



California is 4x Net-Zero Greenhouse Gases in 2018

Net-Zero Greenhouse Gases (GHG) for the Waste Sector was defined by the California Air Resources Board (CARB) in the First Update of the AB 32 Scoping Plan in 2013. To meet Net-Zero GHG, one's avoided GHG emissions must be greater than, or equal to, one's operational GHG emissions. By analyzing the operational versus avoided emissions, it is possible to demonstrate that the Waste Sector within California has achieved this Net-Zero GHG goal set for 2035 in the year 2018. Based upon available CalRecycle and CARB data, coupled with best practices in GHG modeling, it is estimated the Waste Sector has avoided 4x more GHGs than have been emitted. The Waste Sector achieved the Net-Zero GHG goal using carbon negative fuel in near-zero NOx engines, collecting recyclables from zero waste programs.

The California Compost Coalition, along with CleanFleets.net, will be releasing this report to CARB in early March 2021, as they kick off the Third Update of the AB 32 Scoping Plan that will be adopted in late 2022. There will be a new CARB spirit with 4 new Board members needing to address a recent State Audit and legislative oversight by a slew of new bills being proposed this year. This report conservatively determines the direct emissions from their fleets, facilities, and export shipping, while calculating the avoided emissions from all the recycling and composting that has been documented in CalRecycle record. The CalRecycle State of Recycling 2018 Report calculated that 77.6 million tons of solid waste and recyclables were generated in California. A mass balance of the waste and recyclable commodities from the published data shows that all tons are documented, except about 5.4

million tons that can be attributed to source reduction and other recycling which were not modeled. As clearly stated in the First Update of the 2013 Scoping Plan (this will need to be reinforced in the next update) California must develop low-carbon, economically sustainable industries, technologies, and strategies that align with the state's long-term and integrated energy, waste, and environmental policy objectives. Waste has a critical role to play in enabling a sustainable, low-carbon future, in the context of each sector

covered in the Scoping Plan. Waste sector-specific GHG and waste reduction targets and actions should align with the following overarching principles: (1) Take full ownership of waste generated in California; (2) Maximize recycling and diversion from landfills; (3) Build the infrastructure needed to support a sustainable, low-carbon waste management system within California; (4) Improve the sustainability of California's waste management infrastructure, and; (5)

Reduce the volume of waste generated.

The Waste Sector has been doing the heavy lifting for over 30 years by developing the recycling and composting infrastructure, while curtailing diesel use. Over 40% of their fleets are on the natural gas platform, utilizing the fueling facilities at huge infrastructure costs, which is now also dispensing renewable natural gas and cannot be readily abandoned for the unpredictable hopes of electrification. The Waste Sector is Net-Zero GHG now and is poised to embrace the challenges of SB 1383 and reduce short-lived climate pollution in the near-term. The Waste Sector cannot also shoulder the shocking costs, the unreliability and uncertainty of electrification at the same time. Let us continue to be California's Net-Zero Heroes 4 times over.

Net-Zero GHG Analysis 2018			
Scope 1	Landfill Methane	8,700,000	MTCO _{2e}
Scope 1	Compost Emissions	400,000	MTCO _{2e}
Scope 1	Fleet Emissions	825,000	MTCO _{2e}
Scope 1	Shipping Emissions	1,930,000	MTCO _{2e}
Scope 2	Electrical Emissions	124,000	MTCO _{2e}
Scope 3	Avoided Emissions (Recycling & Composting)	47,800,000	MTCO _{2e}
$\frac{\text{Avoided GHG Emissions (Scope 3)}}{\text{Direct GHG Emissions (Scope 1 and 2)}} = \frac{47,800,000}{11,979,000} = 4x$			



State of Carbon

We are living in a material world with Greta Thunberg, carbon girl, as the United States just rejoined the Paris Agreement on climate change, designed to limit global warming and avoid its potentially catastrophic impacts. While California has been advocating a carbon agenda for 15 years, there are parts of the Green New Deal now being considered for the Nation. With a carbon neutrality vision by 2045, the California legislature has introduced 74 bills this year with carbon sequestration, zero-carbon, low carbon, and/or the carbon registry as the policy theme. Carbon is the new black.

Lawrence Livermore Labs released, "[Getting to Neutral – Options for Negative Carbon Emissions in California](#)" last year, which featured the conversion of biomass into transportation fuels and more natural solutions, where compost and biochar are sequestered into soils. The report recognized that we must go carbon negative now to get carbon neutral by 2045. With a COVID-19 delay, there are several bills proposed this year that deserve support, both AB 284 (Rivas) and SB 27 (Skinner) set up carbon sequestration programs.

The recently-released report by the State Auditor criticized CARB for mishandling some of its climate change programs, saying the state is in danger of failing to meet the targets for reducing greenhouse gas emissions, where better accounting and cost-effective metrics need to be installed. Be ready for AB 29 (Cooper) or one of the other 74 bills to pick up on those recommendations. SB 260 (Weiner) asks companies worth over \$1 billion to determine their carbon footprint to evaluate if they are really Net-Zero GHG, as some claim. Turning to page 4, there are five private independent companies that have been registered as Net-Zero GHG for decades, ranging from 14x to 35x.

[SB 260 \(Wiener\)](#)

TOPIC: Climate Corporate Accountability Act. This bill would require CARB, on or before January 1, 2023, to develop and adopt regulations requiring publicly traded domestic and foreign corporations with annual revenues in excess of \$1 billion that do business in California, to publicly disclose their greenhouse gas emissions, categorized as Scope 1, 2, and 3 emissions from the prior calendar year. The bill would require CARB, on or before January 1, 2024, to develop and adopt regulations requiring covered entities to set science-based emissions targets based on the covered entity's emissions that have been reported. The bill would require covered entities to disclose their greenhouse gas emissions and science-based emissions targets in a manner that is easily understandable and accessible to residents of the state by making that information available on a widely available digital platform. The bill would also require covered entities to ensure that their public disclosures have been independently verified by a third-party auditor with expertise in greenhouse gas emissions accounting, among other measures.

STATUS: In Senate EQ

[AB 29 \(Cooper\)](#)

TOPIC: This bill would require that notice to include all writings or materials provided for the noticed meeting to a member of the state body by the staff of a state agency, board, or commission, or another member of the state body that are in connection with a matter subject to discussion or consideration at the meeting. The bill would require those writings or materials to be made available on the state body's internet website, and to any person who requests the writings or materials in writing, on the same day as the dissemination of the writings and materials to members of the state body or at least 72 hours in advance of the meeting, whichever is earlier. The bill would prohibit a state body from discussing those writings or materials, or from taking action on an item to which those writings or materials pertain, at a meeting of the state body unless the state body has complied with these provisions.

STATUS: Refer to Assembly Gov. Org.

[AB 284 \(Rivas\)](#)

TOPIC: The act requires the state board to prepare and approve a Scoping Plan for achieving the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions and to update the scoping plan at least once every 5 years. This bill would require CARB when updating the Scoping Plan and in collaboration with the Natural Resources Agency and other relevant state agencies and departments, to take specified actions by January 1, 2023, including, among others, identifying a 2045 climate goal, with interim milestones, for the state's natural and working lands, as defined, and identifying practices, policy incentives, market needs, and potential reductions in barriers that would help achieve the 2045 climate goal. The bill would require CARB, no later than January 1, 2024, to develop standard methods for state agencies to consistently track greenhouse gas benefits from natural and working lands over time.

STATUS: Referred to Assembly Natural Resources

[SB 27 \(Skinner\)](#)

TOPIC. Carbon sequestration: state goals: natural and working lands: registry of projects. This bill would require, no later than July 1, 2022, the Natural Resources Agency, in coordination with the California Environmental Protection Agency, CARB, and CDFA, to establish carbon sequestration goals for natural and working lands. The bill would require CARB, as part of its scoping plan, to establish specified carbon dioxide removal targets for 2030 and beyond. This bill would require, beginning on January 1, 2022, the office to establish and maintain a registry for the purposes of identifying and listing carbon removal or sequestration projects in the state that are seeking funding from state agencies or private entities. The bill would require, no later than July 1, 2022, the office, in collaboration with the Strategic Growth Council, to create an application process for project applicants to have their carbon removal or sequestration projects listed on the registry.

STATUS: Referred to Senate EQ

CARB Audit

The State Auditor just released Report 2020-114, '[California Air Resources Board – Improved Program Measurement Would Help California Work More Strategically to Meet Its Climate Change](#)'. There were several key recommendations in order to meet the 2030 targets, with a new CARB Chairperson and three new CARB members, first meeting on February 25, 2021. It is perfect timing, as they gear up for the next AB 32 Scoping Plan Update, a series of new fleet regulations and implementation of the Advanced Clean Rule.

Key recommendations require CARB to do the following: (1) Better demonstrate that its incentive programs are as effective as possible in achieving specific socioeconomic benefits. By February 2022, CARB should develop a process to define, collect and evaluate data that will translate to metrics showing the socioeconomic benefits that result from each of the incentive programs; (2) Provide transparency to the Legislature and other stakeholders, beginning in 2022, and using the metrics and data described above. CARB should make funding and design recommendations in its funding plans and annual reports based upon which programs are effective in producing socioeconomic benefits and at what cost, and; (3) Improve its ability to identify the effectiveness of each of its incentive programs in reducing GHG emissions. By August 2021 CARB should develop a process to define, collect, and evaluate data on the behavioral changes that result from each of its incentive programs.

Since the near-zero heavy-duty HVIP and Carl Moyer funding programs, along with in-state RNG production under the Cap-and-Trade programs are the most cost-effective, funding priorities should shift in the near future to focus on these successes for near-term heavy-duty GHG reductions.

[AB 32 Scoping Plan](#)

The new CARB Board is gearing up for the Third Update of the AB 32 Scoping Plan in early 2021, to be adopted in the late 2022. Compost use on working lands and RNG will be showcased. The update must include cost per ton, social cost of carbon, and the economic benefit, where compost use on working lands is one of the most cost-effective to date. The Audit was just released to recommend CARB keep better metrics on these issues. We can showcase the Waste Sector as **Net-Zero** GHG now and highlight our carbon negative strategies as part of this process.

The May 2014 First Update of the AB 32 Scoping Plan defined **Net-Zero** greenhouse gasses for the Waste Sector and set forth many goals. Meeting the 75% statewide recycling goal was the best path forward to maximizing GHG emission reductions from the Waste Sector and put California on the path for even greater GHG emission reductions in the future – but only a 37% statewide recycling rate was achieved in 2019. **Net-Zero** GHG emissions was to be achieved in a mid-term time frame (i.e., in year 2035). Using CARB Methodology, the Waste Sector can demonstrate that, in 2018, their GHG direct emissions have been offset by 4x and are **Net-Zero** GHG Now. By 2050, direct GHG emissions from Waste Sector activities could be reduced by 25%, creating a net negative GHG footprint for the Waste Sector.

To achieve these goals, California must take greater ownership and responsibility for the waste generated within its borders. Shipping of waste, even recyclable products, to other states or nations is not a viable, long-term, environmentally-appropriate waste management practice for California. Furthermore, exporting waste denies California the economic opportunity of significant job growth that would result if these materials were processed and remanufactured in California. While California cannot control exports, implementing the principle of owning our own waste will allow California to develop new, state-of-the-art waste management facilities/ systems that can be emulated by other states and nations.

[Advance Clean Truck Regs](#)

The upcoming March 2 and 4, 2021 workshops follow the June 2020 CARB approval of the Advanced Clean Trucks (ACT) Regulation that compels medium- and heavy-duty truck original equipment manufacturers (OEMs) to produce zero emission vehicles (ZEV) as early as 2023. Fleet owners with 50 or more trucks, or \$50 million in annual revenue, must file a Large Entity Report by April 1, 2021.

CleanFleets.net has expressed that private diesel fleet owners, public agencies, and their contracted service providers have already transformed and accelerated the procurement of cleaner vehicles to meet CARB mandates stemming from the Year 2000 Diesel Risk Reduction Plan, where many fleets have exceeded CARB or local air district programs or expectations, and where billions of dollars have been borrowed or bonded to go beyond the rules thus far. CARB is aware that the evolution of natural gas trucks has taken over 20 years and it is reasonable to assume that ZEV trucks face similar barriers and will take decades to evolve to meet customer requirements. The proof must be seen "in the field" that ZEVs are a "one-to-one" replacement for current vehicles.

Existing CNG fueling infrastructure has required a huge investment that cannot be left at the curb. New vehicle charging funding is needed in the tens of billions of dollars and requires permitting and utility provider reliability and physical space to ensure charging is in place BEFORE a ZEV truck is delivered. There is no cashflow model for this, or for the staggering upfront cost of ZEVs in the face of dwindling customer incentives.

The onus is on CARB, the Governor, the legislature, and electric utility providers to identify the timeline and sources of public funding to accomplish ZEV truck deployment over the next 25 years. There is currently no business case, savings, or cashflow model presented by any of these entities that maximizes ZEV deployment and minimizes the risk for providers of essential public services.

The California Compost Coalition

is a registered Lobbying Coalition with the Fair Political Practices Commission (FPPC), created in 2002 by a group of compost operators in response to demands for increased recycling of organic materials & production of clean compost, bioenergy, anaerobic digestion, renewable natural gas, and biochar.

CCC Members

Agromin
American Refuse
BLT Enterprises
Burrtec Waste Industries
Caglia Environmental
California Waste Recovery Systems
Cold Canyon Landfill Inc.
Marin Sanitary Service
Monterey Regional WMD
Mt. Diablo Recycling
Napa Recycling and Waste Services
Peña's Disposal Service
Pleasanton Garbage Service
Quackenbush Mt. Compost
Recology
ReFuel Energy Partners
Soiland Inc.
Tracy Material Recovery
Vision Recycling
Zero Waste Energy LLC

CCC Partners

Atlas Disposal
California Wood Recycling
Clover Flat Compost
GreenWaste Recovery
Northern Recycling Compost
Resource Recovery Coalition of CA
Sonoma Compost
Synagro - South Kern
Upper Valley Recycling
Zanker Road Resource Management
Z-Best Compost Facility
Zero Waste Energy Development

CCC Technology Partners

CleanFleets.net
Compost Manufacturing Alliance
Engineered Compost Systems
Filtrex / Phoenix Energy
Yorke Engineering LLC

CCC Governmental Affairs

Justin Malan, EcoConsult
Neil Edgar, Edgar & Associates, Inc.
Evan Edgar, Edgar & Associates, Inc.
Sean Edgar, Clean Fleets Advocates

The Climate Registry

Net-Zero GHG Companies



The Climate Registry

[The Climate Registry \(TCR\)](#) is a non-profit organization governed by U.S. states and Canadian provinces and territories. TCR empowers North American organizations to reduce greenhouse gases (GHG) by helping them measure, report, and verify their carbon footprints. Established in 2007, The Climate Registry was formed to continue the work of the California Climate Action Registry (CCAR). Created by the State of California in 2001, CCAR promoted and protected businesses' early actions to manage and reduce their GHG emissions. Through the state mandate, TCR/CCAR established protocols to guide emissions inventories and manage an online reporting tool, the Climate Action Registry Reporting Tool, to serve as a central database for emissions reports. In the Solid Waste and Recycling Sector, the following companies affiliated with CCC and Edgar & Associates, Inc. are TCR registered and have filed reports showing that they are Net-Zero Greenhouse Gas companies with 2019 reports pending approval:



Marin Sanitary Service

2006-2018

20x
Net-Zero

Marin Sanitary Service first joined CCAR in 2006 and instantly became a Climate Action Leader. They have been tracking their company's avoided emissions annually under the TCR program since 2006. MSS has fully offset its direct emissions, on average 20x each year, avoiding over 103,000 tons of GHG annually.



Harrison Industries

2008-2018

21x
Net-Zero

Harrison Industries first joined CCAR in 2008 and has been tracking its avoided emissions annually under the TCR program since 2009. Harrison Industries has fully offset its direct emissions on average 21x each year, avoiding over 264,000 tons of GHG annually.



Specialty Solid Waste and Recycling

2002-2019

25x
Net-Zero

Specialty was one of the first companies to have an all-CNG fleet and they have been tracking emissions since 2002. Specialty has fully offset its direct emissions on average 25x each year, avoiding over 85,000 tons of GHG annually.



Green Waste Recovery

2008-2015

35x
Net-Zero

Green Waste Recovery, with their Zanker Road and Z-Best affiliations, have been tracking their avoided emissions annually under the TCR program from 2008 to 2015. They have fully offset their direct emissions on average 35x each year, avoiding over 235,000 tons of GHG annually.



South San Francisco Scavenger

2006-2017

14x
Net-Zero

South San Francisco Scavengers first joined CCAR in 2006 and have been tracking their avoided emissions annually under the TCR program since 2009. SSF has fully offset its direct emissions on average 14x each year, avoiding over 103,000 tons of GHG annually.