



Agenda Report

21-714

Agenda Date: 7/13/2021

REPORT TO COUNCIL

SUBJECT

Confirmation on the Addition of New Actions to Achieve the Interim Target of 2035 for Climate Action Plan (CAP) Update

COUNCIL PILLAR

Promote Sustainability and Environmental Protection

EXECUTIVE SUMMARY

At the City Council meeting on March 2, 2021, staff presented the GHG emissions trends and forecasts for the City. Council confirmed the recommended GHG emissions reduction target of carbon neutrality no later than 2045 for the Climate Action Plan update and provided additional direction on specific items to include within the CAP. Of these, the direction to include an intermediate target of 80% reduction by 2035 and require a 25% VMT reduction from active Transportation Demand Management (TDM) measures required further analysis.

Through discussions with the City's consultant and additional Green House Gas (GHG) modeling work, staff determined that up to a 79% reduction can be achieved if SVP provides 100% carbon-neutral electricity by 2035 and the City adopts an all-electric reach code.

For this, SVP would need to purchase a total of 130% of the energy it actually delivers with 100% of annual volume being carbon free and 30% not carbon free for reliability purposes. Although the actual energy delivered and used in Santa Clara would not be carbon free, through this approach SVP could claim carbon neutrality by "over purchasing" where the excess purchase is subsequently sold in the spot market, likely at a financial loss to the purchase price. As further discussed in Attachment 2, SVP has done a cursory examination of a simple procurement scenario to achieve the accelerated goal. The scenario does not factor in other costs such as:

- transmission upgrades
- resource adequacy
- grid stability
- future technology changes
- and other factors

The scenario is simply the resource procurement costs that are based on California's current carbon accounting requirements. This is the only realistic approach that can be taken within the limitations of a CAP analysis.

Based on this cursory examination this approach will require an increase in customer rates of 44% to

55% (on top of the typical 3% yearly rate increase). As previously proposed, without the 2035 target, over purchasing and the resulting rate increase would not be required to meet the CAP targets. Per the City's modeling, any alternative where SVP would provide less than 100% carbon-neutral electricity would not take the City closer to the intermediate 2035 goal. An 83% reduction could be achieved if the City also adopts requirements for the retrofit of gas powered appliances within commercial and residential construction.

In response to Council's direction to achieve a 25% VMT reduction through active TDM measures, staff conducted modeling using VMT calculation tools. For residential projects, a 25% reduction through use of active TDM measures could be achieved with the incorporation of aggressive parking strategies that significantly reduce citywide parking requirements. Alternatively, the City could significantly expand its TDM program requirements for new construction. To implement this alternative, the City would need to engage a TDM Consultant to create an impactful TDM program that includes location-based parking reduction strategies and active TDM measures. Such an approach of mandated actions would provide transparent requirements to applicants and a simpler verification process for compliance to TDM requirements.

Modeling of large employment projects using VMT calculation tools demonstrates they also can achieve a 25% reduction through the incorporation of realistic active TDM measures. Similar to the proposed requirements for residential projects, development and adoption of a TDM program based on specific measures, rather than a percentage reduction, would create transparent City expectations that are also more easily verifiable. For the current CAP update, a list of interim TDM requirements for all residential and commercial projects of a certain size could be incorporated until the TDM consultant has completed their recommendations.

Per Council's directions, other requirements for EV ready parking spaces, bicycle parking, replacement of natural gas furnaces and water heaters upon burnout, and implementing a Climate Action Tracking Dashboard have been incorporated into the draft CAP.

BACKGROUND

On January 24, 2020, the City began an update to the current Climate Action Plan (CAP) with the consultant team lead by Cascadia Consulting Group and including Raimi + Associates and David J. Powers and Associates. The City's current CAP, adopted in December 2013, identifies measurable actions the City can implement through the year 2020 to reduce the City's Greenhouse Gas (GHG) emissions to 1990 levels, as required by California's Global Warming Solutions Act of 2006 (Assembly Bill 32). The City is now in the process of comprehensively updating the CAP to extend the City's GHG reduction goals through 2030, and to address new State requirements enacted since the 2013 CAP was adopted.

City Council Meeting Summary

At the City Council meeting on March 2, 2021, staff presented the City's GHG emissions trends and forecasts and strategies for reducing future emissions. Three GHG target Alternatives were put forward:

1. Santa Clara adopts the State's emissions reduction targets set forth in SB 32. These targets include a mid-term and long-term goal of reducing GHG emissions 40% below baseline levels by 2030 and 80% by 2050.
2. Santa Clara adopts a more aggressive target of carbon neutrality no later than 2045. This target aligns with former Governor Brown's Executive Order B-55-18.

3. Santa Clara sets targets that are even more aggressive than State guidance, such as achieving carbon neutrality earlier than 2045.

Staff recommended that the City adopt Alternative 2, the goal of carbon neutrality no later than 2045, to align with the more aggressive State target and peer cities in the Bay Area. This would require the City of Santa Clara to adopt strategies and take actions to reduce GHG emissions to zero no later than 2045, including offsets for any remaining emissions that cannot be eliminated.

Council confirmed the recommended GHG emissions reduction target (Alternative 2) for the Climate Action Plan update, setting the City's target to be more aggressive than the State of California requirements. Additionally, the City Council directed staff to:

- Add within the CAP an intermediate target of an 80% reduction by 2035
- Require within the CAP a 25% VMT reduction through active Transportation Demand Management (TDM) measures
- Complete the proposed adoption of an all-Electric Reach Code including a requirement for the provision of EV ready parking spaces in new development as 25% Level 2 and 75% Lite Level 2 at 3.8 Kw, using an automatic load management software to balance the loads.
- Add a requirement for new development to include one secured bicycle parking spot for each multi-family residential unit with electrical outlets available in storage units.
- Prepare a policy to replace natural gas furnaces and water heaters upon burnout with an electric equivalent for City Facilities.
- Implement a Climate Action Tracking Dashboard.

Because a significant percentage of the City's emissions are tied to power generation, the CAP heavily relies on Silicon Valley Power's (SVP) Integrated Resources Plan (IRP). The IRP, adopted by Council November 27, 2018, establishes operating goals and policy for the City's electric utility through 2023 and is updated every 5 years. The CAP target needs to align with adopted policy documents including the IRP. It should also be consistent with the City's existing Bicycle Master Plan, SVP EV Blueprint, the Santa Clara Urban Water Management Plan (UWMP), and any reach codes that are adopted.

Planning Commission Input

Study sessions with the Planning Commission were held on August 26, 2020 and October 14, 2020 to obtain their recommendation on the appropriate reduction target for the CAP, and on the key strategies and initial actions list for these strategies. The Planning Commission recommended setting an ambitious GHG emissions reduction target, exceeding the State mandate.

Community Engagement

The City conducted widespread engagement efforts to involve the public in the CAP update process. This included staff interviews, stakeholder focus groups, a virtual community meeting, two public Planning Commission study sessions, and two online surveys with nearly 900 responses.

The City hosted the virtual community workshop on July 16, 2020 in which attendees were asked to provide input on the City's climate goals and strategies. The 38 participants actively engaged in discussions on a variety of topics including Land Use and Transportation, Buildings and Energy, Materials and Consumption, Natural Systems and Water Resources, and Community Resilience and Wellbeing.

The City also conducted two CAP community surveys to further engage community members in the process. Survey questions allowed the public to prioritize climate related threats and comment on concepts such as goals and actions desired in a variety of topic areas. The first online survey was completed on July 16, 2020, with nearly 400 responses received. A second online survey was completed on November 19, 2020 to further engage the community in the process, with nearly 500 responses received.

Summaries of the responses from the survey and the discussions during the Community Workshop have also been posted on the [CAP webpage](https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/general-plan/climate-action-plan). <<https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/general-plan/climate-action-plan>>

DISCUSSION

The next step in the CAP update process is to prepare the environmental analysis, as required for the California Environmental Quality Act (CEQA), to analyze the potential environmental impacts for the CAP update. Through discussions with the City's consultant, staff determined that the addition of the interim 2035 emission and the 25% VMT reduction targets results in the need to add significantly more aggressive measures than what had been previously presented to the City Council by staff. The following is an analysis of the additional actions required and the challenges to meet the interim target of 80% GHG reduction by 2035 and 25% Vehicle Miles Traveled (VMT) reduction through active measures. Staff is seeking confirmation from the City Council to proceed with preparation of the CEQA analysis based upon the addition of new measures to achieve the modified target for 2035. Staff is also requesting City Council's confirmation on future community engagement plans.

Interim Target: 80% Greenhouse Gas (GHG) reduction by 2035

The Consultant team conducted further analysis to explore the implications of adding an interim target of 80% GHG reduction by 2035. A quantitative analysis memo with key findings is available as Attachment 1 to this report. Given the aggressiveness of the new 80% reduction by 2035 target compared to baseline year 2016, the consultant team considered the use of a per-capita or per-service population target, as opposed to a total (mass) target. This approach is consistent with State guidance, the CEQA guidelines, and approaches taken by other California municipalities. This analysis found that the following modifications to CAP actions would be needed to achieve the recommended interim target on a per-service population basis:

- *SVP provides 100% carbon-neutral electricity by 2035 by increasing rates 45%-55% above the typical 3% yearly rate increase*

This would require modification to the current action in the draft CAP that states to explore resource procurement and cost scenarios through the next update of the IRP.

To better understand what would be required to achieve this target, SVP conducted a cursory examination of a simple procurement scenario to achieve the accelerated goal. A detailed summary of the constraints and implications of this target are summarized by SVP and are available as Attachment 2 of this report. The key findings are listed below:

- The scenario, where SVP provides 100% carbon neutral electricity by 2035
 - does not factor in other costs such as transmission upgrades, resource adequacy, grid stability, or future technology changes.
- SVP would need to purchase a total of 130% of the energy it actually needs with 100% being

carbon free and 30% not carbon free. The City can claim carbon-neutrality by over purchasing renewable energy even if the City does not deliver the excess renewable power to its customers. The excess purchase is subsequently sold in the spot market, likely at a financial loss to the purchase price.

- This is a reasonable approach which many other Utilities currently use as the California Independent System Operator (CAISO) forecasts the continued need for Natural Gas generation in order to provide power reliability within the proposed CAP timeframes and goals. With current technology, the grid cannot meet power requirements 24 hours/365 days per year as customers expect without natural gas generation. Current available technology to store electricity produced by intermittent generation such as solar and wind, namely batteries or bulk electric storage systems, would be an additional cost.
- Rates 44% to 55% higher (on top of the typical 3% yearly increase) would be required in order to meet a combined renewable electricity purchase and time-shifting storage program that would help achieve the carbon-neutral target in 2035. This rate increase is not required to meet the target as proposed in the original CAP analysis.

The SVP summary indicates that the next IRP, due to council in late 2023, will examine the various resource scenarios to achieve carbon neutrality in 2035 in depth, as opposed to the current road map to carbon-free electricity by 2045.

- *Require all-electric new construction*

This would require modification to the current action in the draft CAP that provides an allowance for all electric or mixed fuel buildings with varying Energy Design Rating (EDR) points for various building types (single-family residences, multi-family residences and non-residential residences). It would however be consistent with the direction previously provided by the City Council to prepare an All Electric Reach Code for City Council consideration.

The quantitative analysis memo concludes that with the above two modifications- SVP provides 100% carbon-neutral electricity by 2035 and an All Electric Reach Code, the City would achieve a 79% GHG reduction. Any approach in which SVP would provide less than 100% carbon-neutral electricity would not take the city closer to the interim goal.

As the SVP action only achieved a 79% reduction by 2035, staff and the consultant identified additional measures to reach an 80% reduction. The quantitative analysis indicated that an 83% GHG reduction could be achieved if 62% of the existing non-residential buildings are electrified by 2035. This reduction could be achieved through a combination of policies and ordinances, such as an ordinance requiring replacement of natural gas appliances at “burn out” (the end of their useful life) with efficient electric alternatives, with an emphasis on water heaters and furnaces and by introducing a policy mandating that within commercial and multi-family structures, all gas-powered and mixed-fuel buildings be retrofitted to electric-only by 2035. Single-family residences would not need to be subject to this retrofit requirement. In effect, any time a single-family home owner’s gas powered water heater or furnace needs to be replaced, the City would require conversion to an electric system through the Building Permit process, resulting in an increase to the amount of work and cost required. Replacement of gas-powered appliances would be mandated, regardless of the working condition of the existing system, for all commercial and multi-family structures by 2035.

As discussed above, the interim target of an 80% reduction by 2035 would require more regulations

and mandatory policies rather than reliance upon voluntary actions. It should be noted that such an approach conflicts with the community input provided through the second community outreach survey, which indicated that the community prefers incentives and voluntary measures rather than additional regulations. However, this is balanced with the understanding that a voluntary and incentive approach might not be as effective as required regulations. Given the potential impact of other factors over the CAP timeframe and the uncertainty of model predictions, staff recommends that the City Council consider a 79% GHG reduction to be substantial compliance with the 80% reduction target and not recommend pursue the imposition of requirements for mandatory retrofits of existing buildings.

25% Vehicle Miles Traveled (VMT) reduction through Active Measures

The City's current CAP requires new projects to provide VMT reductions based on a combination of their location (proximity to transit) and a percentage reduction based on an active Transportation Demand Management (TDM) plan. A TDM plan is a list of actions related to transportation that reduce the projected number of drive-alone trips, therefore reducing the overall VMT for the development.

A survey of neighboring cities, summarized in the following table, indicates a wide variety of approaches to reducing VMT. Typically, each city's approach considers the city's unique VMT and land use circumstances. Some cities consider a project's proximity to transit as a major factor for determining the VMT reduction, rather than reliance upon TDM measures to achieve reductions. Some cities have a citywide VMT reduction goal and others focus on project specific TDM measures. None of the surveyed cities have an adopted Citywide requirement for a 25% VMT reduction for projects through active TDM measures.

Table: Summary of VMT Reduction Policies in Other Cities

Jurisdiction	Citywide VMT Reduction Target	Project Specific TDM Measures	Notes
Mountain View	N/A		Specific policies for precise plans like North Bay Shore, East Whisman.
Sunnyvale	20% by 2030 and 25% by 2050	Different TDM requirements for residential and non-residential developments	Most city-wide reductions are from the employer-based measures. Code changes to reduce parking requirements
Cupertino	N/A	By 2035, 20% of total employees in 2020 participate in TDM program	
Palo Alto	N/A		Emphasis on strategies to expand non-auto mobility options.

San Jose	21% by 2030 and 43% by 2040		
Menlo Park	25% by 2030 as recommended by Complete Streets Commission		Specific Strategies for this goal to be explored in 2021/22.
San Francisco/Los Angeles	N/A		Adopted TDM ordinances, VMT reduction target based on the number of parking spaces proposed by a development project. The TDM program utilizes a number system to help identify a target rather than a defined percentage.

Given its central location in Santa Clara County and its proximity to various job centers and diverse land uses, the City of Santa Clara has the lowest per capita residential VMT and the second lowest per capita employee VMT in the County. While this is a positive characteristic, Santa Clara's already low VMT make further VMT reductions more challenging, as the lower the existing VMT, the more stringent measures will need to be to achieve further reductions.

In response to Council's direction to achieve a 25% VMT reduction through active TDM measures, staff conducted modeling using VMT calculation tools to assess how new residential projects can achieve a 25% reduction. For residential projects, the modeling indicated that a 25% reduction from active TDM measures could only be achieved through the incorporation of aggressive parking strategies significantly reducing citywide parking requirements in new residential development. Such a reduction may be counter to community interests as it is typical for community input received through the development review process to indicate a desire for new projects to provide adequate parking. Spillover parking offsite into adjoining neighborhoods may occur more frequently with reduced on-site parking requirements.

The City could attempt to identify an alternative approach by engaging a TDM consultant to create a TDM program that would establish more impactful TDM requirements. Such requirements would take into consideration the size and type of a proposed development and the relative effectiveness of each measure, to establish a list of mandated TDM measures for all new development. Those TDM requirements could include modest reductions in citywide parking requirements and/or significant parking reductions to specific sites based on proximity to transit and mandatory active TDM measures, as directed by Council, including provision of: transit passes; participation in a TMA and/or shuttle program; increased bicycle parking; and provision of bike/scooter share, carshare, and/or unbundled parking.

Adopting a codified list of mandatory TDM measures would have the benefit of providing transparent

requirements to applicants and enable a streamlined TDM verification/compliance process as applicants would not develop their own plans on a project-by-project basis, but rather demonstrate incorporation of the City's standard required measures, applicable upon occupancy of a building and throughout the life of the project.

While the initial modeling of residential projects suggests that the VMT reduction for this approach would typically be less than 25%, the TDM consultant could provide the typical range of reduction expected based on the specific TDM measures proposed. In the CAP, a list of interim TDM requirements for all residential projects of a certain size could be incorporated until the TDM consultant has completed their recommendations.

Unlike residential projects, modeling of large employment projects using the VMT calculation tools demonstrates that they can achieve a 25% reduction through the incorporation of feasible active TDM measures. For instance, use of telecommuting, and provision of private shuttles, transit passes, bicycle lockers and shower facilities, and other measures, are significantly effective at reducing single trips for employment purposes, and in combination, can result in a 25% reduction in VMT.

Council could provide direction to retain the 25% reduction target for larger employment nonresidential projects. However, if Council is interested in creating a TDM program with the guidance of a TDM consultant for residential projects that would require specific TDM measures; this approach could be expanded to large employment uses as well, providing consistency in approach. A TDM program based on specific measures rather than a percentage reduction, creates transparent City expectations that are also more easily verifiable.

Summary of Findings

- Meeting the interim target of an 80% GHG reduction by 2035 would rely heavily on SVP to provide far more carbon neutral electricity than envisioned in the IRP.
- SVP would need to take on an additional program to procure 100% carbon neutral electricity by 2035.
- An alternative pathway where SVP provides less than 100% carbon neutral electricity by 2035 would fall short of the goal for 80% GHG reduction by 2035.
- SVP rates will need to increase by 44% to 55% to meet a combined renewable electricity purchase and time-shifting storage program that would help achieve the carbon-neutral target in 2035. This rate increase is not required to meet the original CAP scenario without the interim target.
- Adoption of an all-electric reach code would also be required to meet the interim target.
- Achieving a 25% VMT reduction through active TDM measures will require aggressive regulations to significantly reduce parking in new developments. Alternatively the City could engage a TDM consultant to research and determine the best TDM requirements for residential and large employment projects and implement a program based upon that research. An interim measure can be included in the CAP to identify and require the incorporation of specific TDM requirements for projects.

Next Steps

Following input from City Council, the project team will revise and refine the actions in the draft plan and make it available for public comment. Staff along with the consulting team would conduct a virtual Community Workshop to present the draft plan and take the public input. Additional outreach

will be conducted through identified focus groups. The CAP is scheduled for Planning Commission consideration in the fall of 2021 and by City Council in the winter of early 2022. The CAP is part of the City's General Plan and would be adopted by amending the General Plan.

ENVIRONMENTAL REVIEW

This is an informational report only and no action is being taken by the City Council and no environmental review under the California Environmental Quality Act ("CEQA") is required at this time.

Prior to adoption of the CAP Update, an addendum to the General Plan Environmental Impact Report (EIR) will be prepared in accordance with the California Environmental Quality Act (CEQA) to inform key decision-makers and the general public of the potential environmental effects that would arise from implementation of the CAP Update.

FISCAL IMPACT

On January 14, 2020, the City Council approved an agreement with the consulting team led by Cascadia Consulting Group, Inc. to work on the CAP Update with a budget of \$192,440 and a 10% contingency. The total not-to-exceed amount of this Agreement, including contingency, is \$211,684.

COORDINATION

This report has been coordinated with the City Attorney's Office and the Sustainability Manager in the City Manager's Office. SVP has been part of the process including developing the proposed Strategies and Actions.

PUBLIC CONTACT

The City has conducted initial outreach activities for the CAP update, including stakeholder interviews, a first survey launched in June 2020, a second survey launched in October 2020 and a virtual Community Workshop held on Thursday, July 16, 2020. Public comments were also received at the two Planning Commission Study Sessions on August 26, 2020 and October 14, 2020. A publicly noticed City Council Meeting was held on March 2, 2021.

Public contact was also made by posting the Council agenda on the City's official-notice bulletin board outside City Hall Council Chambers. A complete agenda packet is available on the City's website and in the City Clerk's Office at least 72 hours prior to a Regular Meeting and 24 hours prior to a Special Meeting. A hard copy of any agenda report may be requested by contacting the City Clerk's Office at (408) 615-2220, email clerk@santaclaraca.gov <<mailto:clerk@santaclaraca.gov>>

ALTERNATIVES

1. Adopt Council directive:
 - a. Adopt an interim GHG reduction target of 80% by 2035 that would rely on:
 - i. SVP achieving a 100% carbon neutral electricity through rate increases of 44% to 55% higher (on top of the typical 3% yearly increase) than the original CAP analysis.
 - b. Adopt a 25% reduction in project based VMT through active TDM requirements including aggressive regulation to reduce parking in new development.
 - c. Adopt an all-electric reach code, with exceptions.
 - d. Change the proposed All-Electric Reach Code requirement for the provision of EV

- ready parking spaces in new development from 25% Level 2 and 75% Level 1 chargers to 25% Level 2 and 75% Lite Level 2 at 3.8 Kw using an automatic load management software to balance the loads.
- e. Add a requirement for new development to include one secured bicycle parking spot for each multi-family residential unit with electrical outlets available in storage units.
 - f. Prepare a policy to replace natural gas furnaces and water heaters upon burnout with an electric equivalent.
 - g. Implement a Climate Action Tracking Dashboard.
2. Adopt the following measures to achieve the required GHG emissions reductions and develop an interim 2035 target including:
- a. SVP to achieve 70% carbon neutrality by 2030 for the City to meet the SB32 emissions reduction target
 - b. Set a new 2035 interim CAP GHG emissions reduction target based on IRP results
Establish a VMT reduction approach that identifies specific interim active TDM measures for new residential development and large employment projects until a TDM consultant can provide recommendations on specific measures to incorporate in a TDM Program.
 - c. Adopt an all-electric reach code, with exceptions.
 - d. Change the proposed All-Electric Reach Code requirement for the provision of EV ready parking spaces in new development from 25% Level 2 and 75% Level 1 chargers to 25% Level 2 and 75% Lite Level 2 at 3.8 Kw using an automatic load management software to balance the loads.
 - e. Add a requirement for new development to include one secured bicycle parking spot for each multi-family residential unit with electrical outlets available in storage units.
 - f. Prepare a policy to replace natural gas furnaces and water heaters upon burnout with an electric equivalent for City Facilities.
 - g. Implement a Climate Action Tracking Dashboard.

RECOMMENDATION

Staff recommendation is to adopt Alternative 2.

Reviewed by: Andrew Crabtree, Director of Community Development

Approved by: Deanna J. Santana, City Manager

ATTACHMENTS

- 1. Quantitative Analysis Memo
- 2. SVP Summary