



2021-2023 Two-Year Sustainability Program Priorities

CCAP 2030 Goal: 40% reductions in greenhouse gas emissions from 1990 levels (GHG's)

2019-2021 Accomplishments

GENERAL

- Secured Beacon Award for Interim Accomplishments in energy savings from the Institute for Local Government

LOW-CARBON TRANSPORTATION

- Installed 6 electric vehicle chargers at City Hall
- Streamlined our electric vehicle charger permit process and offered template to other cities and towns
- Switched to Renewable Diesel for all City diesel vehicles, including fire trucks
- Hosted a Bike to the Ballpark event with Transportation Authority of Marin and the San Rafael Pacifics
- Promoted transit, electric vehicle, and e-bike events, incentives, and programs

ENERGY EFFICIENCY & RENEWABLE ENERGY

- Conducted audits of City facilities and launched an energy efficiency retrofit project at two facilities
- Promoted County-wide Electrify Marin rebate program and technical resources, MCE Deep Green and PG&E Solar Choice renewable electricity programs, and home energy workshops

WASTE REDUCTION

- Continued to host a Climate Corps Fellow to assist with zero waste programs, including single-use take-out plastics reduction at restaurants, illegal dumping programs and outreach, waste reduction activities in City facilities, and other community outreach activities
- Partnered with the Mattress Recycling Council to offer bulky item drop-off events in the Canal neighborhood with a focus on mattress recycling
- Created compliance process, website and support resources including how-to videos for businesses to comply with AB 1826 mandatory organics recycling law
- Created new surplus equipment policy focused on reuse

WATER CONSERVATION

- Created web resources for water conservation, including Mayor's Water Conservation Pledge

SEQUESTRATION AND ADAPTATION

- Started adaptation and resilience planning with the County of Marin and community partners
- Created CityofSanRafael.org/Adaptation web resource pages
- Assisted with creation of General Plan documents related to flooding and sea level rise
- Participated in regional planning collaboratives with Bay Conservation and Development Commission, Bay Area Climate Adaptation Network and Bay Adapt
- Planted 100 trees in collaboration with State agencies and community volunteers



COMMUNITY ENGAGEMENT

- Created Climate Role Model program for CCAP website, featuring local businesses, nonprofits, and individuals taking climate action.
- Created several Waste Wise Business Spotlight case studies to support commercial recycling
- Supported Chamber Green Business Committee and green business events, including Marin Sustainable Enterprise Conference and Green Business Program offerings
- Supported Resilient Neighborhoods by hosting and promoting classes through Recreation
- Continued active engagement with Marin Climate and Energy Partnership as well as community partners and programs such as Bike to Work Day, Canal Community Resilience Council, Drive Clean Marin, Marin Commutes, and Sustainable San Rafael among others
- Established a core team and framework for an Equitable Low-Carbon Economy Working Group

2021-2023 Two-Year Sustainability Program Priorities

CCAP 2030 Goal: 40% reductions in greenhouse gas emissions from 1990 levels (GHG's)

DRAFT PRIORITIES

ACTION STRATEGY	OBJECTIVES
1. Zero Emission Vehicles Policies and Programs	Develop and begin to implement a San Rafael Electric Vehicle Strategy
	Continue to transition fleet to low-carbon alternatives
	Promote Drive Clean Marin and other low-carbon transportation programs
	Develop policies to reduce off-road emissions and electrify equipment
2. Mandatory Recycling and Organics	Develop and adopt ordinance and implement programs for SB 1383 compliance in conjunction with Marin Sanitary Service and other agencies
	Identify opportunities for organic waste diversion that also sequesters carbon
3. Adaptation Planning	Secure funding and conduct adaptation planning process with focus on environmental justice & sea level rise
	Begin comprehensive adaptation planning with county-wide coordination
4. Microgrids Assessment and Development	Develop an analysis of opportunities for municipal and community microgrids with a special focus on underserved communities
	Seek funding to implement a microgrid project with community partners such as MCE Clean Energy
5. Building Energy Efficiency & Electrification	Work with Marin Energy Watch Partnership to promote energy efficiency & electrification
	Adopt new Green Building Code with analysis/option of all-electric and other reach codes
	Identify & include incentives & technical assistance with permit requirements
6. Equitable Low Carbon Economy	Convene thought leader team to develop plan of action
	Conduct specific, time-limited business engagement to develop a work plan and recommendations



1. Zero Emission Vehicles Policies and Programs Cost & Benefits Snapshot

Potential GHG Reduction

30,345 MTCO₂e, or about 31% of the City's total 2030 reductions goal.

Summary

Measure LCT-C1: *Develop a Zero Emission Vehicle Plan that will result in 25% of passenger vehicles in San Rafael to be zero emission vehicles (ZEVs), including plug-in electric vehicles (EVs) and hydrogen fuel cell electric vehicles, by 2030.* This item includes 13 actions the City could do to decrease emissions by helping to increase the number of ZEVs in use by residents and businesses in San Rafael. Some actions will require additional analysis. The first step in completing this early priority item will be to develop the ZEV Plan, which would incur no costs other than staff time, and requires no additional staff resources than currently allocated. Additional efforts include promoting ZEV incentives and campaigns and developing policies to reduce off-road emissions and increase the availability of electric vehicle chargers in strategic locations. An update to the City's Fleet Policy will be conducted as well.

Funding

No cost to the City for developing the Strategy or the Fleet Policy, and staff is already working closely with the Transportation Authority of Marin and Marin Climate and Energy Partnership to develop a Countywide Strategy that San Rafael can participate in. Direct costs to the City for implementation will likely include installation of EV chargers and wayfinding and parking signage. Potential costs include trenching, wiring, electrical upgrades, installation, and parking infrastructure changes. Most, if not all, of these costs can be offset by grants and incentives from PG&E, MCE Clean Energy, the Transportation Authority of Marin, the Bay Area Air Quality Management District, the State, and other agencies or programs. All current charger installations all been funded in this way, although ongoing maintenance falls to the General Fund and Parking Services. The majority of the ZEV Plan's actions, such as the development of policies and ordinances and participation in outreach and behavior change campaigns, will be carried out by staff and community partners and will not incur additional costs to the City at this time.

Economy and Social Equity

Potential opportunities and impacts to the local economy include additional costs to builders, property owners and developers for installing the wiring and infrastructure necessary to meet new mandates. However, there are a variety of rebates and incentives available to help offset those costs in situations where there is multi-family or workplace parking. In addition, the addition of EV chargers may increase property values, especially as ZEVs gain in popularity and demand. Currently, a ZEV costs more than a

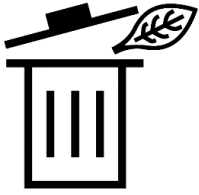
similar internal combustion engine model, but the annual cost of ownership is lower because electricity is cheaper than gas, and ZEVs do not require oil changes and other types of maintenance.¹

Currently there is very little opportunity for residents of multifamily dwellings to charge vehicles at home. Having more EV charger availability in apartment complexes, public parking lots, and workplace settings will enable renters to acquire EVs and plug-in hybrids. Local sales and tax revenue could go up or down slightly depending on availability of ZEVs at local dealers and rate of adoption. There will also be indirect market benefits to local contractors who will be providing services and supplies for these efforts. There are also State and regional programs and incentives directed at lower-income individuals and renters to purchase ZEVs. And MCE Clean Energy offers multifamily charger rebates as well.

Co-Benefits

The primary benefit for this activity is to make it easier for citizens to get charging for electric vehicles and to remove obstacles to citizens' ability to acquire electric vehicles. Co-benefits include health benefits from less particulate matter and airborne pollutants, including volatile organic compounds, nitrogen oxides, carbon monoxide, and sulfur dioxide. In addition, there are opportunities to aid in simplifying permitting and procedures for other construction permits, increased customer satisfaction at the counter, and less time and expense for vehicle maintenance for consumers since EVs do not require oil and filter changes.

¹ Borlaug et al., Joule 4, 1470–1485
July 15, 2020 a 2020 Elsevier Inc. <https://doi.org/10.1016/j.joule.2020.05.013>



2. Mandatory Recycling and Organics Cost & Benefits Snapshot

Potential GHG Reduction

9,680 MTCO₂e, or about 10% of the City's total 2030 reductions goal.

Summary

WR-C4: *Adopt an ordinance requiring mandatory subscription to and participation in waste diversion activities, including recycling and organics collection provided by Marin Sanitary Service. Consider including phased implementation of the ordinance, penalties, and practical enforcement mechanisms.* With the passage of SB 1383 the State is requiring local jurisdictions to pass enforceable local recycling and organics diversion mandates by January 1, 2022. This item would require an analysis of the challenges and opportunities here in San Rafael, including the potential of partnering with the other agencies that have solid waste franchises with Marin Sanitary Service (MSS). There is a need for more capacity for the anticipated large quantities of organic material that is mandated to be diverted from landfills, as well as for the recovery of edible food, also mandated by SB 1383. Having more local facilities to process organic materials, potentially in a way that produces energy or sequesters carbon could offer multiple benefits. Coordination Countywide will be essential to enable adequate recovery of edible food through programs such as ExtraFood.org. In addition, the City will be required to purchase certain amounts of compost and mulch generated by the law as a way of creating demand and enabling a circular economy around organic materials.

Funding

Typically, funding for an analysis that would affect ratepayers is conducted through the rates and has no direct cost to the City. An analysis is underway in conjunction with the other MSS franchisors in the range of \$155,000 which will be shared equitably between ratepayers of all jurisdictions. The near-term rate impact relating to planning for SB 1383 compliance is anticipated to be in the .08 to .3% range depending on the outcome of a Zero Waste Marin funding proposal. Actual and ongoing implementation of the law will most likely have an additional, significant, and as of yet unknown cost to the City and ratepayers, which will be determined during upcoming compliance planning efforts.

Economy and Social Equity

Potential opportunities and impacts to the local economy include increased costs of doing business for commercial customers, the potential of increased or decreased rates for customers depending on how much they can reduce their landfill garbage service, and the potential for new types of business that could serve solid waste generators with large amounts of organic materials. Potentially, extra costs of doing business may be passed along to customers or even to renters in multifamily dwellings. Program development should focus on ways to mitigate potential costs to the most economically



disadvantaged. Local facilities and programs to manage, sort, and process the increase in organic materials could provide new local jobs.

Co-Benefits

There could be co-benefits from working together more closely on recycling and diversion activities county-wide by making it easier for the public to understand and comply, and by providing more opportunities for adequate recycling. Increased recycling and composting saves landfill space and lengthens the amount of time we are able to use our local landfill. New, local business models to address increased amounts of edible food recovery and organic materials recovery could provide jobs for local residents. The establishment of new, local facilities to process organic food waste, and/or the processing of woody materials removed through fire prevention efforts could create energy such as is being done at Central Marin Sanitation Agency or be dispersed on local farmland and open space to sequester carbon as is being done by the Marin Carbon Project.



3. Adaptation Planning Cost & Benefits Snapshot

Summary

SA-C4: *Prepare for and adapt to a rising sea level.* **SA-C5:** *Prepare for and respond to the expected impacts of climate change.* These items represent San Rafael’s commitment to prepare for the effects of climate change, some of which are already upon us: rising seas and increased flooding, drought, health impacts from extreme heat and poor air quality, and the increased likelihood and prevalence of wildfires and landslides. Many projects and resources are available to San Rafael including the County’s BayWAVE sea level rise vulnerability assessment, San Rafael’s General Plan 2040 and the Resilient by Design Challenge project focused on East San Rafael among others. The first step for this early priority item is to identify funding to continue the work that’s already been done toward developing a full-fledged adaptation plan. Simultaneously the City needs to work Countywide and regionally and seek effective means of coordination and collaboration, specifically through alignment in our Local Hazard Mitigation Plans.

Funding

Costs to develop an adaptation plan that prepares for multiple hazards could be in the several hundreds of thousands of dollars, which are currently not budgeted and to which there is no current revenue source. However, there are a number of funding sources available, mostly grants, that could be leveraged from State agencies such as the State Coastal Conservancy, from private foundations such as the Marin Community Foundation, and from a variety of other sources such as Prop 1 and Prop 68 funds, Measure AA, and the Funders’ Network among others. Staff will work with our community partners to identify funding to accomplish this measure. This item does not include implementation of adaptation measures, which will require multiple millions of dollars and new funding models.

Economy and Social Equity

The potential negative impacts to San Rafael are significant and daunting. Studies show a potential loss to property of [\\$7 billion](https://baykeeper.org/shoreview/economic-loss.html)² to San Rafael during a significant flood event with a three-foot rise in sea levels. Those most vulnerable are often those with the least means to respond and recover: those with limited income, resources and local support systems, including residents of the Canal Neighborhood, older adults, and people with disabilities. Efforts to plan for adaptation and resilience must prioritize those most vulnerable and with the least means. Fortunately, State guidance and funding mechanisms are most often now placing priority on or mandating that funding recipients have robust social equity components in their projects. San Rafael has already done a lot in this area and is building our capacity to engage and include low income and communities of color in our planning efforts.

² <https://baykeeper.org/shoreview/economic-loss.html>

Co-Benefits

Increasingly, insurers are looking at climate change in their policies and portfolios. Cities with adequate climate action and adaptation strategies and implementation will be better able to continue to sell bonds for projects and maintain good credit ratings. As planning and projects go forward there is potential for people in hazard zones that are being addressed to escape higher premiums or discontinuance of coverage. All planning efforts should look at co-benefits that also reduce greenhouse gas emissions or provide other short-term needs while planning for long-term impacts. For example, when looking at energy resilience, there are opportunities to not only provide for electricity during a disaster, but also provide it at lower costs and through renewable means, providing benefit to the community outside of a disaster scenario. In addition, infrastructure projects to protect areas of San Rafael will require labor and could provide jobs with valuable skills training for local residents and contractors.



4. Microgrids Assessment and Development Cost & Benefits Snapshot

Potential GHG Reduction

10,940 MTCO₂e, or about 11% of the City's total 2030 reductions goal.

Summary

RE-C1: Renewable Energy Generation *Accelerate installation of residential and commercial solar and other renewable energy systems.* **RE-C4: 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.* **RE-M1: Solar Energy Systems for Municipal Buildings:** *Install solar energy systems at municipal buildings and facilities where feasible and investigate and pursue innovative technologies such as battery storage and demand response programs.* These measures and the activities associated with them aim to reduce the carbon intensity of electricity being delivered to homes, businesses, and municipal buildings here in San Rafael while increasing resiliency in the face of energy disruptions. The City and its partners will need to assess current barriers and opportunities to the installation of solar energy and battery backup systems to identify opportunities for facility or community microgrids. The City has done initial assessments and has begun to partner with our utilities and agency partners such as PG&E, MCE Clean Energy, and the Marin Climate and Energy Partnership (MCEP) to identify opportunity sites, funding, and technical assistance.

Funding

Initial costs associated with this effort are minimal and mostly comprise staff time commitment from the Sustainability Program and community and utility partners. The cost of solar is at all-time lows and residents and businesses that have adequate space, sun exposure, and energy offset potential can recoup their costs fairly quickly. However, the costs for battery storage are significant. The State and California Public Utilities Commission are putting together programs, technical assistance, and funding opportunities to enable more microgrids and new technologies to contend with public safety power shutoffs and other power disruptions, particularly in disadvantaged communities. Should opportunities for the City be identified, grants would be sought to offset costs. Other funding mechanisms include on-bill financing and other zero-to-low interest loans and would most likely be brought to Council for approval. Community microgrid projects would require funding by utilities, property owners, and through loans and grants and would not require City funding.

Economy and Social Equity

Renewable energy generally is a net benefit financially to adopters. For example, most solar projects include return on investment that amplifies over time reducing energy costs for the building owners. There are a variety of funding mechanisms that can allow property owners to own, lease, or procure



solar through power purchase agreements with no money down such as the City did with its four municipal solar installations. Solar energy systems on affordable housing can be a great benefit to renters, especially if they participate in payment of electricity. However, there is usually a “split incentive” in that property owners do not see the financial benefits of the solar they install if renters are paying the bills. Thus, the incentive is minimal and often requires additional encouragement. Nonprofit housing collaboratives currently tend to have more interest and incentives as exemplified in the Canal Alliance’s property that was a beneficiary of a Grid Alternatives solar project.³

Co-Benefits

Solar rooftop systems and local solar with energy storage have the potential to increase local energy resilience during a disaster. They also provide a hedge against increases in electricity rates. Less fossil-fuel based electricity reduces overall pollution and their associated health impacts, which tends to benefit lower-income communities that are often located closer to energy generation plants.⁴ New State legislation to recycle solar panels and batteries could provide new jobs and a circular economy locally and will be explored in the economic working group in Priority 6.

³ News Release “Marin Residents and Local Nonprofits Join Together to Bring Solar Energy to Recent Immigrants”
<https://gridalternatives.org/sites/default/files/Solar%20for%20Canal%20Alliance%20Press%20Release.pdf>

⁴ PSE Healthy Energy “Natural Gas Powerplants in California’s Disadvantaged Communities”, April 2017
https://www.psehealthyenergy.org/wp-content/uploads/2017/04/CA.EJ_Gas_Plants.pdf



5. Building Energy Efficiency and Electrification Cost & Benefits Snapshot

Potential GHG Reduction

18,280 MTCO₂e, or about 19% of the City's total 2030 reductions goal.

Summary

EE-C4: Green Building Reach Code *Investigate adopting a green building ordinance for new and remodeled commercial and residential projects that requires green building methods and energy efficiency savings above the State building and energy codes. Consider utilizing the County's green building ordinance as a model and including the use of photovoltaic systems and all-electric building systems as options to achieve compliance.* **EE-C5: 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. Work county-wide to make it easier for contractors and building counter staff to simplify applications and identify incentives.*

Every three years the State of California updates the Green Building codes and local governments have the opportunity to go beyond by adopting stronger reach codes. These two CCAP 2030 measures go hand-in-hand in trying to build a customer experience that removes barriers to adoption of green building practices while meeting or exceeding new State building code requirements. The County of Marin led a county-wide effort to help cities achieve our GHG reduction goals while ensuring a positive experience for builders and property owners and has developed a model ordinance San Rafael should consider. In addition, the Green Building codes will be revised in 2022 and there will be opportunities for San Rafael to consider all-electric building requirements as well as reach codes for electric vehicle chargers among other things.

Funding

Currently there are no costs associated with this effort other than staff time commitment from the Building Division and the Sustainability Program. Staff will leverage the work being done and coordinated by the County, the Marin Climate and Energy Partnership, and the Bay Area Regional Energy Network (BayREN). Should there be activities identified that would incur costs, funding would be identified from department budgets, grant or other external sources, or for significant program costs would be brought to City Council for approval first.

Economy and Social Equity

There are some concerns that increased costs associated with green building codes could add to the costs of an already expensive real estate market. As a percentage, Green Building reach codes have been estimated to add 1-2% to construction costs in California.⁵ However, net operating costs are lowered, and when these costs are reduced, the value of a commercial project increases while occupancy costs decrease.⁶ Therefore, reach codes should ideally seek to reduce ongoing costs of ownership to balance out any increased cost in rents. When it comes to the built environment, programs like MCE Clean Energy's Green and Healthy Homes program should be supported to assist with getting renters healthier and more efficient homes while reducing energy bills. Additionally, there are rebates and incentives available for many types of green building measures such as energy efficient lighting and low-flow fixtures.

Co-Benefits

There are many potential co-benefits to Green Building reach codes beyond the long-term occupancy savings, including having healthier, more efficient homes, better heating, less indoor air pollution, among others. In addition, there are other GHG reduction benefits outside of building energy due to the codes, including less water use, less emissions from waste disposal, and reduction in transportation related GHGs. Finally, many CalGreen mandates have co-benefits relating to other environmental impacts studied in Environmental Impact Reports, such as reducing water demand, criteria air pollutants, and waste disposal.⁷ Work on this program in combination with the permit and process streamlining already in-process at the City will continue to improve the public user experience and staff satisfaction as well.

⁵ Steve Pellegren, "Sustainability Is Vital, but Adds To the Cost of Building In California", National Real Estate Investor, October 26, 2015 <https://www.nreionline.com/multifamily/sustainability-vital-adds-cost-building-california>

⁶ Nora Knox, "Green Building Costs and Savings", U.S. Green Building Council, March 25, 2015 <https://www.usgbc.org/articles/green-building-costs-and-savings>

⁷ Louise Mazingo & Ed Arens, "Quantifying the Comprehensive Greenhouse Gas Co-Benefits Of Green Buildings", Center for Environmental Design, UC Berkeley, October 24, 2014. <https://ced.berkeley.edu/research/faculty-projects/water-waste-transportation-benefits-green-buildings>



6. Equitable Low Carbon Economy Cost & Benefits Snapshot

Summary

CE-C4: Innovation and Economic Development: *Convene an economic development and innovation working group to explore public-private partnerships and develop ways to decarbonize our local economy while spurring sustainable enterprise and equitable employment.* This measure will allow the City to leverage the talents of local business owners and managers, thought leaders, and regional subject matter experts to understand what the opportunities are for San Rafael to create a low-carbon economy. This will involve convening a working group and engaging leaders in local business, workforce development, nonprofit, and economic development in a time-limited, facilitated engagement to identify key recommendations, work projects, and funding mechanisms to help San Rafael strengthen our local economy with a focus on sustainability and good, local jobs.

Funding

Costs associated with this effort include hiring a facilitator and providing adequate supplies and food and beverage for gatherings and presentations, estimated at \$10,000. This has been included in the proposed Sustainability Program budget for fiscal year 2021-2022. It should be noted that both the State and Federal government are proposing budget measures to support the green economy and pathways to good employment that we hope to position San Rafael for through this process.

Economy and Social Equity

The marriage of economy and social equity is nowhere as evident and necessary as with this CCAP 2030 measure, and a successful low-carbon economy will most likely require good, green jobs and training programs. Enhanced economic activity should benefit as many as possible. Marin is home to many potential partners to assist, including the College of Marin, Dominican University, Marin Economic Forum, Canal Alliance, Community Action Marin, MCE Clean Energy, Marin Community Foundation, the Workforce Alliance of the North Bay, Conservation Corps North Bay, Multicultural Center of Marin, and others, including partners in Sonoma.

Co-Benefits

There are many potential co-benefits to strengthening and diversifying our local economy and prioritizing innovation and emissions reductions. These include benefits to ecosystem resilience, trade, employment, health, energy security, and business competitiveness. In addition, efforts to build collaborations have other benefits to the City and community including new opportunities for public-private partnerships, enhanced community engagement opportunities for other programs and projects, and infusion of expertise and insights into City processes and services.