and federal) were also included in the presentation.
- Following the presentations, Commissioner Brown facilitated a Q&A session with panelists Moller and Conn.

Public Comment

- Ed Schulze

novato.org
Phone No. (415) 899-8900
Fax No. (415) 899-8213

F. CONTINUING ITEMS

F.1 Revised FY2022-23 Workplan – *Gretchen Schubeck, Sustainability Coordinator*

Schubeck noted that the workplan will need to be revised due to addition of the reach code study session. The revised workplan will be presented at the February Commission meeting.

G. COMMISSIONER AND STAFF LIAISON REPORTS

G.1 Commissioner Reports

Commissioner Brown: The Town of Tiburon and City of Mill Valley have agreed to hire a shared Sustainability Coordinator.

Commissioner Yalonis: The City of San Rafael has recently hired a full-time sea level rise and adaptation planner.

Commissioner Tai: Commissioner Tai is participating in the Marin Biomass Collaborative (along with Sustainability Coordinator Schubeck) to provide input to the Biomass Utilization Study for Marin County.

G.2 Staff Liaison Reports

None

H. ADJOURNMENT

Upon a motion by Commissioner Blofeld and second by Commissioner Gleeson, the Commission voted 7-0 to adjourn the meeting at 7:54pm

AYES: BLOFELD, BROWN, BROWNSTONE, ICHINAGA, GLEESON, TAI, YALONIS
NOES: NONE

Motion carried.

novato.org

Phone No. (415) 899-8900
Fax No. (415) 899-8213

Why Are Building Electrification and Increased EV Charging Opportunities Important?

David Moller, P.E.

Novato Sustainability Commission Workshop

January 19, 2023

MARIN SONOMA Building Electrification SQUAD

Greenhouse gas emissions are driving climate change

- **Greenhouse gases trap heat** in our atmosphere and cause the increasing worldwide temperatures that are driving climate change
- We need to **rapidly reduce our greenhouse gas emissions** in order to slow down this overheating and avoid the worst impacts of climate change
- We're already starting to see these impacts in the form of **flooding** from rising sea levels, increasing risk and magnitude of **wildfires** due to warmer air and drier vegetation, and the increasing frequency of **extreme weather events**!
- Without **immediate action**, these impacts are forecast to get worse – **much worse!**

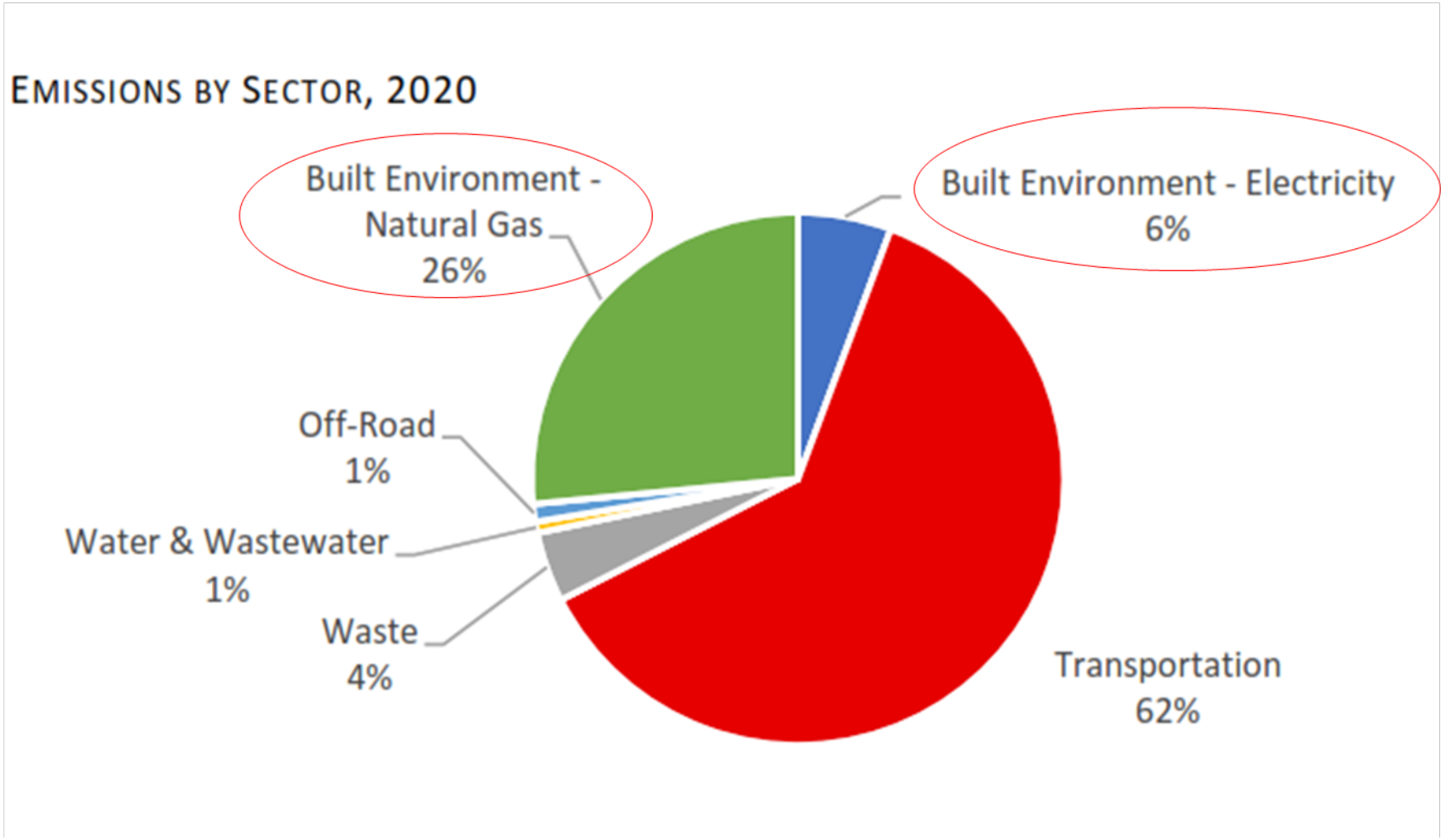
MARIN SONOMA Building Electrification SQUAD

Why focus on Building Electrification and EV Charging?

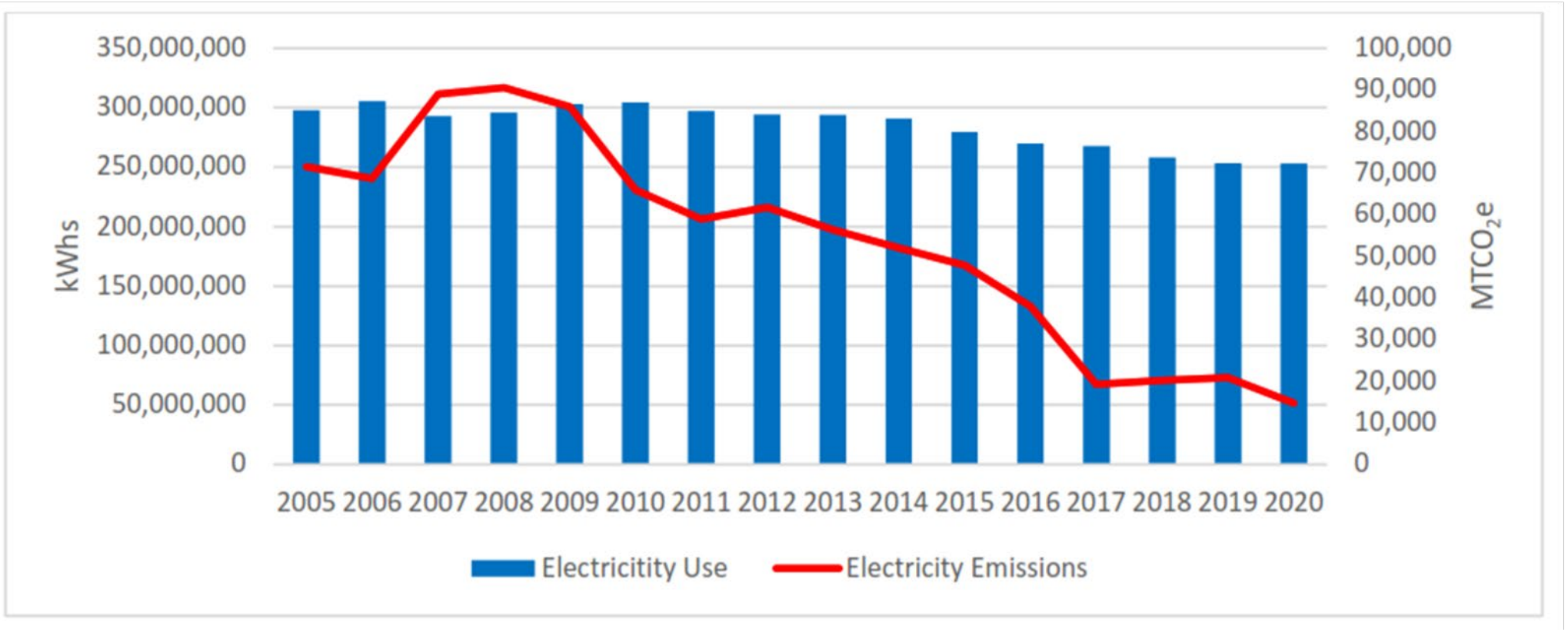
- Our **two biggest sources** of greenhouse gas emissions in Marin are:
  - Use of fossil fuels for **Transportation** - **60 %**
  - Use of natural gas in **Buildings** - **25 %** (mostly for space and water heating)
- The Feds, State, County and **every single** Town and City in Marin have committed to take actions to reduce our greenhouse gas emissions
- The most **impactful actions** we can take in the timeframe we need to act are **transitioning to EVs** and **moving from using gas to electricity in our buildings** – with the electricity coming from renewable sources of generation

MARIN SONOMA Building Electrification SQUAD

NOVATO GREENHOUSE GAS EMISSIONS

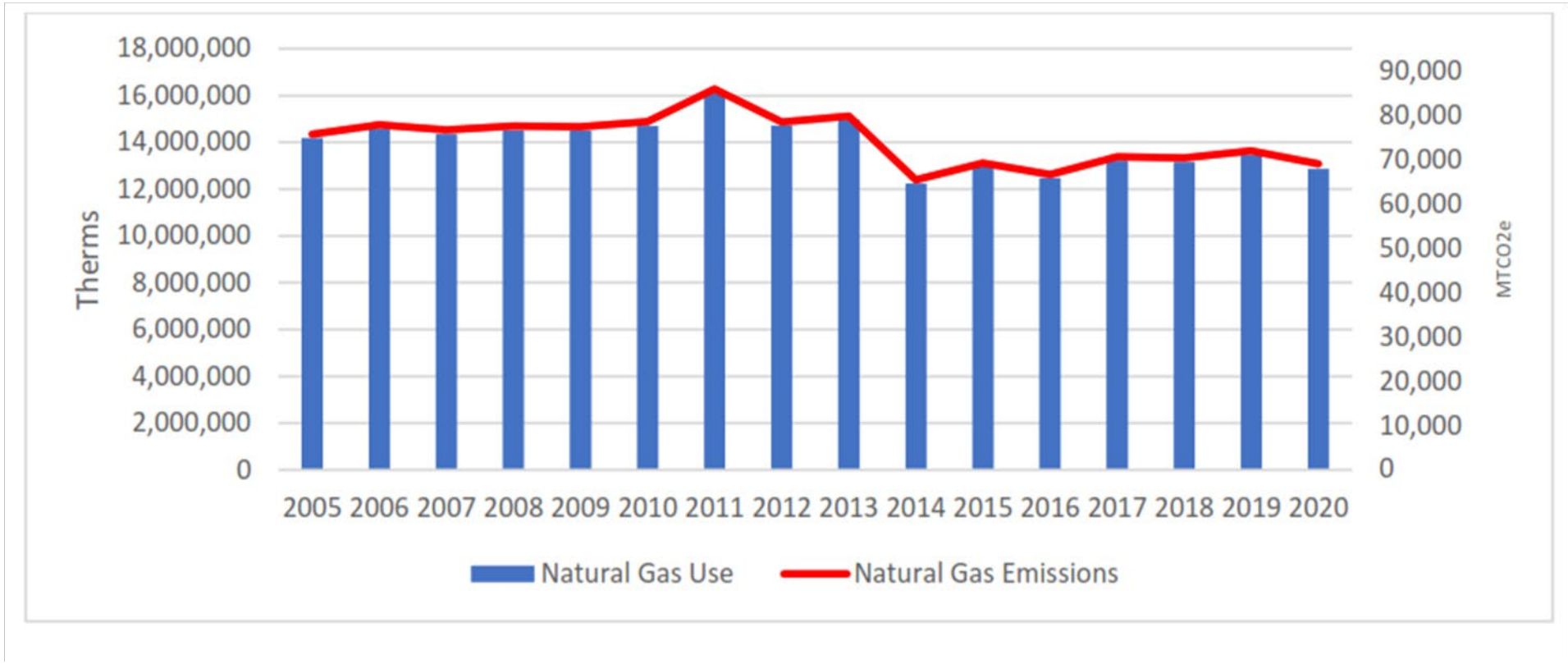


NOVATO ELECTRICITY USE AND GHG EMISSIONS



79% reduction in emissions since 2005

NOVATO NATURAL GAS USE AND GHG EMISSIONS



Why are we talking about action at the local level?

- Our State and Federal governments are promoting building electrification and the transition to EVs by offering substantial financial incentives and rebates, but **it will be many more years before they will actually require them**

- But we need to act **now**! As stated in last year's report by the **Intergovernmental Panel on Climate Change**, we are in a **Code Red for Humanity** situation that demands **immediate action**!

- **Local jurisdictions are much more nimble** and can act more quickly to get the ball rolling years ahead of State and Federal action.

MARIN SONOMA Building Electrification SQUAD

How does this relate to the three model reach codes?

- Adopting reach codes that **reach beyond** state requirement represents **one of the few tools available to local jurisdictions** to really move the dial on climate change. The three reach codes help avoid **increasing** greenhouse gas emissions and start to **reduce** them. The three reach codes address:
  - **All-electric for New Buildings** – to avoid **increasing** GHG emissions as we build additional housing and other buildings
  - **Energy Efficiency and Electrification for Existing Single-family Renovations** – to avoid **increasing** and start to **reduce** GHG emissions related to major renovation of existing buildings
  - **Increasing Electric Vehicle (EV) Infrastructure for New Construction and Renovations** – to make EV charging more available, especially at multi-family developments that have minimal charging options

MARIN SONOMA Building Electrification SQUAD

.

More on the Three Model Reach Codes

- The three model reach codes were developed over the course of the last year through a collaborative process that involved all Marin jurisdictions and stakeholders

- The reach codes are **viable**, **cost effective** and **have already been adopted** by several of Marin's twelve jurisdictions

  5 jurisdictions have adopted **All-electric for New Construction**

  4 jurisdictions have adopted **Increased EV Infrastructure**

  2 jurisdictions have adopted **Energy Efficiency for Renovations**

MARIN SONOMA Building Electrification SQUAD

Why Act Now?

- We can’t sit back and wait for the market to move us away from fossil fuels because **the market is based on the continued use of fossil fuels!**
- We need new policy to **reset the market**!
- We’re quickly running out of time and need to act **now** to avoid the worse impacts of Climate Change!

MARIN SONOMA Building Electrification SQUAD

MCE Empowering Our Clean Energy Future

CONTRA COSTA | MARIN | NAPA | SOLANO

MCE

A local, not-for-profit electricity provider

Forecasting Energy Demand

- Load Serving Entities, like MCE and PG&E, **forecast electricity demand years in advance**

- On an annual basis, MCE **posts our Operational Integrated Resource Plan (OIRP),** which documents MCE's load and electric procurement resource objectives over a ten year planning period

- **Current planning period:** 2023 - 2032

MCE Empowering Our Clean Energy Future
CONTRA COSTA | MARIN | NAPA | SOLANO

Overview: CEC, CPUC, and CAISO

California Energy Commission (CEC):

- MCE submits periodic load forecasts to the CEC.
- CEC adjusts values based on the California system peak demand.

California Public Utilities Commission (CPUC):

- CPUC receives adjusted peak demand data from the CEC
- Provides MCE with monthly Resource Adequacy requirements.

California Independent System Operator (CAISO):

- CAISO develops RA requirements for the entire California system on an annual basis.
- Maintains reliability on the grid, manages the flow of energy, oversees transmission planning process, operates the wholesale electric market

CAISO 10 Year Transmission Plan

Image Source: California Independent Systems Operator

- **CAISO conducts annual transmission planning process to identify potential system limitations and areas that need reinforcements over a 10-year horizon.**
- *"The annual planning process, set out in CAISO's federal tariff, provides for the approval of new transmission infrastructure and triggers permitting and construction activities."*
- Plan is closely coordinated with CPUC and CEC.

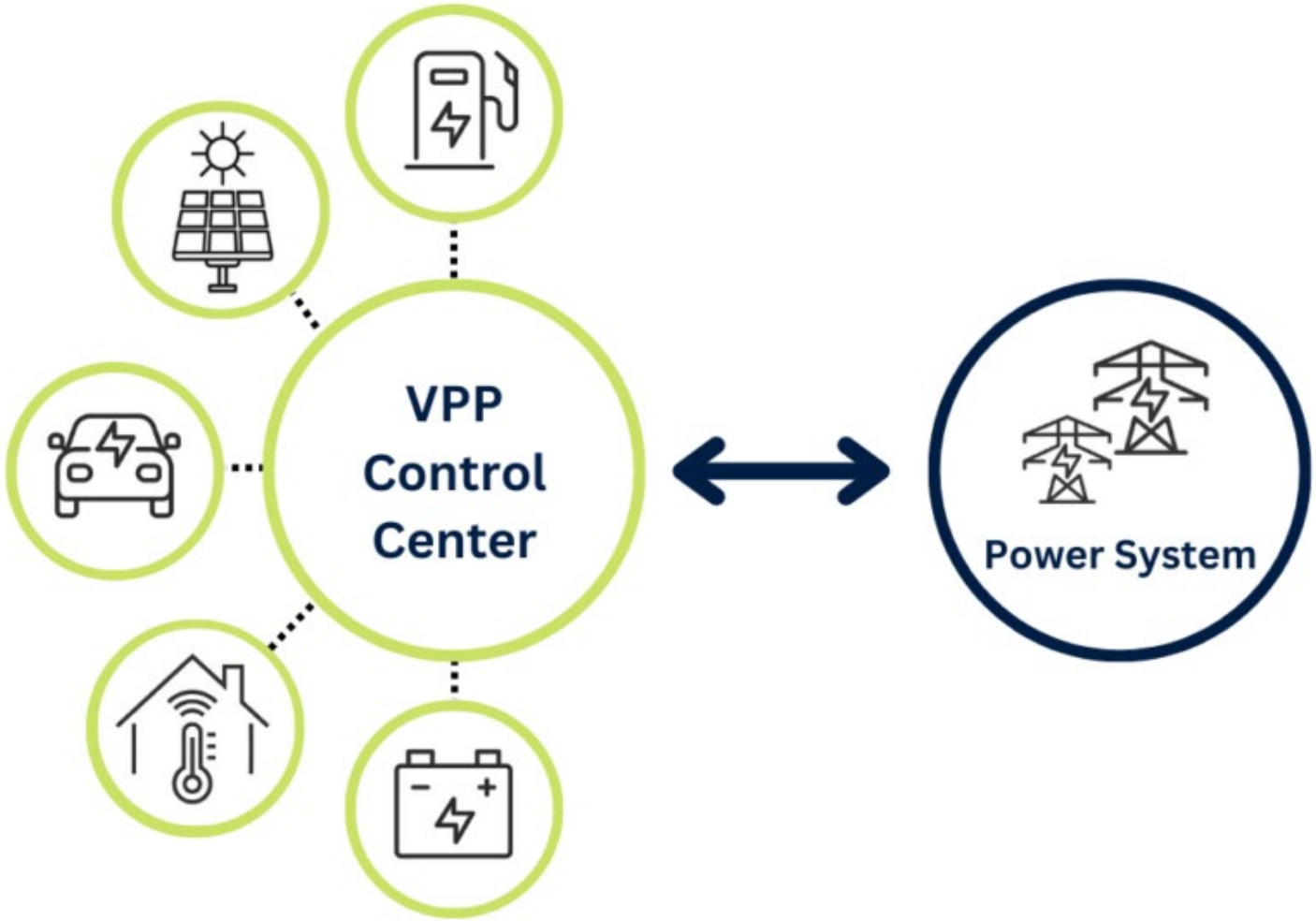
Source: https://www.caiso.com/about/Pages/Blog/Posts/2021-22-Transmission-Plan-approved-by-ISO-Board.aspx

Creating a Clean, Reliable Grid

MCE requires battery storage on all new local solar projects

More than 325MW of battery storage under contract

Distributed Energy Resources - MCE Virtual Power Plant (2025)



Energy Efficiency and Demand Response

Residential Benefits

Energy Efficiency & Demand Response

Strategic Energy Management (SEM)

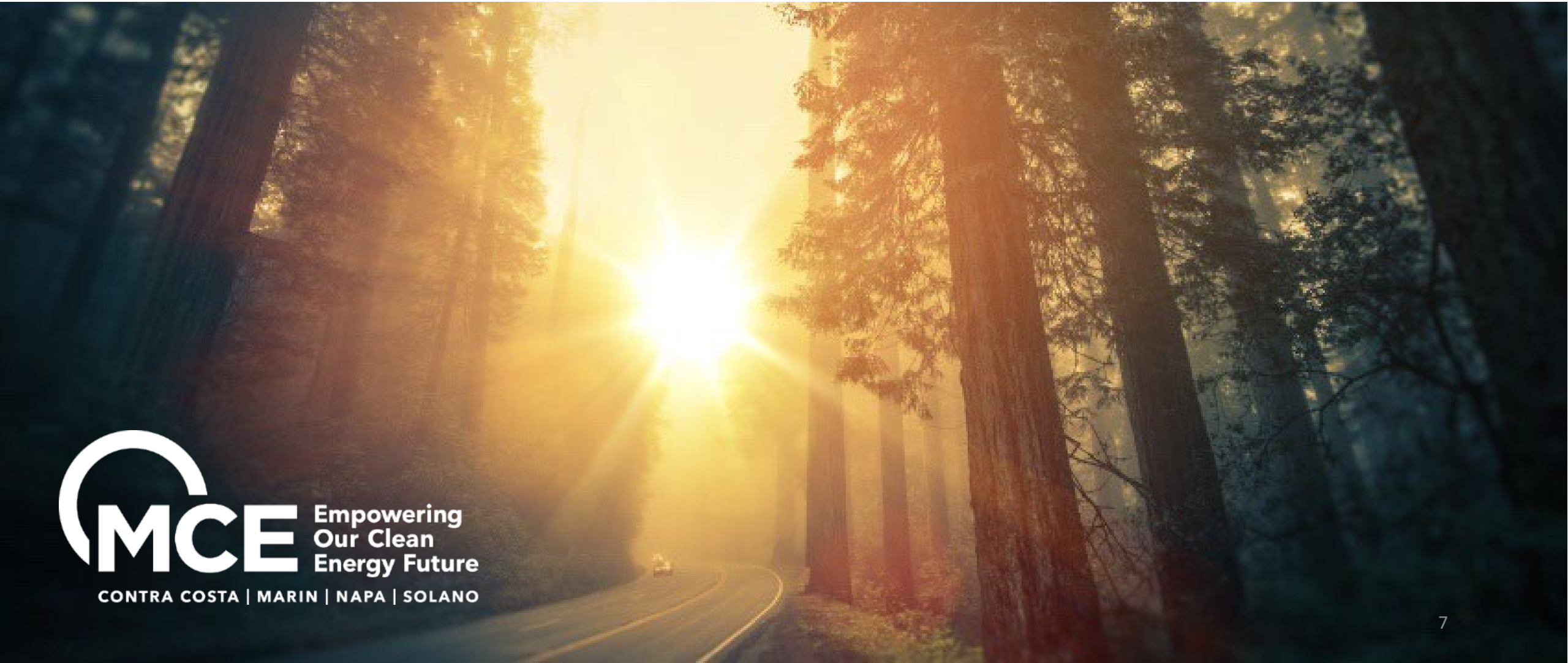
No-cost Home Energy Tool Kits, Energy efficiency retrofits

Marketplace programs to reduce energy use during peak hours

Behavioral changes that reduce annual energy usage by up to 15%

Thank You!

mceCleanEnergy.org
info@mceCleanEnergy.org
@mceCleanEnergy



Marin Countywide Green Building Policy

MODEL REACH CODES

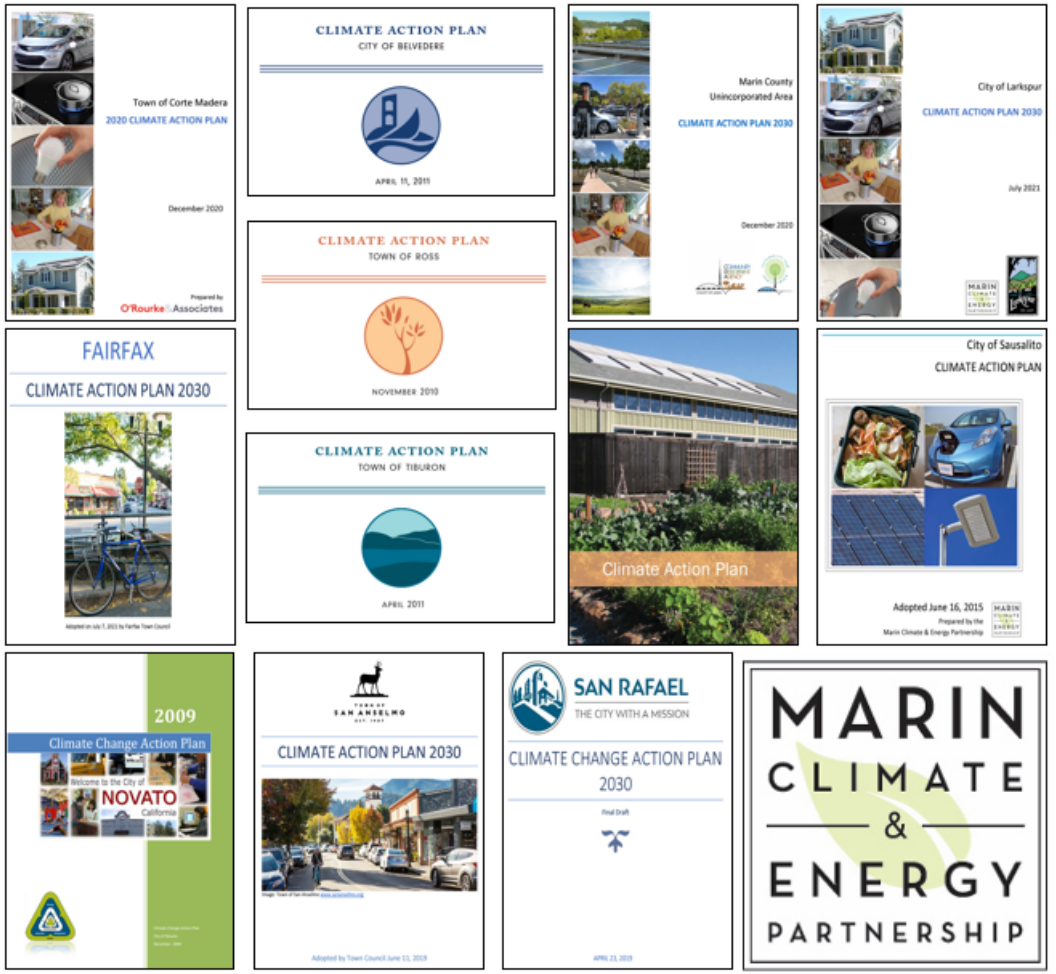
January 19, 2023

Photo Credit: Jeff Wong

Community Development Agency
3501 Civic Center Drive, Suite 308
San Rafael, CA 94903
415 473 6269 T
maringreenbuilding.org

Climate Action Plan Key Actions

- Local Measures
  - **Energy Efficiency and Electrification**
  - **Low Carbon Transport**
  - **Renewable Energy**
  - Waste Reduction
  - Agriculture Waste and Energy Reduction + Carbon Sequestration
  - Low Carbon Concrete
- State Measures
  - Renewable Portfolio Standards
  - Low Carbon Fuel Standards
  - State Green Building Standards



Green Building Reach Code

Title 24

State Green Building Standards

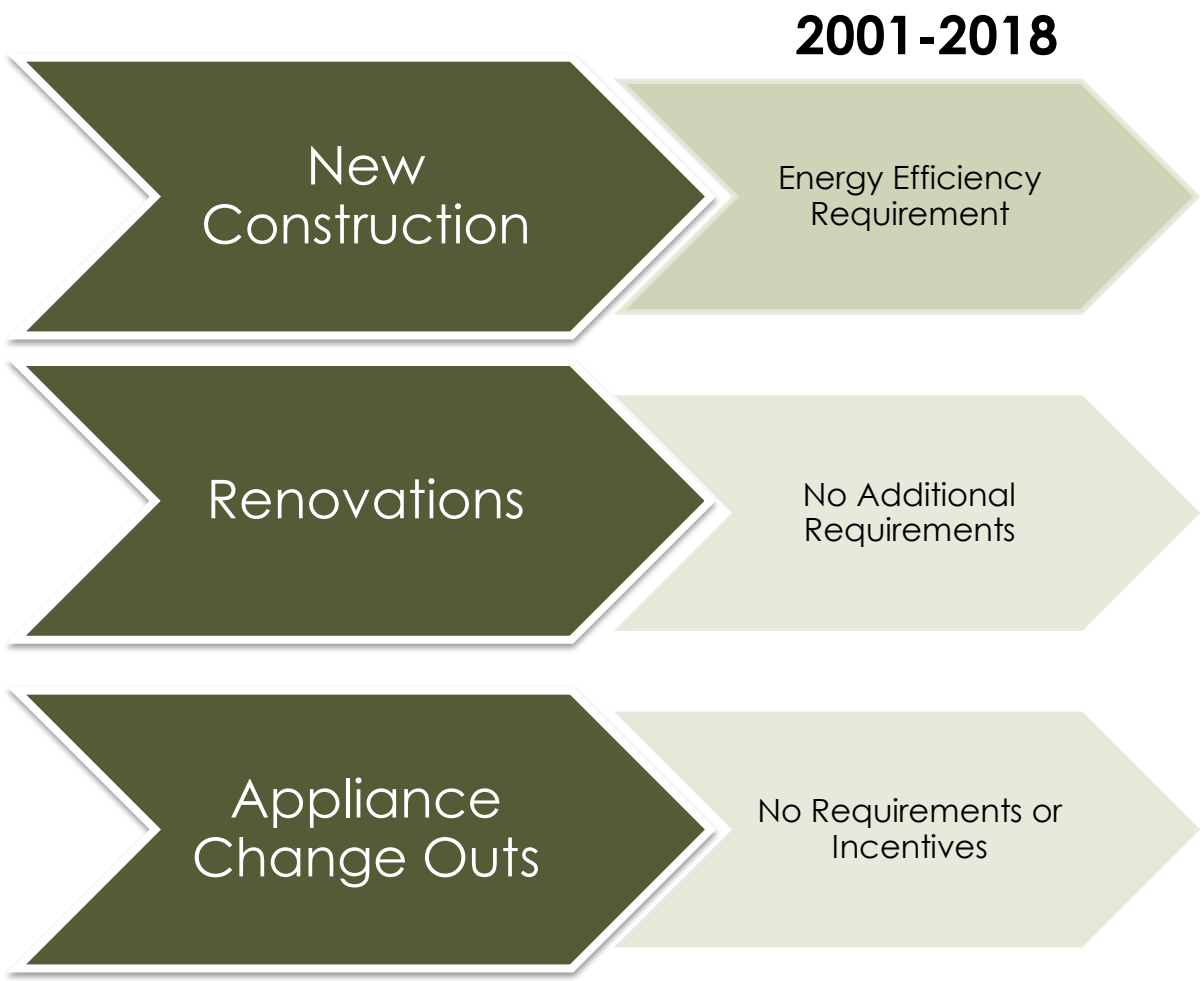
Pt. 6 and Pt. 11

(Energy and non-Energy)

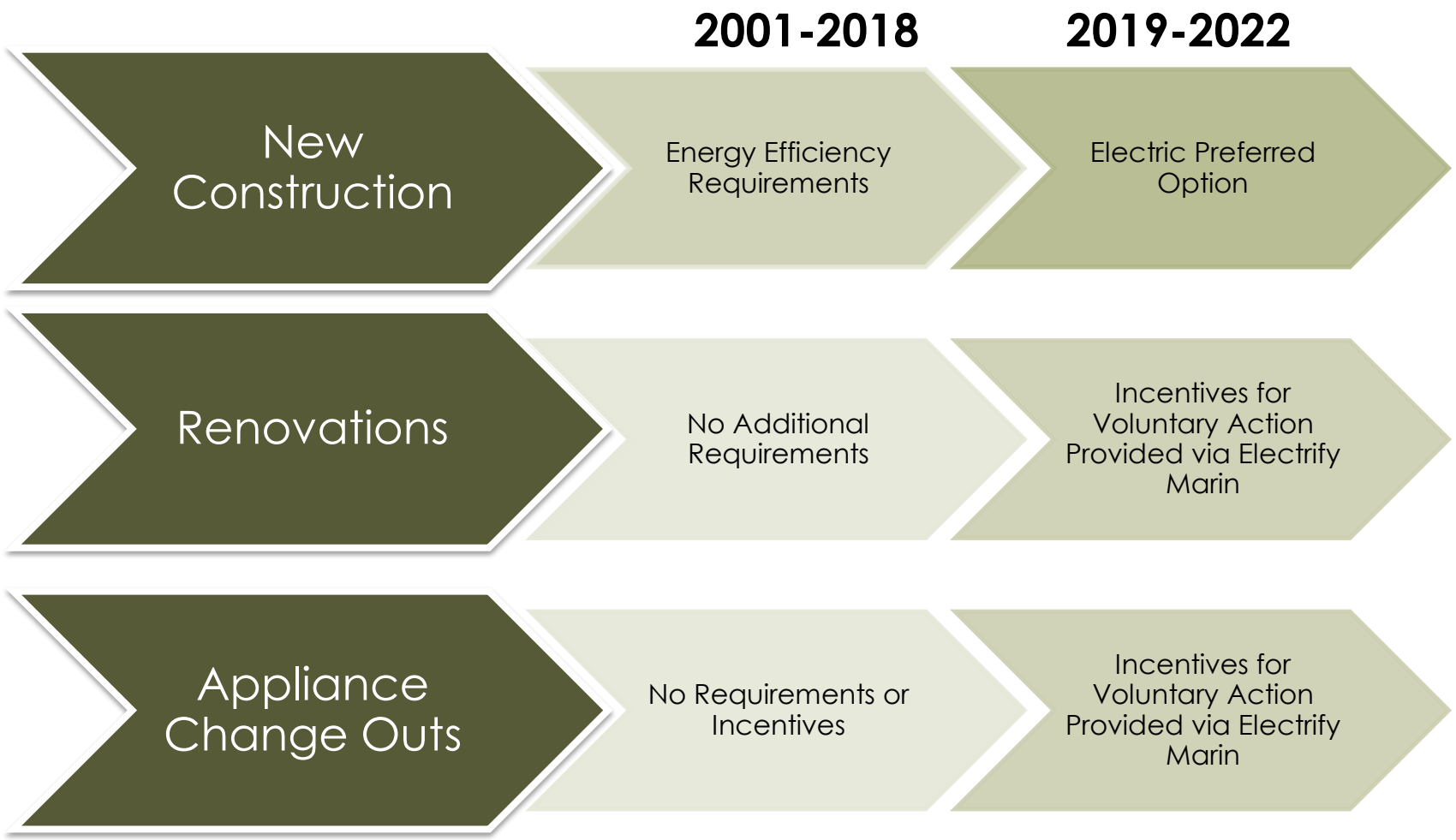
County, City, Town

Green Building Codes

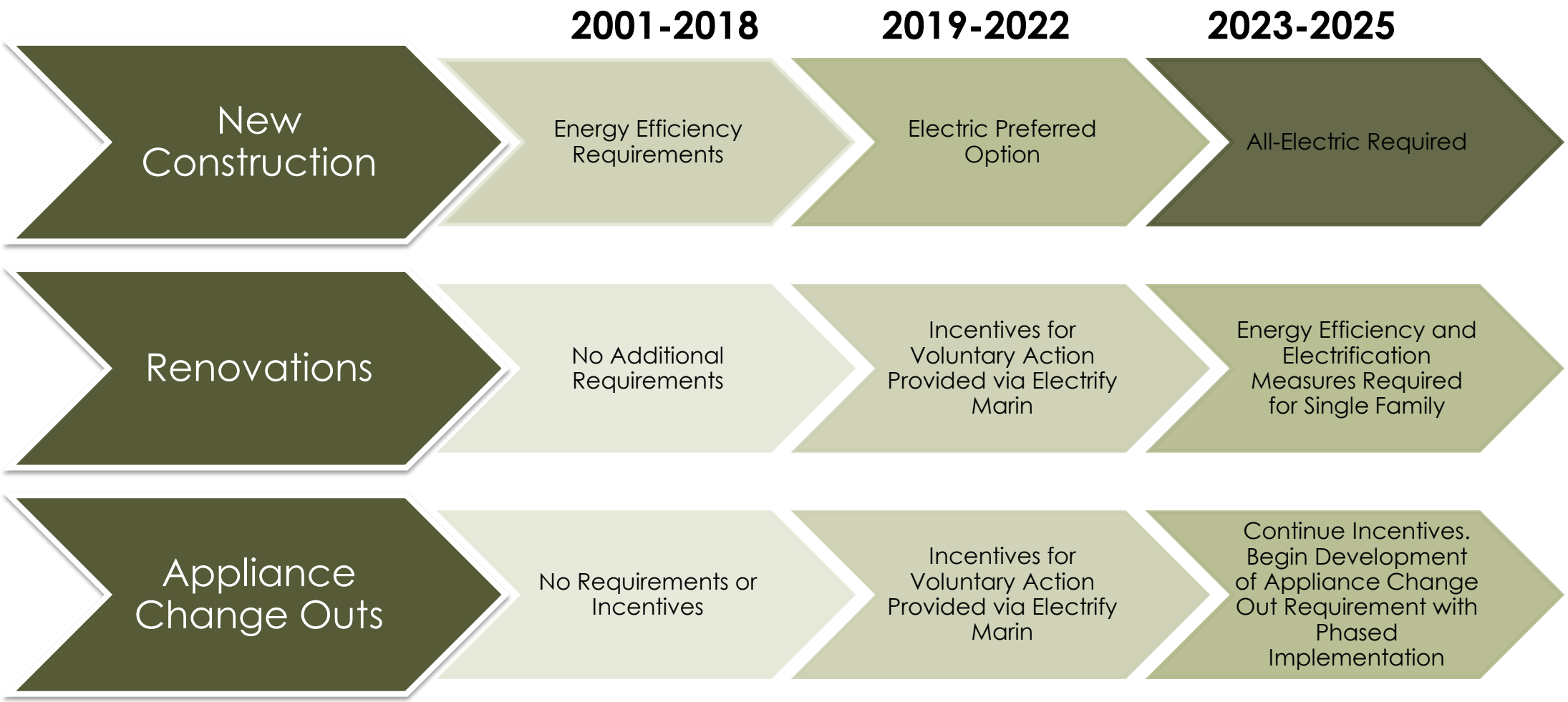
PHASING: Marin's Building Decarbonization Legacy is 22 Years in the Making



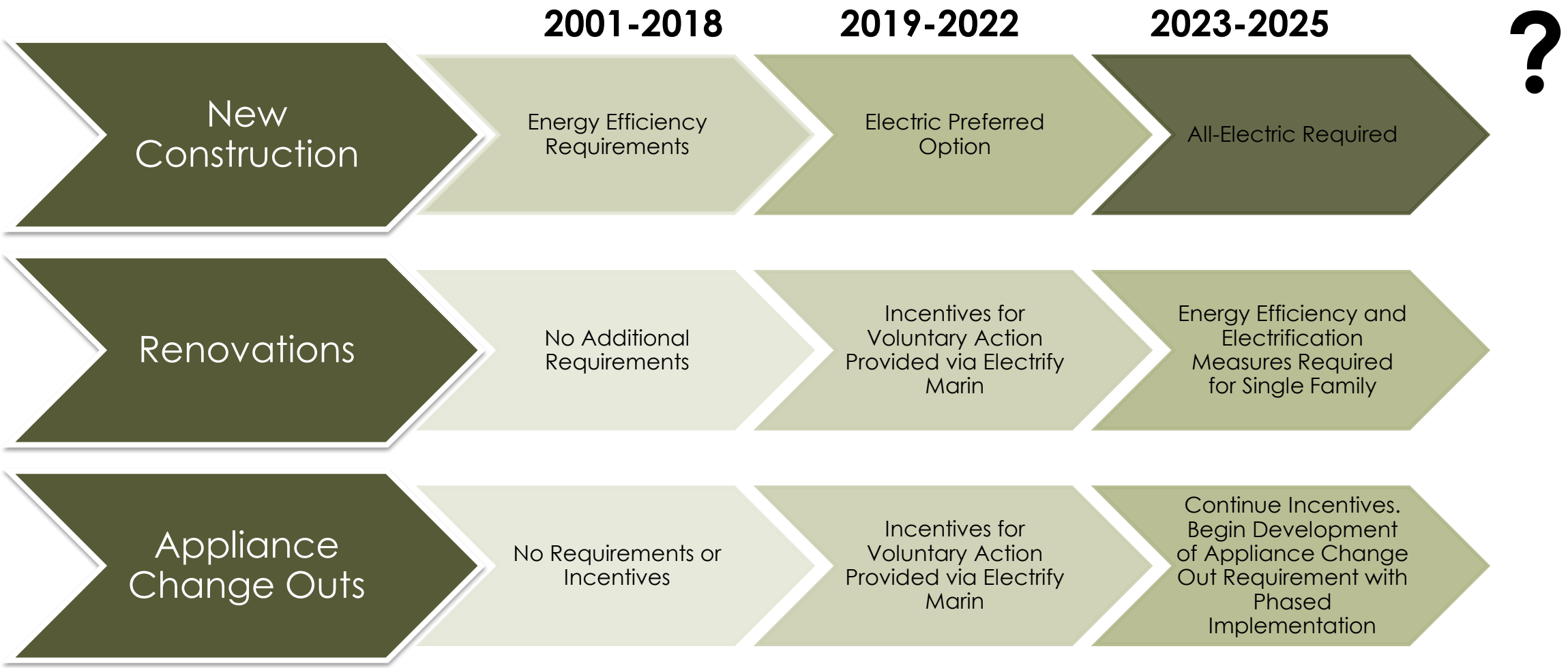
PHASING: Marin's Building Decarbonization Legacy is 22 Years in the Making



PHASING: Marin's Building Decarbonization Legacy is 22 Years in the Making



PHASING: Marin's Building Decarbonization Legacy is 22 Years in the Making

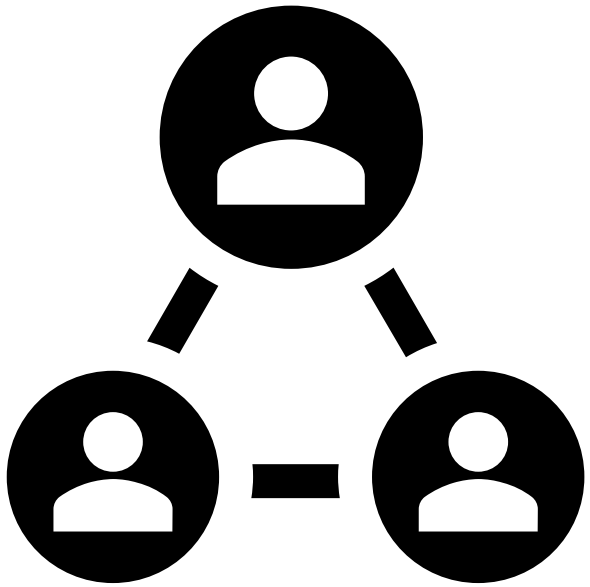


2023 Jurisdiction Reach Code Status

Jurisdiction	New Construction	Renovations (Additions and Alterations)		CALGreen (Title 24, Part 11)	
	All-Electric	Additional Energy Efficiency Requirements	Qualfied Project	EV Infrastructure Measures	Non-Energy Measures
Unincorporated Marin County	✓	✓ Flexible Compliance Pathway	Single-Family, >750 Sq.ft.	Tier 1+	Tier 1
Fairfax	✓	✓ Flexible Compliance Pathway	Single-Family, >200 Sq.ft.	Tier 1+	Tier 1
Corte Madera	✓	None	None	Tier 1+	Tier 1
San Rafael	✓ (+ No Nat Gas Expansion)	None	None	Tier 1+	State Minimum
San Anselmo	✓ (single-family only)	None	None	TBD	TBD
Mill Valley, Tiburon Novato, Sausalito, Belvedere, Ross, Larkspur	None	None	None	None	None

Model (Prototype) Reach Code

2022 Stakeholder Engagement



- ✓ **Five** monthly technical working meetings w/City and Town building officials and planners
- ✓ **One** public community workshop
- ✓ **Three** focus group workshops w/community (builders, advocates, community-based orgs)
- ✓ **Ad-hoc** presentations and conversations w/community, commissions, electeds
- ✓ **County Reach Codes and Model Reach Codes** were developed and shared with other jurisdictions in an ongoing effort to uniform building codes where possible

Summary of Model Code Requirements

New Construction

- All-electric
- No additional energy efficiency requirements beyond State standards
- All buildings newly constructed (not previously occupied) with a variety of exemptions or exceptions

Summary of Model Code Requirements

CALGreen and EV Infrastructure Reach

- **Single-Family**: Level 2 EV Ready for New Construction and When Panel Upgraded
- **Multifamily**: 100% access to charging whether EV Charging Station or Receptacles
- **Existing MF and Nonresidential**: If panel upgraded and/or parking lot modified, EV Ready requirements that requires EV Charging Station and/or Electrical Conduit
- **The remainder of Part 11 CALGreen (non-energy):** Tier 1 requirements

Summary of Model Code Requirements

Renovations Energy Reach

- **Single-Family projects** >750 square feet w/some exceptions
- **Electric Readiness and Lighting** required for all projects
- **Flexible Compliance Pathway** Energy Efficiency or Electrification (Heat Pumps/Induction) Requirements
- **Use State Flexible measures compliance table**: Choose from a list of energy efficiency or electrification measures and add up to an energy savings score

A Flexible Menu of Measures to Choose From (Link to Checklist)

Table 2. Energy and Electrification Menu of Measures by Climate Zone

Measures			Climate Zone (CZ)		Steps
			2	3	(1) Choose your Climate Zone (CZ) based on zip codes listed in Table 5, pg. 21, then continue to Step 2
Check All That Apply	Specification	ID (*Table 4*)	Target Score		(2) Note minimum target score needed to comply (*1 point = 1MMBTU savings per yr.*) then continue to Step 3
			8	6	
☐	Water Heating Package	E2	1	1	3) Choose a measure or a combination of measures that adds up to at least the minimum target score noted in step 2 above. (4) Measures installed or to be installed MUST be marked with a corresponding Check (☒) in this table's far left column. (5) Use the Specification Number (Spec. ID) column as a key and conform to the List of Measure Specifications in Table 4, pages 18-20 below. Table 4 describes, specifies, and details compliance with each corresponding measure.
☐	Air Sealing	E3	1	1	
☐	R-49 Attic Insulation	E4	1	1	
☐	Duct Sealing	E5	1	--	
☐	New Ducts + Duct Sealing	E6	2	2	
☐	PV + Electric Ready Pre-Wire	ER1	12	12	
☐	Heat Pump Water Heater (HPWH)	FS1	12	12	
☐	High Eff HPWH	FS2	13	13	
☐	HVAC Heat Pump	FS3	13	10	
☐	High Eff HVAC Heat Pump	FS4	14	11	
☐	Heat Pump Clothes Dryer	FS5	1	1	
☐	Induction Cooktop	FS6	1	1	
	Total Points Claimed				(6) Sum points then complete Summary of Results a., b., c. in Table 3, Section 4 on the following page 18.

Renovation Energy Reach Code

Climate Zone 2 (Inland): Cost to Comply and GHG Impact Using Flex Compliance Pathway

Renovation Scenario 1: Whole Home (not New Construction)

Typical Project Cost: $600k, Rebates and Incentives Excluded Except for New PV

Compliance Measure	Initial Capital Cost ($)	Compliance Points Earned (Must Total 8 Points or More)	Share of Project Cost (%)	Life of Measure GHG Reduction from BAU
Efficiency	**9,683**	**5**	**1.6%**	↓ 9.8-22%
Efficiency + Heat Pump Dryer	9,683 + 1,134 = **10,817**	5 + 1 = **6**	1.6+0.2 = 1.8%	↓ 13-24%
Efficiency + Heat Pump H_2O Heater	9,683 + 2,462 = **12,145**	5 +12 = **17**	1.6+0.4 = 2.0%	↓ 34-40%
Efficiency + New PV	9,683 + 10,064 = **19,747**	5 +12 = **17**	1.6+1.7 = 3.3%	↓ 14-25%
Efficiency + Readiness only because of Existing PV	9,683 + 4,135 = **13,818**	5 + 6 = **11**	1.6+0.7 = 2.3%	↓ 9.8-22%

**Modeled Methodology Produced by State Reach Code Team on Behalf of County of Marin*

*** The older the building age the higher the GHG reduction*

Renovation Energy Reach Code

Climate Zone 2 (Inland): Cost to Comply and GHG Impact Using Flex Compliance Pathway

Renovation Scenario 2: 800' Addition (no bath or kitchen)

Typical Project Cost: $240k, Rebates and Incentives Excluded Except for New PV

Compliance Measure	Initial Capital Cost ($)	Compliance Points Earned (Must Total 8 Points or More)	Share of Project Cost (%)	Life of Measure GHG Reduction from BAU
Efficiency	**9,683**	**5**	**4.0%**	↓ 9.8-22%
Efficiency + Heat Pump Dryer	9,683 + 1,134 = **10,817**	5 + 1 = **6**	4.0+0.5 = 4.5%	↓ 13-24%
Efficiency + Heat Pump H_2O Heater	9,683 + 2,462 = **12,145**	5 +12 = **17**	4.0+1.1 = 5.1%	↓ 34-40%
Efficiency + New PV	9,683 + 10,064 = **19,747**	5 +12 = **17**	4.0+4.2 = 8.2%	↓ 14-25%
Efficiency + Readiness only because of Existing PV	9,683 + 4,135 = **13,818**	5 + 6 = **11**	4.0+1.8 = 5.8%	↓ 9.8-22%

**Modeled Methodology Produced by State Reach Code Team on Behalf of County of Marin*

*** The older the building age the higher the GHG reduction*

Renovation Energy Reach Code

Climate Zone 2 (Inland): Cost to Comply and GHG Impact Using Flex Compliance Pathway

Renovation Scenario 3: 800' Addition (with bath remodel)

Typical Project Cost: $255k, Rebates and Incentives Excluded Except for New PV

Compliance Measure	Initial Capital Cost ($)	Compliance Points Earned (Must Total 8 Points or More)	Share of Project Cost (%)	Life of Measure GHG Reduction from BAU
Efficiency	**9,683**	**5**	**3.8%**	↓ 9.8-22%
Efficiency + Heat Pump Dryer	9,683 + 1,134 = **10,817**	5 + 1 = **6**	3.8+0.4 = 4.2%	↓ 13-24%
Efficiency + Heat Pump H_2O Heater	9,683 + 2,462 = **12,145**	5 +12 = **17**	3.8+1.0 = 4.8%	↓ 34-40%
Efficiency + New PV	9,683 + 10,064 = **19,747**	5 +12 = **17**	3.8+3.9 = 7.7%	↓ 14-25%
Efficiency + Readiness only because of Existing PV	9,683 + 4,135 = **13,818**	5 + 6 = **11**	3.8+1.6 = 5.4%	↓ 9.8-22%

**Modeled Methodology Produced by State Reach Code Team on Behalf of County of Marin*

*** The older the building age the higher the GHG reduction*

Renovation Energy Reach Code

Climate Zone 2 (Inland): Cost to Comply and GHG Impact Using Flex Compliance Pathway

Renovation Scenario 4: 800' Addition (with bath+kitchen remodel)

Typical Project Cost: $300k, Rebates and Incentives Excluded Except for New PV

Compliance Measure	Initial Capital Cost ($)	Compliance Points Earned (Must Total 8 Points or More)	Share of Project Cost (%)	Life of Measure GHG Reduction from BAU
Efficiency	**9,683**	**5**	**3.2%**	↓ 9.8-22%
Efficiency + Heat Pump Dryer	9,683 + 1,134 = **10,817**	5 + 1 = **6**	3.2+0.4 = 3.6%	↓ 13-24%
Efficiency + Heat Pump H_2O Heater	9,683 + 2,462 = **12,145**	5 +12 = **17**	3.2+0.8 = 4.0%	↓ 34-40%
Efficiency + New PV	9,683 + 10,064 = **19,747**	5 +12 = **17**	3.2+3.4 = 6.6%	↓ 14-25%
Efficiency + Readiness only because of Existing PV	9,683 + 4,135 = **13,818**	5 + 6 = **11**	3.2+1.4 = 4.6%	↓ 9.8-22%

**Modeled Methodology Produced by State Reach Code Team on Behalf of County of Marin*

*** The older the building age the higher the GHG reduction*

POLICY (REACH CODES) + PROGRAMS (INCENTIVES)

- **Reach Codes** are important, but not a complete approach to reducing emissions from energy use and transportation

- **Programs** are available to help homeowners, businesses, and developers meet requirements and voluntarily reduce emissions and save money
  - Two-page summary factsheet of the 2023 Rebates and Tax Incentives for Efficiency and Electrification Single-Family Home Retrofits
  - Electrify Marin
  - BayREN
  - Marin County Green Business program
  - MCE EV Rebate Program
  - Inflation Reduction Act

NEXT STEPS

- **Consistency**: Working with cities and towns across Marin to support adoption of these recommended standards

- **Capacity Building**: Trainings for building department staff, architects, and builders

- **Leverage Existing Resources (Teed-up)**
  - ✓Research, Policy and Literature Review
  - ✓Ordinance, Code, Staff Report Ready
  - ✓Checklists for Enforcement Ready
  - ✓Technical Support locally and statewide
  - ✓Rebates and Incentives

Thank You

GREEN BUILDING REACH CODES

Brian Reyes
Sustainability Planner
Marin County Community Development Agency
breyes@marinCounty.org
415-473-2797

Photo Credit: Jeff Wong

Community Development Agency
3501 Civic Center Drive, Suite 308
San Rafael, CA 94903
415 473 6269 T
maringreenbuilding.org

Important URLs

- Model Reach Codes
  - Recommended Model Green Building Code, FAQs, and Collateral Ready for Staff to Adapt, Adopt, and Implement for other jurisdictions to adopt www.marincounty.org/GreenBuildingCodes

- Incentives, Rebates, and Capacity Building
  - View a two-page summary factsheet of the 2023 Rebates and Tax Incentives for Efficiency and Electrification Single-Family Home Retrofits
  - Find Incentives for your Single-Family Electrification project via Electrify Marin
  - Find Incentives and Rebates for your Single-Family Energy and Electrification Project via BayREN Home +
  - Find a Qualified Professional in the Bay Area via BayREN Qualified Contractors List
  - Find a Qualified Professional and Incentives across the State via The Switch is On/Tech Clean California
  - Calculate estimated residential incentives from and find more information about Inflation Reduction via Rewiring America IRA Calculator

One Page Factsheets Highlighting County Green Building Code Requirements

[All-Electric for All New Construction Buildings[PDF]]

[Electric Vehicle (EV) Readiness and Infrastructure for New Construction and Renovations[PDF]]

[Energy Efficiency and Electrification for Existing Single-Family Renovations]

Summary Renovation Energy Reach Code
Climate Zone 2 (Inland): Cost to Comply and GHG Impact

Renovation Scenario	Typical Project Cost ($)	Compliance Measures, *Must = 8 Points* (% of Project)				
		Efficiency *5 Points*	Efficiency + HP Dryer *5+1 = 6*	HP Water Heater *5+12 = 17*	New PV *5+12 = 17*	PV Exists (add Readiness) *5+6 = 11 Points*
		$9,683	+$1,134	+$2,462	+$10,064	+$4,135
Whole Home (not new construction)	600K	NA	NA	0.4%	0.7%	0.7%
800' addition (no bath or kitchen)	240K	NA	NA	1.0%	1.7%	1.7%
800' addition (with bath)	255K	NA	NA	1.0%	1.6%	1.6%
800' addition (w/ bath) and kitchen remodel	300K	NA	NA	0.8%	1.4%	1.4%
GHG Reduction from BAU		**NA**	**NA**	**↓ 18-24%**	**↓ 3-4%**	**NA**

**Modeled Methodology Produced by State Reach Code Team on Behalf of County of Marin*
***Excludes Tax Incentives and Rebates except Solar PV includes Federal Tax Incentives*