

Technical Memo

Tables and Technical Information for GHG Reduction Goals

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Table 1: Hayward's GHG Emissions by Sector (MTC02e)*

	2005	2010	2015	2017	% Change **
Energy	375,885	356,830	318,657	261,228	-30.5%
Transportation	636,581	580,238	571,556	553,298	-13.1%
BART	3,440	3,425	4,276	3,994	16.1%
Off-Road	24,345	37,265	68,251	67,348	176.6%
Waste	42,641	37,357	35,649	38,712	-9.2%
Total	1,082,892	1,015,115	998,387	924,581	-14.6%
Hayward Population	140,530	143,921	154,321	161,455	
Total Emissions/Capita	5.2	4.8	4.4	3.9	-23.1%

* Emissions are displayed in metric tons of carbon dioxide equivalent¹ (MTC02e).

** Percent change is compared to the baseline year of 2005

¹ Carbon dioxide is not the only gas that contributes to climate change. Each greenhouse gas causes varying amounts of warming. For example, one ton of methane (CH₄) causes the same amount of warming as 23 tons of CO₂ (1 ton of CH₄ = 23 tons CO₂e). To simplify reporting, it is standard practice to report carbon equivalent emissions (CO₂e) as opposed to the actual emissions of each gas.

Table 2. GHG Goals Adopted by Other Cities

The following table shows the goals adopted by each city as well as the status of their climate action plans.

	Baseline Year	2020 Target	2030 Target	2045 Target	2050 Target	2030-2050 CAP Update Status
Alameda	2005	25%	40%		80%	In progress
Albany	2004	25%	60% ²	100%	100%	In progress
Berkeley	2000	33%			80%	Original CAP covers post 2020
Dublin	2010	15%	40%		80%	In progress
Emeryville	2004	25%	40%	100%		Updated 2016
Fremont	2005	25%	55%	100%		In progress
Hayward	2005	20%	55%	100%	83% ³	Updated 2014 (with adoption of 2040 General Plan)
Livermore	2008	15%	60%			Planned
Newark	2005	15%				
Oakland	2005	36%	56%			In progress
Piedmont	2005	15%	40%			Updated 2017
Pleasanton	2005	15%	40%			Planned
San Leandro	2005	25%	40%			In progress
Union City	2005	20%				Planned

² This is a 2035 target.

³ By proposing carbon neutrality by 2045, this would supersede the previously approved 2050 target.

How the GHG Reduction Goals Could be Met –

Electricity – To meet the proposed 2025 goal, 78% of Hayward customers would need to receive 100% carbon free electricity. By 2030, at least 93% of Hayward customers would need to receive 100% carbon free electricity. This assumes that no more than 5% of residential customers and no more than 10% of commercial customers opt-out of EBCE service. The rate for carbon-free electricity (Brilliant 100) is currently equal to PG&E rates, however as noted above, the EBCE Board may soon be considering an increase in the rate for Brilliant 100, which may affect Hayward’s ability to meet its 2020 goal.

Natural Gas – Hayward has seen a slow decline in residential natural gas emissions, but nonresidential natural gas use has been increasing. In order to meet the 2025 goal, if nonresidential natural gas use remains constant, 20% of residential homes (approximately 10,000 dwelling units) would need to be retrofitted to all-electric. For 2030, nonresidential natural gas use would need to decrease significantly and an additional 45% of residential homes (an additional 22,000 dwelling units) would need to be retrofitted to all-electric. With current resources available to residents, this will be very challenging to achieve.

Transportation – Hayward has seen a small decline in transportation emissions from 2005 to 2015. However, this reduction in emissions should be credited to increased vehicle efficiency as the vehicle miles traveled (VMT) have increased since 2010 as the economy recovered from the Great Recession. Meeting the 2025 and 2030 goals will rely on the City drastically reducing transportation related emissions, which accounted for 59% of Hayward’s total emissions in 2017. Assuming the continuation of increased vehicle efficiency and that passenger vehicles and light trucks remain the prominent mode of transportation, 15% (around 21,000 vehicles) of the gasoline fleet would need to be replaced with electric vehicles (EVs) by 2025 and 45% (an additional 40,700 vehicles) by 2030. While very challenging, these goals can be helped with the fact that many automobile manufacturers are transitioning to production of all-electric vehicles with some planning to stop manufacturing gas-powered passenger vehicles.

Staff recognizes that reductions in vehicle-related emissions will be difficult. As reported by the Mercury News on October 9, 2019 (see Attached), California is projected to fail to meet its emissions targets – partially because “Californians aren’t ready to give up their trucks and SUVs.” While EV ownership is increasing, more incentives will need to be made available statewide. In addition, staff can promote existing local programs such as the Air District’s Clean Cars for All⁴ program, which offers significant rebates to lower income households that replace older cars with EVs.

The following table summarizes in each column the actions that would enable Hayward to achieve the new goals.

	2025	2030	2030
Sector	30%	50%	55%
Electricity	78% of Hayward residents and business operate on carbon-free electricity	93% of Hayward residents and business operate on carbon-free electricity	93% of Hayward residents and business operate on carbon-free electricity
Natural Gas	10,016 housing units converted to all-electric	20,033 housing units converted to all-electric	32,554 housing units converted to all-electric
Transportation	21,030 gasoline vehicles taken off the road (converted to electric or resident opts for car-free lifestyle)	48,167 gasoline vehicles taken off the road (converted to electric or resident opts for car-free lifestyle)	61,735 gasoline vehicles taken off the road (converted to electric or resident opts for car-free lifestyle)

Considering the above potential actions, the following table shows how Hayward's emissions would need to decrease to achieve the 2025 and 2030 targets:

	2005 in MT CO ₂ e*	2017 in MT CO ₂ e*	Change from 2005 - 2017	2019**	2025	2030
Electricity	185,890	75,118	-59.6%	-77.5%	-77.5%	-92.5%
Gas	189,995	186,111	-2.0%	0%	-11.7%	-43.3%
Transportation	664,366	624,640	-6.0%	0%	-18.2%	-45.7%
Solid Waste	42,641	38,712	+9.2%	0%	-30%	-60%
Totals	1,082,892	924,581	-14.6%	-20%	-30%***	-55%***

*GHG emissions are reported in this table as metric tons of CO₂ equivalent (MT CO₂e). CO₂e represents an amount of a GHG whose atmospheric impact has been standardized to that of one mass of carbon dioxide, based on the global warming potential of the gas.

**This is based on predicted reductions due to enrolling residents in EBCE Brilliant 100.

***This is a predicted percentage change compared to 2005 GHG emissions.

Environmental Review of Development Proposals

The adoption of policies with local GHG targets can affect how City staff conducts environmental reviews for development proposals to ensure they do not cause a significant impact to the environment. All projects subject to CEQA are required to include a GHG analysis showing the project will be consistent with SB 32. Because the proposed 2030 goal aligns with SB 32, adoption of the recommended goal will not increase the documentation or effort required of developers as they demonstrate consistency with the General Plan.

Following the Planning Commission hearing in December 2019, staff continued to research the CEQA implications of adopting more stringent GHG reduction goals and how development projects will be evaluated in light of the new General Plan policies. Once the City has updated and adopted a 2030 Climate Action Plan (CAP), development projects will be able to streamline their GHG emission analysis by tiering from the CAP's CEQA document. However, until the 2030 CAP is adopted, developers may be required to prepare an analysis without the benefit of guidance or a methodology that is specific to Hayward. Staff contacted three CEQA consulting firms and all three recommended that Hayward prepare guidance for developers that would include thresholds of significance against which a project could be evaluated. Such thresholds would require formal adoption by Council. The thresholds could be numeric or could be in the form of a checklist of best management practices.

Staff also reached out to other local jurisdictions to see how development proposals are being evaluated in light of SB 32 and/or local GHG targets. A few jurisdictions, including the City of San Luis Obispo and the County of Santa Barbara have hired consultants to develop local GHG thresholds for new developments in conducting GHG emission analyses.

Staff received three quotes for preparation of thresholds that would be specific to Hayward's current GHG emissions, development regulations and projected growth. The cost to the City to prepare thresholds range from approximately \$10,000 to \$28,000. Once the thresholds are prepared, the cost for a developer to prepare a limited GHG analysis would range from \$3,000 to \$8,000 depending on the details of the project. Without local thresholds in place, the cost for a developer to prepare a more detailed GHG analysis would range from \$6,000 to \$12,000 and the time to prepare the analysis can be two to six weeks longer. Having established thresholds could streamline development review both for the developer and for staff, however the time and cost to develop the thresholds and have them adopted by Council must be considered. On average, the cost for a developer to have a CEQA document prepared is approximately \$45,000 and ranges from \$14,000 to \$100,000. Given that this level of CEQA documentation is required for on average 12 projects per year, staff does not recommend development of thresholds at this time. Staff recommends that City resources be directed toward updating the CAP.



CLIMATE CHANGE

State likely won't reach emission goals

Californians' love of pickups and SUVs, along with wildfires, to blame, report says

By Andrew Sheeler
The Sacramento Bee

California is not on track to meet its greenhouse gas emission goals, in part because Californians aren't ready to give up their trucks and SUVs.

A new study by nonprofit group Next 10 and Beacon Economics found that Californians in late 2018 owned more gas-guzzling pickups, minivans and SUVs than they

did five years ago. Those vehicles made up 57.3% of new vehicle registrations in 2018, compared with 39.3% in 2013.

The wildfires that scorched California in 2017 and 2018 were another setback, pumping tens of millions of tons of carbon into the atmosphere and offsetting the state's efforts to curtail man-made greenhouse gas emissions.

The new report from Next 10 and Beacon Economics shows that the Golden State is unlikely to reach its carbon reduction goals for 2030 and 2050 at the current rate of progress. A law signed by Gov. Jerry Brown in 2016 sets a target of cutting the state's greenhouse gas emissions to 40% below 1990 levels by 2030.

"Assuming the same rate of reduction from 2016 to 2017, California will reach its 2030 and 2050 goals in 2061 and 2157, respectively — representing a 31-year and a 107-year delay," according to the report.

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— Study by nonprofit group Next 10 and Beacon Economics

California is locked in a dispute with President Donald Trump about the state's legal authority to impose stricter air pollution standards on vehicles. The California Air Resources Board has used that power to negotiate

torque and moved to

impose a less aggressive target for fuel efficiency of 37 miles per gallon. Trump wrote on Twitter that his plan would let car manufacturers "produce far less expensive cars for the consumer, while at the same time making the cars substantially SAFER."

Study co-author Noel Perry of Next 10 wrote that California "has some hard truths to face as it looks to deliver much steeper annual emissions reductions in the years ahead."

Transportation makes up a significant amount of

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