PROPOSED Key Component Actions in Phases

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Building Electrification Roadmap: A plan recommending steps that transitions Marin to an all-electric future

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# Immediate (2024-2025)

* A phase where existing policy, programs and incentives are currently being implemented and already have traction.
* This phase also includes actions that can be acted upon today, with limited resources.
* These additional actions need to be nurtured today (e.g. outreach, education, research and analysis, and identifying more resources) to support implementation of future:
	1. Mandated Regulatory Timelines (e.g. 2027-2031 Bay Area Air Quality Managment District’s (BAAQMD) NOx rules, CARB 2030 Zero-emission space and water heaters), and
	2. Actions illustrated in the [near-](#_wfwu003s2i8s) and [long-term](#_nj1kprcn7yld) phases below

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| **Action** **#** | **Action Description****(Policy, Program, Incentives)** | **Action Details** | **Equity Consideration(s)** | **Recommended Implementing** **Organizations and Partners** |
| --- | --- | --- | --- | --- |
| I-1 | **Develop, Adopt and Implement building reach codes for New Construction** that are all-electric, energy efficient, cost-effective and increase electric vehicle charging infrastructure. | * Create code uniformity by continuing to support all 12 Marin Jurisdictions to align with 2022 Marin Model Reach Codes already developed in collaboration with the community
* Apply to all building types (residential and commercial)
* Prepares building stock to get ahead of California’s ever more stringent Green Building and Energy Codes
 | * Exemptions and hardship and feasibility waivers for
	+ Low-income households
	+ Households with special medical and accessibility needs
 | 1. Local Government: Councils/Electeds and Staff
 |
| I-2 | **Develop, Adopt and implement building reach codes for Existing Single-Family and Multi-unit Renovations** that implement electric appliance measures, are energy efficient, cost-effective and increase access to electric vehicle charging infrastructure. | * Create code uniformity by continuing to support all 12 Marin Jurisdictions to align with 2022 Marin Model Reach Codes already developed collaboration with the community
* Prepares building stock to get ahead of California’s ever more stringent Green Building and Energy Codes
* Apply to all Single-family residential of a certain size or permit valuation
* Apply to Multi-unit Developments (MUDs) as long as it complements housing production
* Require Electric Readiness requirements especially for buildings built before 1980
* Provide resources on electrical panel optimization vs upsizing

 | * Exemptions and hardship and feasibility waivers for
	+ Low-income households
	+ Households with special medical and accessibility needs
* Encourage use of housing programs that to disincentivize property owners from displacing multi-unit renters during renovations or rehabilitation
	+ For example, [Multifamily Energy Savings Assistance (ESA) program](https://esamultifamily.com/) implemented by investor-owned utilities (IOUs)
* Consider anti-displacement policies (e.g. reference [SAJE](https://www.saje.net/wp-content/uploads/2023/09/Decarbonizing-California-Equitably-Report-1.pdf) or [Build-it Green](https://www.builditgreen.org/blog/reporting-out-renter-protections-in-equitable-building-decarbonization/))
 | 1. Local Government: Councils/Electeds and Staff
2. PG&E
3. Market-rate and Affordable Housing Developers
4. Marin Clean Energy
 |
| I-3 | **Expand upon existing outreach efforts and increase access** to local, regional, state and federal energy and electrification programs and incentives. | * Streamline and consolidate existing information while increasing access to the complex and rapidly evolving federal (IRA), state (TECH, PG&E), regional (BayREN, MCE programs), and local (Electrify Marin) rebates and incentives available
* Increase disability, health and ESL (language) services and inclusion during community engagements and creation of marketing collateral
* Partner with, fund and communicate programs through local community based organizations that have already built capacity, trust and strong community networks
* Use existing local government touchpoints with the community to provide information and education (e.g., time of renovation, planning or building permit counter, community events or campaigns, etc.)
 | * Targeted campaigns and efforts to low-moderate income (LMI) households and renters and energy burdened communities such as in rural West Marin
* Structure rebate and incentive programs to benefit LMI households and renters especially in underserved communities
* Increase awareness of and access to programs and incentives that first address deferred maintenance
* Address Split-Incentives: Structure multi-unit programs that incent both renters and property owners to implement energy efficiency and electrification measures
 | 1. Local Government: Councils/Electeds and Staff
2. BayREN
3. Community Based Organizations
4. Marin Clean Energy
 |
| I-4 | **Expand stakeholder engagement to community-based organizations that represent underserved communities** and builds a more equitable electrification transition | * Engagement doesn’t end once the countywide roadmap is finalized
* Provide periodic and ad-hoc updates of roadmap to workshop participants and community-based organizations
* Community-based organizations serving North Marin, Canal, Marin City and parts of West Marin should be empowered to set their own vision, priorities and implementable actions
 | * Support community led planning especially by organizations such as Marin Climate Justice Collaborative (Canal Alliance and Marin City CRHJ)
 | 1. Community Based Organizations
2. Local Government: Councils/Electeds and Staff
 |
| I-5 | **Find funding to create a countywide online, self-service resource center or “one-stop-shop”** for homes or businesses transitioning to more energy efficient and electric systems. | * Procure resources that implements a web-based platform that covers all 12 Marin jurisdictions
* Platform has the ability to quickly
	+ Analyze energy, GHGs and costs of installing efficiency and electrification measures
	+ Connect user to rebates and incentives available
	+ Submit an application
	+ View a list of qualified contractors
	+ Links to all 12 Marin local building code requirements and checklists
* Funding and staff resources needed to provide platform wrap-around services
	+ Market and solicit platform through social media and websites as well as in newsletters and utility-bill inserts
	+ Segmented marketing campaigns to target audiences
* Incorporate and keep up-to-date information on existing federal, state, regional, and local resources
* Redirect to other high touch services such as, but not limited to
	+ Statewide Campaign [SwitchIsOn](https://switchison.org/)
	+ Concierge services (e.g. [QuitCarbon](https://www.quitcarbon.com/))
	+ Home Energy Audit (e.g. [HomeIntel](https://corp.hea.com/hintel) or [Home Energy Score](https://www.bayren.org/home-learning-center/home-energy-score-hes))

 | * Target campaigns and marketing efforts to low-moderate income (LMI) and hard-to-reach households and renters and energy burdened communities such as in rural West Marin
* Support regional workforce development programs or initiatives such as L[ime Foundation’s NextGEN Trades Academy](https://www.thelimefoundation.org/nextgen-trades-academy/) that focuses on developing a more diverse and inclusive trades and contractor workforce
* Increase awareness of and access to programs, rebates and incentives that first address deferred maintenance
* Address Split-Incentives: Structure multi-unit programs that incentivize and make it easy for both renters and property owners to implement energy efficiency and electrification measures
 | 1. Local Government: Councils/Electeds and Staff
2. Community Based Organizations
3. Marin Clean Energy
4. BayREN
 |
| I-6 | **Explore a variety of ways that minimizes permit avoidance by streamlining and expediting the permit process** for single-family and multi-unit renovations and appliance installs | * Identify and implement pilots - when feasible - that can be tested immediately such as, but not limited to:
	+ Permit holidays or discounts
	+ Same day permitting
* Continue and increase training of examiners and inspectors on how to permit new heat pump, electric appliances and systems via BayREN
* Simplify permitting such as pairing plumbing and electrical permits to make the process faster and cheaper
* Lays the groundwork to evaluate and consider a Time of Sale or Time of Listing Requirement
 | * Offset the impact of the high cost of permitting for electrification
	+ Restructure and combine mechanical-electrical-plumbing fees
	+ Increase permit fees for natural gas installations compared to electric
 | 1. Local Government: Councils/Electeds and Staff
2. BayREN
 |
| I-7 | **Lay the groundwork to accelerate adoption of electric ready systems for existing buildings** in advance of the BAAQMD NOx rules that start in 2027 | * Restructure Electrify Marin’s panel upgrade incentives to prefer panel optimization and low amp appliances first, over panel upsizing
* Focus electrical contractor trainings on alternatives to panel upsizing and panel optimization
* Target outreach campaigns to known older residential and commercial buildings built before 1980
* Evaluate, develop, and adopt a countywide 2025 model reach building code which includes more aggressive electric readiness requirements and encourages optimizing capacity over upsizing
 | * Target campaigns and marketing efforts to low-moderate income (LMI) and hard-to-reach households and renters and energy burdened communities such as in rural West Marin
 | 1. Local Government: Councils/Electeds and Staff
2. BayREN
 |
| I-8 | **Continue to implement** [**Marin Countywide EV acceleration Strategy**](https://marinclimate.org/wp-content/uploads/2023/06/Marin-EV-Acceleration-Strategy.pdf) launched February 2023 | * Take key actions as outlined in the acceleration plan
 | * Partner with community based organizations to increase access and identify charging infrastructure need
* Use building codes to require charging capability for all tenants with parking spaces in multi-unit buildings
 | 1. Marin Climate & Energy Partnership
2. Local Government: Councils/Electeds and Staff
3. Transportation Authority of Marin
 |
| I-9 | **Encourage and coordinate with PG&E to improve infrastructure planning** especially electric load capacity planning and faster interconnection timelines | * Proactive owner/developer planning and communication that helps with PG&Es service and distribution planning
* Find funding to collect PG&E electrical data to analyze and project future countywide capacity needs
	+ Simultaneously collect and analyze natural gas infrastructure to identify ideal locations for neighborhood-scale electrification and gas infrastructure decommissioning
 | * Segment underserved populations across Marin when collecting data so we can understand the best opportunities to target pilots or campaigns
 | 1. PG&E
2. New Mult-unit affordable and market rate developers
3. Commercial developers
4. Local Government: Councils/Electeds and Staff
5. Marin Climate & Energy Partnership
 |
| I-10 | **Grow and accelerate the local and regional workforce** by supporting the training and development of contractors to meet increased demand | * Through BayREN, continue to increase contractor, building professionals and local building staff attendance to free trainings on installing and permitting of heat pumps and electrical appliances and systems
* Evaluate how to best grow Marin’s workforce and contractor base
 | * Participate in regional workforce development initiatives such as Rising Sun’s [Bay Area Residential Decarbonization High Road Training Partnership](https://docs.google.com/document/d/12goGL8hOm8e69E_4qlRi98pQ_yn_wezd/edit?usp=sharing&ouid=101422140461223943192&rtpof=true&sd=true) that increases job quality and equitable access for all workers in the residential decarbonization market
* Support regional workforce development programs such as L[ime Foundation’s NextGEN Trades Academy](https://www.thelimefoundation.org/nextgen-trades-academy/) that focuses on developing a more diverse and inclusive trades and contractor workforce

 | 1. Community Based Organizations
2. Local Government: Councils/Electeds and Staff
3. Local businesses
4. Trade associations
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# Near-Term (2026-2027)

* A phase where existing policy, programs and incentives are more mature and ongoing.
* This phase also includes actions that build upon those taken in the immediate phase
* These additional actions should be acted upon to support implementation of
	1. The Mandated BAAQMD Timelines starting the following year in 2027 (water heating), and
	2. Actions illustrated in the [long-term](#_nj1kprcn7yld) phase below
* These actions have less specificity compared to immediate actions because of the relative uncertainty of market and policy landscape

| **Action** **#** | **Action Description****(Policy, Program, Incentives)** | **Action Details** | **Equity Consideration(s)** | **Recommended** **Implementing Organizations and Partners** |
| --- | --- | --- | --- | --- |
| N-1 | **Begin implementation of** **countywide online “one-stop-shop” and continue implementing offline outreach efforts that increases access** to programs and incentives as they become available | * If funding is procured, soft launch the countywide web-based “one-stop-shop” for energy and electrification projects
* Compliment online platform with traditional outreach engagements such as in-person, webinars, newsletters, media, and promotion through community-based organizations and trade associations
* Continue growing qualified contractor list
 | * Targeted campaigns and efforts to low-moderate income (LMI) households and renters and energy burdened communities such as in rural West Marin
* Structure rebate and incentive programs to benefit LMI households and renters especially in underserved communities
* Increase awareness of and access to programs and incentives that first address deferred maintenance
* Address Split-Incentives: Structure multi-unit programs that incent both renters and property owners to implement energy efficiency and electrification measures
 | 1. Local Government: Councils/Electeds and Staff
2. New and Existing Multi-unit and Commercial Developers
3. Community-based organizations
4. Marin Clean Energy
5. BayREN
 |
| N-2 | **Integrate equity focused actions developed by community-based organizations that represent underserved Marin communities** | * Consider an addendum to the roadmap to incorporate actions that result in equitable outcomes
 | * Continue to support community led planning especially by organizations such as Marin Climate Justice Collaborative (Canal Alliance and Marin City CRHJ)
 | 1. Community Based Organizations
2. Local Government: Councils/Electeds and Staff
 |
| N-3 | **Consider providing low-cost financing options for residences** | * Discuss feasibility and options with MCE, local banks, and community-based organizations to increase financing options for building owners
* Financing options may include, but is not limited to tariff on-bill financing (upgrades repaid through a tariff added to the utility bill over time) or refundable transfer tax
 | * Targeted campaigns to LMI households
* Tariff on-bill financing can benefit LMI and credit-constrained customers who otherwise may not qualify for a home equity loan for upgrades.
 | 1. Local Government: Councils/Electeds and Staff
2. BayREN
3. Marin Clean Energy
4. Local Banks
5. Community Based Organizations
 |
| N-4 | **Implement permit avoidance measures by streamlining and expediting the permit process** for single-family and multi-unit renovations and appliance installs  | * Implement pilots evaluated and/or tested as good approaches to speed up the permitting process
* Continue to train examiners and inspectors on how to permit new heat pump, electric appliances and systems via BayREN
* Continue to identify ways to simplify permitting (e.g., combine permits) that makes the process faster and less costly to customers

 | * Offset the impact of the high cost of permitting for electrification
 | 1. Local Government: Councils/Electeds and Staff
2. BayREN
 |
| N-5 | **Implement policies and programs that accelerate adoption of electric ready systems for existing buildings** in advance of the BAAQMD NOx rules that start the following year, in 2027 | * Continue Electrify Marin’s upgrade incentives to prefer panel optimization and low amp appliances first, over panel upsizing
* Consider increasing Electrify Marin’s incentive for panel upgrade kicker
* Continue electrical contractor trainings on alternatives to panel upsizing and mitigate the need to perform a Service Upgrade
* Continue targeted outreach campaigns to known older residential and commercial buildings built before 1980
* Implement and enforce adopted 2025 building reach codes that includes more aggressive electric readiness requirements while encouraging optimizing electrical capacity over upsizing, where feasible
 | * Target campaigns and marketing efforts to low-moderate income (LMI) and hard-to-reach households and renters and energy burdened communities such as in rural West Marin
 | 1. Local Government: Councils/Electeds and Staff
2. BayREN
 |
| N-6 | **Continue to implement** [**Marin Countywide EV acceleration Strategy**](https://marinclimate.org/wp-content/uploads/2023/06/Marin-EV-Acceleration-Strategy.pdf)  | * Take key actions as outlined in the acceleration plan
 | * Partner with community based organizations to increase access and identify charging infrastructure need
 | 1. Marin Climate & Energy Partnership
2. Local Government: Councils/Electeds and Staff
3. Transportation Authority of Marin
 |
| N-7 | **Continue to coordinate with PG&E to improve infrastructure planning** especially electric load capacity planning and faster interconnection timelines | * Continue proactive owner/developer planning and communication that helps with PG&Es service and distribution planning
 | * Segment underserved communities across Marin when collecting data so we can understand the best opportunities to target pilots or campaigns
 | 1. PG&E
2. New Mult-unit affordable and market rate developers
3. Commercial developers
4. Local Government: Councils/Electeds and Staff
5. Marin Climate & Energy Partnership
 |
| N-8 | **Evaluate capacity and identify location to pilot a targeted neighborhood-scale electrification** project aka zonal electrification anywhere within the 12 jurisdictions across Marin | * Leverage data analysis previously performed
* Coordinate with PG&E and learned lessons from other Bay Area jurisdictions to identify criteria to select an ideal location in Marin County for gas infrastructure decommissioning
* Find funding to implement a neighborhood-scale electrification pilot project
 | * Consider underserved populations across Marin in the selection criteria
* Need to find funding for financing deferred maintenance in addition to financing energy and electrification upgrades
 | 1. PG&E
2. Existing Single- or Multi-unit affordable and market rate developers
3. Community-based Organizations
4. Local Government: Councils/Electeds and Staff
 |
| N-9 | **Continue to support the growth of the local and regional workforce**  | * Through BayREN, continue to increase contractor, building professionals and local building staff attendance to free trainings on installing and permitting of heat pumps and electrical appliances and systems
* Re-evaluate the needs on how to best grow Marin’s workforce and contractor base
 | * Continue to participate in regional workforce development initiatives that focus on high road jobs and diversity in the contractor base

 | 1. Community Based Organizations
2. Local Government: Councils/Electeds and Staff
3. Local businesses
4. Trade associations
5. Contractor workforce
 |
| N-10 | **Evaluate the feasibility of implementing a Time of Sale or Time of Listing Policy for residential buildings** | * Engage with realtors and community-based organizations to evaluate possible requirements
	+ Compliance check and resolutions
	+ Home Energy Score/audit
	+ Flexible energy and electrification compliance scoring
* Evaluate the capacity of enforcing departments anticipated to be in charge of enforcing
* Discuss acquisition of information with data providers such as Redfin, Zillow, MLS, and CoStar
 | * Continue to participate in local and regional workforce development initiatives as they arise

 | 1. Local Government: Councils/Electeds and Staff
2. Trade associations
3. Community-based organization
4. Private sector
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# Long-Term (2028-2031)

* A phase where existing policy, programs and incentives are written more broadly
* This phase may also exclude policies, programs and incentives previously taken in the immediate and near-term phase. Actions will depend on whether actions in the previous phases were implemented.
* It is harder to make specific actions for the future because the market, technological and policy landscape will change. Still, actions should be taken to support implementation of
	1. The second and third phase of Mandated BAAQMD NOx requirements in 2029 (space conditioning) and 2031 (large commercial water heating), and
	2. California Air Resources Board (CARB) 2030 Zero-emissions for space and water heaters

| **Action** **#** | **Action Description****(Policy, Program, Incentives)** | **Action Details** | **Equity Consideration(s)** | **Recommended** **Implementing Organizations and Partners** |
| --- | --- | --- | --- | --- |
| L-1 | **Develop, adopt and implement updated building and EV infrastructure reach codes for New Construction and Renovations for all building types** for the 2028 and 2031 code cycles | * Ideally develop and adopt during the 2028 and 2031 code cycle
 | * See I-1
 | 1. Local Government: Councils/Electeds and Staff
 |
| L-2 | **Continue implementation of** **countywide online “one-stop-shop”** and use as a starting touchpoint for broader community outreach and education | * Re-evaluate the value and need of the online platform
* Find more permanent funding to continue long-term use of the platform
 | * See N-1
 | 1. Local Government: Councils/Electeds and Staff
2. New and Existing Multi-unit and Commercial Developers
3. Community-based organizations
4. Marin Clean Energy
5. BayREN
 |
| L-3 | **Continue community engagements to re-evaluate policy and community needs**  | * Partner with community to re-assess barriers and solutions
* Look at new policy, program, financing and revenue generating mechanisms to fund energy and electrification projects
* Through BayREN, continue to increase contractor, building professionals and local building staff attendance to free trainings on installing and permitting of heat pumps and electrical appliances and systems
 | * Ensure community based organizations serving LMI and hard-to-reach households and renters and energy burdened communities are continually engaged and partnered with to develop actions
 | 1. Local Government: Councils/Electeds and Staff
2. BayREN
3. Community Based Organizations
4. Marin Clean Energy
5. Local businesses
6. Local Banks
7. Trade associations
8. Contractor workforce
 |
| L-4 | **Continue improving upon permit avoidance measures** | * Implement and re-evaluate approaches to continue speeding up the permitting process
* Continue to train examiners and inspectors on how to permit new heat pump, electric appliances and systems via BayREN
* Continue to identify ways to simplify permitting

 | * Offset the impact of the high cost of permitting for electrification
 | 1. Local Government: Councils/Electeds and Staff
2. BayREN
 |
| L-5 | **If feasible, implement a targeted neighborhood-scale electrification pilot** | * Continue coordination with PG&E
 | * Consider underserved populations across Marin in the selection criteria
 | 1. PG&E
2. Existing Single- or Multi-unit affordable and market rate developers
3. Community-based Organizations
4. Local Government: Councils/Electeds and Staff
 |
| L-6 | **If feasible, consider implementing a Time of Sale or Time of Listing Policy for residential buildings** | * Likely start with compliance check and resolutions and/or Home Energy Score/audit requirements
* Consider burdens to the seller and buyer
* Consider refundable transfer tax
 | * Exemptions and hardship and feasibility waivers for
	+ Low-income households
	+ Households with special medical and accessibility needs
 | 1. Local Government: Councils/Electeds and Staff
2. Trade associations
3. Community-based organization
4. Private sector
 |