

Marin County

Climate Action Plan (2015 Update)

Master Responses to Key Public Comments on the August 2014 Public Draft CAP

1. **Include more aggressive, visionary, bold steps to reduce emissions**

Response: The CAP Update includes all measures that the County has deemed feasible and cost-effective to implement by the year 2020 in order to meet the 2020 target of 30% below 1990 emissions. The County's 2020 emissions reduction target exceeds statewide goals established by AB 32, which commits to reducing statewide GHG emissions to 1990 levels by 2020. The AB 32 Scoping Plan provides a roadmap for achieving these reductions and recommends a complementary reduction goal for local governments of 15% below current emissions levels, which is roughly equivalent to 1990 emissions levels. The County's community emissions reduction target is 30% below 1990 emissions levels—a far more aggressive target than AB 32—and is one of the most aggressive and forward-thinking emissions targets of any jurisdiction. California Executive Order S-03-05, which was issued in 2005, articulates a long-term goal for the state of 80% below 1990 emissions levels by the year 2050. In order to reach this target for 2050, the state will have to go above and beyond what is included in the AB 32 Scoping Plan for 2020. Marin County is attempting to get ahead of the curve and be on-track to meet the S-03-05 statewide target for 2050 by adopting an aggressive community target.

In addition, there are many more and additional actions that need to be taken by 2030 and beyond, especially to reach the 2050 target of 80% below 1990 emissions, such as zero net energy buildings, higher use of renewable energy, zero waste strategies, a largely electric vehicle fleet, etc. However, these actions are not feasible technologically, financially, or practically by the year 2020 which is fast approaching. The County has carefully considered all feasible measures to reduce emissions by 2020 and has incorporated these into the CAP Update. Future CAP updates will expand on these measures and consider new ways to reduce emissions to meet more ambitious post-2020 GHG targets.

Moving forward, the County will consider any updates to these targets in future CAP updates and assess the latest scientific findings and recommendations for alternative and more aggressive targets.

2. Include more mandatory measures

Response: The CAP Update relies on a mixture of mandatory and voluntary GHG reduction measures. There has been recorded success of both approaches. For example, there have been many energy efficiency retrofits and solar roofs installed at Marin County residences and commercial buildings under existing voluntary incentive programs. Overall, the CAP Update employs a balanced approach using both mandatory and voluntary approaches where appropriate.

The final CAP also includes an additional mandatory requirement for Trans-4 (Electric-Powered Landscaping Equipment). Under this measure, the County will adopt an ordinance requiring exterior electrical outlets on all new development to support the use of electric-powered landscaping equipment.

Please refer to additional discussion in Appendix C of the CAP Update.

3. Consider an electric vehicle measure

Response: The County has added two new EV measures: one for community (Trans-3. Electric Vehicle Charging Stations) and one for municipal (Trans-2.3. Electric Vehicle Charging Stations). The community measure involves the installation of 20 new EV charging stations throughout the County. This strategy would support plug-in hybrid electric vehicle (PHEV) purchase by the general public by enabling charging stations in key locations throughout Marin to allow PHEV use for shorter trips in and around the County. Cooperative planning with the Cities could increase potential for PHEV trips within the County and among the cities. The County is also in the process of updating their green building code and hopes to include a requirement that new residential and commercial construction include pre-wiring for EV chargers.

The municipal measure involves the installation of 10 new EV charging stations at County facilities. This strategy would support plug-in hybrid electric vehicle (PHEV) purchase by County employees by enabling charging stations at County facilities.

The County would work with MCE to identify grants and other funding sources to help finance the installation of charging stations throughout the County. The County could also work with PG&E to fund and install charging stations. The County will consider expanding these measures in the future by installing more EV charging stations as feasible. Please refer to additional discussion in Appendix C of the CAP Update.

4. Move heating systems off natural gas to electric heat pump and move away from fossil fuel use in general

Response: Under new Supporting Measure SP Energy-4 Public Education on Zero Net Energy Buildings, the County will provide educational material to the public about zero net energy (ZNE) buildings and host trainings for the public and contractors on new technologies like thermal heat pumps to replace natural gas heaters. The County would encourage and support new buildings to not use natural gas, propane, or any other fossil fuels, and instead use highly efficient electric heat pump systems for heating and cooling, electric heat pump water heaters, and very efficient induction cook tops. This measure was not made mandatory and was not quantified for GHG reductions. Please refer to additional discussion in Appendix C of the CAP Update.

Regarding comments that the County should include more measures to move away from fossil fuels in general or natural gas in specific, the CAP Update does include measures that seek to start the transition away from fossil-fuel use across all emission sectors. However, this will be a long-term shift in energy use that will need to be phased in over time in order to be implemented in a cost-effective way and also in concert with state and federal actions on energy policy overall.

5. Incorporate sequestration, especially in the agricultural sector, into the inventory and CAP

Response: Carbon sequestration was not included in the community GHG inventory per the U.S. Community Protocol for Accounting and Reporting Greenhouse Gas Emissions (ICLEI–Local Governments for Sustainability 2012). The inventory does include informational emissions sources and carbon stocks, including annual sequestration from forests, carbon stock in rangelands, and above-ground carbon stock (see table ES-1). However, these emissions were not included in the inventory itself or the CAP Update. Sequestration from urban and natural forests and sequestration from national forests represent an emissions “sink.” Forest lands are considered emissions “sinks” because these lands naturally remove carbon dioxide from the atmosphere. However, as these existing urban and natural forests are part of global atmospheric carbon cycling, the ICLEI Community Protocol recommends that this emissions sink be disclosed but not combined with other emissions created by human activity in an emissions inventory. The emissions sink potential of the existing forested lands can provide a useful comparison to the emissions sources in the inventory or to changes in the emissions sink that might result from future land use change.

A new agricultural chapter has been added to the CAP which discusses source of agricultural GHG emissions and includes GHG emission reduction measures in this sector. Importantly, a new measure has been added to support the voluntary

expansion of carbon farming in Marin County to increase the amount of carbon sequestered in Marin County farmlands and rangelands.

Many of the programs intended to increase carbon sequestration, such as the Marin Carbon Project, are exploring obtaining carbon credits related to the work being done by Marin farmers for potential sale in the California cap and trade or other carbon markets. Because of this, the CAP does not include any specific reduction “credit” for MCP or other sequestration actions, as one cannot qualify as a valid offset credit if the reductions can be claimed under an existing reduction scheme. Thus, to avoid any double-counting of reductions and to avoid creating any impediment to MCP and local farmer’s effort to potentially obtain economic incentives through sale of offset credits, the MCP reductions are not presumed in this CAP as a means to meet the 2020 reduction target. That said, the County supports MCP as its efforts and the efforts of Marin farmers to find more sustainable ways of farming that can also help to address greenhouse gas emissions is consistent with County policies found in the Countywide Plan and other County directives.

As part of supporting carbon farming and other sequestration efforts, the CAP includes commitment for Marin County to partner with other groups to complete a baseline inventory of carbon storage and sequestration in Marin's forests, rangelands, agricultural lands, and urban areas and to update this inventory over time. Such an assessment would establish a baseline by which Marin-specific sequestration could progress in increasing carbon sequestration could be measured. In the future, agricultural (or other) sequestration efforts could become a formal part of achieving local GHG reduction targets providing such programs are not seeking carbon offset credits for sale in carbon markets.

Please refer to additional discussion in Chapter 6 of the CAP Update.

6. Use local data for agricultural emissions inventories and forecasts

Response: The County did not have the resources or budget to conduct locally-specific emissions estimates for the agricultural sector. The emissions are based on accepted protocol from ICLEI, which is the state of practice for community inventories and CAPs. Sources included in the inventory include emissions from manure management (fugitive emissions of methane and nitrous oxide), enteric fermentation (fugitive emissions of methane and nitrous oxide), and fertilizer use (fugitive emissions of nitrous oxide).

For future inventory updates, the County will consider working with the UC Cooperative Extension (UCCE), the Marin Resource Conservation District (RCD), the Agricultural Commissioner’s office, Marin Carbon Project (MCP), Marin Agricultural Land Trust (MALT) and others, to conduct Marin-specific assessments of agricultural

emissions. This is a significant effort which will take time and money to conduct and implement in future CAP updates.

Please refer to additional discussion in Chapter 6 of the CAP Update.

7. Include Additional Transit Oriented Development, Mixed-Use development, and Land Use Planning measures in the CAP Update

Response: The CAP Update does not propose any new land use strategies or programs; all land use strategies are adapted from the approved Marin Countywide Plan. The CAP Update quantifies these strategies (as feasible) in terms of GHG reductions. These quantified measures include Trans-1.1. Promote Mixed Use, Infill, and Transit-Oriented Developments and Trans -2.1. Expand Transit Service. The CAP Update also includes a number of unquantified supporting measures, such as SP Trans-3. Improve the County's jobs/housing balance, SP Trans-4. Institute growth boundaries, ordinances or programs to limit suburban sprawl, SP Trans-5. Implement Housing Overlay Zone focused on city centered corridor, and SP Trans-7. Implement Marin County Unincorporated Area Bike/Ped Master Plan.

For example, under Trans-1.1, the County would promote longstanding Countywide Plan growth control strategy of focusing new development in the city center corridor via mixed-use, infill, and transit-oriented developments in downtown neighborhoods, transit-hubs, and existing and planned transit corridors for the unincorporated County. Development with multiple uses and in infill locations would improve the diversity of nearby land uses and facilitate easy access to retail and commercial destinations. Improving the County's jobs/housing balance would also increase access to work destinations. Locating these diverse uses in proximity to each other would encourage walking or bicycling, reducing VMT. New development near existing and planned high-quality transit would facilitate the use of transit by people traveling to or from the project site, resulting in reduced VMT.

Additional land use strategies or changes to current land use strategies must come from the official County planning process through the adoption of a general plan update, and must also go through the CEQA environmental review process. The County will decide how to address the CAP under CEQA, but this process will not involve any changes to land use policies in the current Countywide Plan.

Please refer to additional discussion in Appendix C of the CAP Update.

8. Do not include efforts to promote infill, transit-oriented development because such approaches are not effective GHG reducing measures and because there is opposition to such strategies to their inconsistency with current land use patterns.

Response: As noted above, the CAP Update does not propose any new land use strategies or programs; all land use strategies are adapted from the approved Marin Countywide Plan. While some individuals or organization may oppose certain land use strategies, such as TOD, the CAP is not changing adopted County policy in this regard. Such comments are best directed to the County when undertaking land use policy changes and updates to the Countywide Plan.

Regarding the effectiveness of land use strategies to reduce vehicle-miles travelled (VMT) and associated GHG emissions, the CAP identifies that there would be relatively limited GHG reductions by 2020 associated with these strategies. This is primarily due to the limited amount of allowable growth by 2020 under the adopted Countywide Plan. Although small, there is ample evidence in research that land use development strategies included in the Countywide Plan can help to reduce VMT. A few examples are cited below:

- Summaries of the potential for VMT reduction due to infill, mixed use and transit-oriented development is described in the 2009 Urban Land Institute's study Growing Cooler: The Evidence on Urban Development and Climate Change.
- A study by the California Air Pollution Control Officer's Association (CAPCOA) found that mixed-use development can result in a 9-30% reduction in VMT, based on two reports: Travel and the Built Environment - A Meta-Analysis (Ewing and Cervero 2010) and Measuring the effects of mixed land uses on housing values (Song and Knaap 2004) .
- Additional literature cited by CAPCOA that supports VMT reductions from mixed-use developments include Crediting Low-Traffic Developments (Nelson\Nygaard 2005) and A Quick-Response Method of Estimating Travel Impacts from Land-Use Changes (Criterion Planner/Engineers and Fehr & Peers Associates 2001).

Regarding opposition on the part of some individuals and organizations to these land use strategies, these comments are noted, but as noted above, the CAP is not changing adopted land use policy in Marin County and only reflects adopted policy.

9. Do not include efforts to promote further bus transit or SMART in Marin County in the CAP Update because such travel modes have more GHG emissions than passenger cars, in light of the vast improvements in passenger car efficiency

Response: As described in the CAP in Appendix C for the transit analysis, the CAP has examined the relative differences between bus transit and passenger cars in terms of GHG emissions per passenger mile and found that bus transit would result in lower GHG emissions than a reliance on passenger cars only on a passenger-mile basis.

Regarding SMART, this is an adopted project and as such it is reflected in current transportation forecasts for 2020. As described in the CAP in Appendix C for the transit analysis, the CAP has examined the relative differences between SMART and passenger cars in terms of GHG emissions per passenger mile and found that SMART would result in some GHG emission reductions based on current plans and ridership estimates, but the effectiveness of those reductions will depend on the actual level of ridership.

10. Do not support additional housing growth in Marin County in the CAP and address the impact of growth in Sonoma County on traffic congestion in Marin County.

Response: As noted above, the CAP does not include any proposed changes the Countywide Plan in terms of the amount or location of residential or commercial growth in Marin County. The CAP's estimate of growth between 2012 and 2020, which are based on the Countywide Plan, is that housing in the unincorporated County will grow by 392 units (compared to 26,258 units in 2012) and employment will increase by 1,108 jobs (compared to 16,672 jobs in 2012) (see Page C-18 in the CAP).

Marin County does not have jurisdictional authority over Sonoma County or cities in Sonoma County. Marin County cannot limit growth in adjacent counties, it can only control land use within the unincorporated parts of Marin County. The Marin Countywide Plan only allows a limited amount of growth in the unincorporated County and the CAP does not change the land use plan in the Countywide Plan.

11. Include Lifecycle Emissions and Consumption-based emissions

Response: The CAP Update inventories are activity-based inventories (also called "production" inventories), not consumption-based inventories. Consumption-based inventories include the global "lifecycle" emissions associated with satisfying the purchase and use of products and services. These include fuels used in buildings and transportation as well as the production of food, other goods, and services. It is a lifecycle emissions approach that estimates total supply chain emissions.

Typically, this method is applied at the household level or corporate entity level, not for community or municipal emissions. Estimating lifecycle emissions from a consumption-based approach is notoriously challenging for community and municipal inventories due to the need to track a massive diversity of emissions associated with consumed products. Further, consumption-based inventories include large amounts of emissions over which a local jurisdiction will not have any control whereas activity-based inventories are focused on those emissions over which a local jurisdiction can exert control. There is currently no adopted and accepted guidance for conducting consumption-based inventories at the community or municipal level. The ICLEI—Local Governments for Sustainability (ICLEI) U.S. Community Protocol for Accounting and Reporting Greenhouse Gas Emissions (2012) and the Local Government Operations Protocol for the Quantification and Reporting of Greenhouse Gas Emissions Inventories (LGOP) (2010) (used here) are both activity-based inventory protocols which do not require the preparation of lifecycle inventories for community or municipal inventories. Consumption-based inventory protocols are currently under development. For these reasons, the community and municipal inventories for Marin County are activity-based inventories.

Please refer to additional discussion in Chapter 3 of the CAP Update.

12. Include Additional Climate Change Adaptation and Vulnerability Assessment

Response: Marin County has been proactively addressing climate change on many fronts, but additional efforts are needed to understand the county's vulnerabilities and take action to address these vulnerabilities. Important additional efforts include a countywide vulnerability assessment, improved collaboration among stakeholders, and the establishment of additional funding sources to support adaptation initiatives.

Chapter 8 of the CAP discusses the potential impacts of important sectors to the major climate hazards. Table 8-2 provides a high-level list of potential adaptation actions for each sector; see Appendix A for additional detail. This list provides suggested actions to increase resiliency; however, this is not an exhaustive list and is only intended for guidance and to initiate a discussion with relevant stakeholders after a comprehensive vulnerability assessment is completed. The review is intended to provide high level guidance for the County and not rate the relative potential impacts. The information does not state whether these impacts are likely to occur, and likelihood cannot be assessed given the inherent uncertainty of greenhouse gas projections, climate models, and the associated impacts on assets and services. The evaluation is based on research and professional expertise and provides a discussion of general sensitivities that may be a concern in the county. A

detailed vulnerability assessment by sector would be required to identify where the county's specific vulnerabilities lay.

Although a large number of adaptation activities are under way, there has not been a consolidated look across sectors and climate change stressors at the vulnerabilities of Marin County. Vulnerability assessments thus far have been limited to certain geographic areas and/or specific climate stressors (e.g., sea level rise). A more comprehensive countywide vulnerability assessment would help highlight where resources should be focused under adaptation planning efforts. A countywide understanding of vulnerabilities will help ensure that adaptation resources are being deployed in an effective and efficient manner. Furthermore, effective adaptation requires coordination across many different stakeholders within a county, and a "big picture" understanding of the sectors and geographic locations that are most vulnerable would help demonstrate where coordination and collaboration are most needed.

In November 2014, the Marin County Board of Supervisors allocated one-time funding of \$250,000 to establish a countywide multi-jurisdictional partnership to complete a climate change vulnerability assessment and coordinate the various entities engaged in climate and sea level rise planning and education. The County is also seeking matching grant funding from the Coastal Conservancy to support this project. As part of this effort, the County will develop a county-wide, multi-jurisdictional sea level rise (SLR) vulnerability assessment and coordinate the various entities engaged in Climate and SLR planning and education. The County's goals are to 1) organize the breadth of SLR information for Marin and make it readily available to all; 2) achieve agreement on the data and modeling information to use; 3) develop base level assessments as a solid foundation for adaptation planning; 4) develop a mutually desirable working framework for all governing bodies to participate in; 5) conduct community outreach to engage all sectors and populations in the planning dialogue; and 6) develop an early action program to implement actions targeted at essential facilities, near-term SLR impacts, and initial stages of development of longer-term green infrastructure adaptations. As part of this effort, the County would work with regional stakeholders, agencies, and organizations (such as those in the agricultural sector) to determine Marin-specific actions to adapt to climate change.

Please refer to additional discussion in Chapter 8 of the CAP Update.

13. Regional Planning and Coordination is needed between the County and the Jurisdictions

Response: The CAP Update covers the Unincorporated County and the County's municipal operations. It does not include the incorporated cities. The Cities have

jurisdiction over their own areas, and thus the cities are not included in the CAP Update. Many of the cities already have or are working on their own local CAPs. However, in order to implement successful planning to reduce GHG emissions and adapt to climate change on a regional scale, the County will coordinate with the Marin Cities and Towns and the Marin Climate and Energy Partnership (MCEP) as part of the implementation of this plan. Cooperation with Marin County cities could help maximize efficiencies in implementing emissions reduction strategies. Staff from all cities, the County, water districts and MCE currently meet monthly and collaborate via MCEP. The County will continue coordinate with staff from these agencies to promote regional collaboration.

The County and the cities may also consider funding a joint regional planning effort to combine, streamline, and implement the various GHG emission reduction programs and adaptation actions contained within each separate local CAP. This effort would ensure that programs throughout the county are consistent and that the combined financial and logistical resources of all cities and the county are used to make meaningful climate action planning a reality.

Please refer to additional discussion in Chapter 7 of the CAP Update.

14. Review the Countywide Plan Transportation Element for opportunities to reduce transportation-related GHG emissions

Response: The County will undertake this effort as part of the next update to the Countywide Plan.

15. Divestment of pension funds from fossil fuels

Response: The investment decisions for the Marin County Employees' Retirement Association (MCERA) funds are controlled by a 12-member Board of Retirement separate from the Board of Supervisors. Requests for modifications on investment strategies should be directed to their Board for review and consideration.