Mill Valley Climate Action Plan (CAP) Task Force
Subcommittee on "Renewable Energy and Energy Efficiency"*

Draft recommendations for Task Force Review

Nov. 15, 2021

Subcommittee members: Susan Gladwin (Subcommittee Chair), Al Grumet (Task Force Vice-Chair), Greg Hildebrand (Planning Commission Chair)

Major topics covered:

- Building energy use and generation
- Building energy efficiency
- Building electrification
- Building materials

Subcommittee utilized input from the following:

- Reviewed CAPs, studies and ordinances from:
    - Sausalito, Berkeley, Mountain View, Larkspur, Fairfax, San Anselmo

- Held meetings with:
    - David Moller, Lead of Marin-Sonoma Building Electrification Squad
    - Mark Palmer, Sausalito Sustainability Committee
    - Jody Timms, Fairfax Climate Commission
    - Emily Chueh and Bruce Karney, Mountain View Sustainability Committee

- Considered additional input from:
    - Melissa Yu, Sierra Club, Electrification
    - Larry Waters, CEO, Electrify My Home

Background

Recent news underscores the potential for cities to set high goals and secure the support needed to reach them.

Petaluma received Cool City Award of $1M, along with Irvine and L.A., to enable them to achieve their 2030 goal of carbon neutrality without offsets.

Federal incentives and rebates in the Build Back Better bill (~$10B) is set aside to reduce the cost of replacing gas equipment with electric.

Ithaca, New York is the first U.S. city to commit to decarbonizing every building by 2030, voted 10-0 by City Council with funding of $100M secured.

Introduction or How to Read this Document

This document is a consolidation of three sets of inputs:

The subcommittee considered the Fairfax and Larkspur CAP plans when drafting recommendations. There are specific references to those plans included in sections throughout this document. In addition, the subcommittee added further recommendations.

Approach

We distinguish between measures that are “shovel-ready,” meaning it is ready for implementation, and topics where FURTHER ACTION is needed before the measure can be implemented. In the case of the latter, we recommend that a working group composed of Subcommittee members (Susan, Al, Greg), or other members of the community, be mobilized to develop a plan and recommendations.

Equity

Equity is a consideration that should inform the entire Climate Action Plan. While we don’t have a specific equity section, our Subcommittee deliberated on ways to ensure that the benefits of shifts to more efficient, electrified, resilient buildings can be made accessible and feasible for all. This is reflected in the specifics of our recommendations.

Economic Development and Other Co-Benefits

The shift described above will create new jobs for our local community. Many of the recommendations below have co-benefits in relation to economic development alongside health and lifetime cost savings.

Subcommittee Recommendations

CAP Description

Because of the expanded scope, the Subcommittee recommends considering renaming this section of the CAP “Building Decarbonization and Renewable Energy”

RENEWABLE ENERGY & ELECTRIFICATION

01. Building and Appliance Electrification

a. New Construction and Major Remodels

Subcommittee recommends:

Adopt an ordinance that requires all new construction and major remodels to be all-electric upon the date of Climate Action Plan adoption. Explore opportunities to collaborate with the County on the development of this ordinance, which is projected to be adopted by the County by January 2023.

FAIRFAX: New construction only.

b. Replacement of natural gas appliances and equipment on burnout

Subcommittee recommends:

- Adopt an ordinance that phases in requirements to replace natural gas appliances and equipment with electric appliances and equipment at time of replacement while addressing issues of feasibility and equity.
- Explore opportunities to collaborate with the County on the development of this ordinance
- Upon adoption of the Climate Action Plan update, adopt an electrification education requirement as a condition for replacement of natural gas appliances and equipment.

For additional context:

- FAIRFAX: Adopt an ordinance that phases in requirements to replace natural gas appliances and equipment with electric appliances and equipment at time of replacement.

- LARKSPUR: Consider adopting an ordinance in 2024 that requires homeowners to replace natural gas appliances, such as water heaters, stoves, cooktops, clothes dryers, and heating systems with high-efficiency electric appliances at time of replacement, where feasible.

c. Replacement of natural gas appliances and equipment by 2030

Subcommittee recommends:

Adopt an ordinance that phases in requirements to replace all natural gas appliances and equipment with electric appliances and equipment by 2030.

FURTHER ACTION:

Subcommittee will deliver to the City by July 1, 2022 an implementation plan that includes the following: :

- Proposed process for assessment of existing building stock
- Overview of potential financing models and sources of funding that would allow for electrification of all existing buildings in a manner that is feasible and equitable
- Proposed RFP for financing and deployment partners

For additional context:

- FAIRFAX: Adopt additional measures that would require replacement of all natural gas consumption/combustion by existing residential and commercial buildings by 2030.

d. Electrification Incentives, Assistance, Education and Outreach

Subcommittee recommends:

Seek financial incentives and technical assistance to support residents in making the transition for existing buildings. Promote available rebate programs such as Electrify Marin, BayREN.

- Promote awareness and understanding of electrification options to the construction industry and the community through education and outreach and community partners.
- Facilitate creation of Home Ambassador electrification program and promote the program to the community.

For additional context:

- FAIRFAX: Seek financial incentives and technical assistance to support residents in making the transition for existing buildings.

- LARKSPUR: Promote available rebate programs such as Electrify Marin, BayREN.

e. Municipal Buildings

Subcommittee recommends:

Municipal Building and Appliance Electrification (Fairfax)
Replace all natural gas consumption/combustion, and electrify all Town buildings by 2030. Improve energy efficiency of town buildings.

Solar Energy Systems for Municipal Buildings (Larkspur except where highlighted). Install solar energy systems at municipal buildings and facilities where feasible by 2030 and investigate and pursue innovative technologies such as battery storage and demand response programs.

Municipal Deep Green Electricity (Larkspur)
Continue to purchase 100% renewable energy through programs such as MCE Deep Green.

f. Renewable Energy

Subcommittee recommends:

GHG-Free Electricity (Larkspur)
Encourage residents and businesses to switch to 100 percent renewable electricity (MCE Deep Green, MCE Local Sol, and PG&E Solar Choice) through engagement campaigns and partner agency incentives and work with MCE Clean Energy to assure that it reaches its goal to provide Light Green electricity that is 95 percent GHG-free by 2022.

Renewable Energy Generation and Storage (Larkspur)

A. Accelerate installation of residential and commercial solar and energy storage systems.
B. Provide permit streamlining and reduce or eliminate fees, as feasible.
C. Update building codes, development codes, design guidelines, and zoning ordinances, as necessary, to further facilitate small, medium, and large-scale installations, where appropriate.
D. Encourage installation of solar panels over parking areas on commercial projects and large-scale residential developments through ordinance, engagement campaigns, or agency incentives.
E. Identify and promote financing and loan programs for residential and non-residential projects.
F. Encourage battery storage in conjunction with renewable energy generation projects through engagement campaigns and partner agency incentives.

FURTHER ACTION:
Develop a study on opportunities and specific action steps for expansion of rooftop solar and battery storage

g. Gas-powered Generators and Landscape Equipment

Subcommittee recommends:

Phase out the use of on-site fossil-fuel generators (Fairfax except where highlighted)

Encourage the use of non-fossil-fuel generators now, and adopt an ordinance phasing out the acquisition of and use of fossil-fuel generators in the City of Mill Valley no later than 2030.

- Seek financial incentives and technical assistance to support residents in making the transition to non-fossil-fuel generators and other options for power backup.

Electrify all landscape equipment (Fairfax)

Adopt an ordinance to phase out use of all fossil-fuel landscape equipment.

- Seek financial incentives and technical assistance to support residents in making the transition to non-fossil-fuel landscape equipment.

h. Microgrids and Resilience Hubs

Subcommittee recommends:

Innovative Technologies

- Investigate and pursue innovative technologies such as microgrids, distributed solar generation, distributed battery storage, and demand-response programs that will improve local resilience and the electric grid's resiliency and help to balance demand and renewable energy production.

FURTHER ACTION:

Develop a study on opportunities to create solar-powered resilience microgrids for community use that would remain powered during an electric grid outage.

For additional context:

FAIRFAX:

- Pavilion as a Community Resiliency Center: Add battery storage and other modernization of the solar equipment currently residing in the Pavilion so that the Pavilion itself can remain powered ("island") during an electric grid outage. Finish this work in time to benefit the community as soon as possible.

- Town Operations Microgrid: As a second phase after the Pavilion is given the ability to island, extend this capability to other Town buildings

including Town Hall/Police Department, Fire Station, Community Center, Women's Club and Corporate Yard. As a part of this work, consider locations for batteries and addition of more solar generation, *e.g.,* solar shade structures in the Pavilion Parking Lot.

- In all the above microgrid design and implementation, work with MCE, Drawdown Marin and other agencies as possible, both to support Fairfax work and to educate and encourage other jurisdictions to pursue similar initiatives.

- Use the Town microgrid as a tool to raise the level of involvement in climate and resiliency work throughout Fairfax.
  - Prominently demonstrate the operation of innovative Town technologies, including through tours and live web content, and through schools and the Chamber of Commerce.
  - Consider means of funding the Town microgrid that could involve citizens investing in local work.
  - Find ways to support businesses' becoming able to island during power outages, thus supporting both the businesses, their patrons, and the Town.

- Educate and inspire residents and businesses to make improvements in their own emissions through demonstration on Town buildings, information given during permitting processes, and tours and web content highlighting both government and commercial/residential installations.

LARKSPUR:

Innovative Technologies
Investigate and pursue innovative technologies such as micro-grids, battery storage, and demand-response programs that will improve the electric grid's resiliency and help to balance demand and renewable energy production.

ENERGY EFFICIENCY

Subcommittee recommends *(*primarily leveraged from Larkspur plan*):*

Green Building Reach Code

- a. Continue to adopt green building requirements for new and remodeled commercial and residential projects above the State building code.
- b. Consider adopting low embodied-carbon concrete standards similar to those adopted by the County of Marin.

Streamline Permit Process and Provide Technical Assistance

- Analyze current green building permit and inspection process to eliminate barriers and provide technical assistance to ensure successful implementation of green building requirements.
- Coordinate with other Marin County agencies to adopt consistent application requirements, where practicable.
- Work county-wide to identify incentives and make it easier for contractors and building counter staff to expedite.

Energy Audits (Fairfax except where highlighted)

- Promote energy audits for all residential, commercial, and municipal buildings through education and outreach.
- Require energy audits for residential and commercial buildings for major remodels, and prior to putting a property up for sale, [*including identification of cost savings from energy efficiency measures and potential rebates and financing options (Larkspur)],* and provide with other disclosure requirements to potential buyers.

Energy Efficiency Programs (Larkspur except where highlighted)

- Promote and expand participation in residential and commercial energy efficiency programs.
- Work with organizations and agencies such as the Marin Energy Watch Partnership, the Bay Area Regional Network, Resilient Neighborhoods, Sustainable Mill Valley LED Partnership, and the Marin Climate & Energy Partnership to promote and implement energy efficiency programs and actions.
- Continue and expand participation in energy efficiency programs as they become available.
- Promote utility, state, and federal rebate and incentive programs.
- Participate and promote financing and loan programs for residential and non-residential projects such as Property Assessed Clean Energy (PACE) programs, PG&E on-bill repayment, and California Hub for Energy Efficiency Financing (CHEEF) programs
- Develop a process by which renters can obtain energy usage and efficiency information for rental units.

Cool Pavement and Roofs (Larkspur/Fairfax)

- Use reflective, high albedo material for roadways, parking lots, sidewalks, and cool roofs to reduce the urban heat island effect and save energy.
    - Evaluate the use of high albedo pavements when resurfacing City streets or re-roofing City facilities.
    - Adopt mandatory building code measures to require new development to use high albedo material for driveways, parking lots, walkways, and patios, and cool roofing.
    - Maintain and expand the use of urban tree cover for street-level temperature reduction.

Energy Efficiency Audit and Retrofits (Larkspur)

- Work with the Marin Energy Management Team to identify and implement energy efficiency projects in municipal buildings and facilities and electrification of existing building systems and equipment that use natural gas.

Energy Conservation (Larkspur)

- Reduce energy consumption through behavioral and operational changes.
    - a. Establish energy efficiency protocols for building custodial and cleaning services and other employees, including efficient use of facilities, such as turning off lights and computers, thermostat use, etc.
    - b. Incorporate energy management software, electricity monitors, or other methods to monitor energy use in municipal buildings, where feasible.
    - c. Investigate 9/80 work schedule and remote work opportunities for employees to reduce use of City facilities and to shut down City facilities entirely where feasible.

Streetlights (Larkspur)

Replace inefficient street, parking lot and other outdoor lighting with LED fixtures.

SUSTAINABLE BUILDING MATERIALS

Subcommittee recommends:

- Adopt an ordinance to require use of Forest Stewardship Council certified materials in new construction, major remodels and outdoor use, upon adoption of the Climate Action Plan
    - Revise permitting process to include materials choice related to FSC-certification as a condition of planning approval by Building Department
    - Discourage use of non-certified old-growth materials including Cedar, Redwood, and rainforest hardwoods for outdoor use (decking, fencing, siding, and landscape construction)

FURTHER ACTION:
Develop plan and Design Guidelines on additional materials, such as those listed here, to be prepared by the Planning Commission and the Planning Council, by September 1, 2022:

- Discourage the use of OSB sheathing for exterior use and vinyl for interior materials
- Provide education and outreach on materials choices and impact on climate in support of the above
- Promote and encourage use of existing materials from buildings (historic or otherwise) that are being remodeled or torn down.

ELECTRIFICATION FUND AND CARBON PRICING

In support of their Climate Action Plan, Fairfax includes the following provision:

> “Establish a town-wide goal to become carbon neutral by setting up a fund (similar to an internal price on carbon) to incentivize and support projects by residents to reduce their carbon footprint.”

While this goes beyond the scope of our Subcommittee, we recommend FURTHER ACTION to evaluate this approach.

Appendix

Tools we can use:

- Codes
- Ordinances
- Streamlining or eliminating permits
- Prioritize zoning
- Acknowledge incentives and rebates (like Ithaca)
- Design guidelines, conditions of approval
- Bond measures (can be funded by residents too)
- Community outreach, education, campaigns
- Resilient Neighborhoods
- New education and outreach programs (like Drive Clean Bay Area, but for buildings)
- Cool Blocks/Cool Cities
- New resources (TBD) to help people navigate electrification, materials choices, other
- Influence time of use rates to favor electrification