CALIFORNIA COMPOST COALITION

WOODAGEDDON

September 2025| Vol. 11, Issue 5 Sustainable Organics Recycling

Zero Biomass in the Zero Waste Plan

With strong support from the California Compost Coalition, SB 498 (Lara, 2014) defined biomass conversion facilities with their feedstock types and required the owner or operator of a biomass conversion facility to submit an annual tonnage report to CalRecycle naming the sources from either agriculture, forestry, mill residue, and/or urban. Each year in August, CalRecycle presents the tonnage data with the urban market shrinking from 1,760,000 tons in 2015 to just 352,000 in 2024, losing 80% of the market as predicted by The Edgar Institute in 2016. Each year, CalRecycle states that the declines are partially attributed to cheaper sources of energy, landfill alternatives and subsidy fluctuations. Each year, we ask CalRecycle for further analysis and to prepare an urban wood waste market development plan having lost 1.4 million tons of bioenergy capacity while simultaneously being mandated to divert a new 1.9 million tons of wood waste to comply with SB 1383. Each year at this time, it is Groundhog Day for Ground Wood.

The last time California took a comprehensive look at biomass was over 13 years ago; since then, supply and regulatory mandates have both significantly increased. The 2012 Bioenergy Action Plan outlined strategies, goals, objectives, and actions. To accommodate the changing regulatory and market dynamics, the Bioenergy Action Plan should be updated at least every 5 years but has not. With agricultural waste burning being phased out and with greater forest biomass incentives, the urban sector is being crowded out and is in dire need of more markets, such as biomass to hydrogen. Several legislative efforts by CCC have been attempted to update the Bioenergy Action Plan to harmonize the incentive and policies among urban, forest and agricultural sectors with a more comprehensive Organic Waste Scoping Plan. CCC vigorously supported three Aguiar-Curry bills: AB 144 (2019), AB 1567 (2020) and AB 1086 (2021-22), but failed at multiple scenarios to develop funding and find a responsible agency.

The last time CalRecycle published a report on wood waste was in 1995. CalRecycle is commended for their infrastructure grants for compost and anaerobic digestion facilities but leaves wood waste at the curb without any funding or plan. SB 1383 procurement for woody mulch could be a windfall, but only 170,000 tons per year is being procured. CALTRANS issues fluff reports without metrics or performance. A conceptual top down 75% Wood Waste Market Development Plan chart from 2022 is included herein again to restart the conversation again and again and again.

CalRecycle is fixated on their $2 million Zero Waste Plan (due by January 1, 2026), which should be the opportunity to finally address urban biomass. Both the budget trailer bill language, SB 101 (Skinner, 2023), for the Zero Waste Plan and a Legislative Analyst Office Report requires CalRecycle to check in on a 75% Report first before tackling more ambitious plans. The September 2025 draft Zero Waste Plan does not even define ‘zero waste’ correctly, does not mention biomass tonnages or AB 341 that should have diverted 75% of the waste stream by 2020, avoids hydrogen and does no tonnage or cost modeling.

Any Zero Waste Plan needs to quantify the amount of GHG emissions being avoided where CalRecycle can utilize the Federal EPA WARM model. In 2018, 27.2 million tons of waste was diverted from landfilling amounting to 43.98 million metric tons of GHG being indirectly avoided that embeds material lifecycle analysis into their calculations. Following CARB’s Net-Zero Waste Sector GHG equation adopted in the 2013 Scoping Plan, the Waste Sector was 3.7 times Net-Zero GHG in 2018. The California Waste Sector Net Zero GHG Report prepared by Edgar & Associates was provided to both CARB and CalRecycle in May 2021 and has been ignored. This Report also projected to 2030, that should SB 1383 and AB 341 goals be met, an additional 28.3 million tons would be diverted, to total 55.6 million metric tons of GHG being indirectly avoided, increasing to 10 times Net Zero GHG, and with carbon negative fuel and carbon neutral bioenergy, the industry can be infinity times Net Zero GHG.

Instead, the draft Zero Waste Plan is full of the worn out qualitative platitudes without any cost analysis of affordability, without modeling and tonnage analysis, without any biomass program and no future hydrogen. *“The biggest questions in science and religion are about nothingness and eternity, the void and the infinite, and between zero and infinity,”* Charles Seife.

Affordability

Garbage Rates

The 'Year of Affordability' remains a major focus for Governor Gavin Newsom and the California Legislature amid high inflation, energy and housing costs. Newsom made affordability his issue and has already signed a package of bills to lower energy costs, announced over $414 million in funding for affordable housing projects, and addressed the state's cost of living challenges. But what about those garbage rates nobody wants to talk about?

The 2024 amendments to the Low Carbon Fuel Standard could have led to possible price increases ranging from 47 cents to 65 cents per gallon, but landed at just 8 to 9 cents in 2025. The residential electrical rates have risen 47% in four years. AB 1207 (Irwin, 2025) specifically aims to lower electric bills by shifting allowances from gas utilities to electric utilities to support electrification efforts and keep costs affordable for gas customers through bill credits. Newsom wants to prove that California can address affordability concerns while continuing the world-leading efforts to combat the climate crisis. He then flipped on single-use plastics when a state analysis showed that SB 54, once enacted, would have cost the state billions and each Californian household about $300 to phase out it out by 2037, and thus delayed the thoughtful regulations for one more year.

The typical SB 1383 compliant 3-cart system costs the average household $35 to $40 per month (where California is only about one third of the way there) at approximately 25% recovery and just over $1 billion in infrastructure investment, on the way to 75%. The Edgar Institute predicted that the residential rate could increase to $55 to $70 per month to fully implement SB 1383 such as the City of LA just adopted, and over $100 per household per month to implement zero waste with zero emission vehicles. Note that your cable bill is over $120 per month delivering other types of trash.

Leg Watch

AB 70 (Aguiar-Curry)

TOPIC: Solid waste: organic waste: diversion: biomethane.

POSITION: Support – Bioenergy Association of California

AB 939 requires 50% solid waste diversion requirement and provides that up to 10% may be achieved through biomass conversion under certain conditions, with biomass conversion defined as the production of heat, fuels, or electricity by certain means from specified materials. One of the conditions for using biomass conversion to satisfy a portion of the solid waste diversion requirement is that pyrolysis not be included in the source reduction and recycling element. Pyrolysis is not defined for that purpose or for other purposes in the act. This bill would define pyrolysis for purposes of the act as the thermal decomposition of material at elevated temperatures in the absence or near absence of oxygen.

Existing law requires CalRecycle, in consultation with CARB, to adopt regulations, as specified, to achieve specified reductions in the organic waste disposed of in landfills. CalRecycle regulations provide for, among other things, the calculation by the department of recovered organic waste product procurement targets for each local jurisdiction and a list of eligible recovered organic waste products for purposes of the procurement targets. This bill would require the department, no later than January 1, 2027, to amend those regulations to include, as a recovered organic waste product attributable to a local jurisdiction's procurement target, pipeline biomethane converted exclusively from organic waste, as specified.

STATUS: Enrolled to the Governor on September 15, 2025

NOTES: CalRecycle will be hiring staff to implement AB 2346 (Lee, 2024) on procurement issues for edible food, community compost, and tree trimmings. AB 70 will add pipeline RNG. CalRecycle should also administratively add renewable hydrogen to the SB 1383 procurement portfolio mix. The inclusion of pyrolysis will allow a technology that can destroy the PFAS in biosolids.

SB 86 (McNerney)

TOPIC: California Alternative Energy and Advanced Transportation Financing Authority Act: sales and use tax exclusion for $100 Million for bioenergy equipment, compost equipment and recycling processing technology to save 7.25%.

POSITION: Support

Existing sales and use tax laws impose taxes on retailers measured by the gross receipts from the sale of tangible personal property sold at retail in this state, or on the storage, use, or other consumption in this state of tangible personal property purchased from a retailer for storage, use, or other consumption in this state. The California Alternative Energy and Advanced Transportation Financing Authority Act establishes the California Alternative Energy and Advanced Transportation Financing Authority. The act authorizes, until January 1, 2026, the authority to provide financial assistance to a participating party by authorizing exclusions from sales and use tax for certain projects, including those that promote California-based manufacturing, California-based jobs, advanced manufacturing, the reduction of greenhouse gases, or a reduction in air and water pollution or energy consumption.

This bill would extend to January 1, 2028, the authorization to provide financial assistance in the form of a sales and use tax exclusion for projects approved by the authority. The bill would add electrical generation facilities using nuclear fusion technology to the types of projects qualifying for this sales and use tax exclusion.

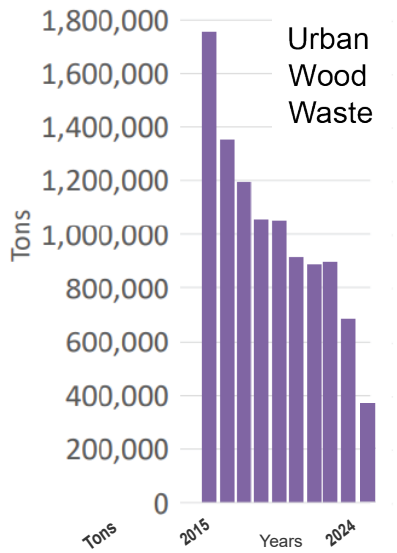
The bill would, on and after January 1, 2026, for an applicant that, together with its parent corporation and subsidiaries, employs 500 or more employees, prohibit the authority from approving a project unless the applicant certifies that the applicant and its subcontractors will comply with certain labor requirements. The bill would make other conforming changes. Revenue and Taxation Code for projects approved by the authority pursuant to this section shall not exceed one hundred million dollars ($100,000,000) for each calendar year.

STATUS: Enrolled to the Governor on Sept 16, 2026

Crowded Out

Loss 80% of Market

SB 498 (Lara, 2014) requires that the operator or owner of a biomass energy facility provide an Annual Report to CalRecycle regarding the total amount and type of biomass material accepted by the facility, starting with calendar year 2015 data. The SB 498 annual reporting for 2024 shows how 3.16 million total tons were accepted in 2024. The urban sector provided 1.76 million tons for biomass energy in 2015, which has steadily declined to just 352,000 tons in 2022 (a loss of 1.4 million tons over 10 years or 80% market loss). Urban wood chips are being crowded out by the forest and agricultural wood chips. We have hoped that those tons would go to hydrogen, SB 1383 woody mulch procurement or compost bulking agents. When comparing CalRecycle Waste Characterization Studies, there were 2.68 million tons of urban wood waste disposed of in 2014, 3.15 million tons disposed of in 2018, and 2.95 million tons disposed of in 2021. In addition, there is still 1.5 million tons of treated wood waste disposed of in 2021. Meanwhile, as SB 1383 is being phased in, there are about 1.9 million tons of urban biomass that needs a home away from the landfill which could be a combination of SB 498 combustion, BioMAT bioenergy, SB 1383 procurement, compost feedstock and/or hydrogen production.



Biomass Markets

Markets, Markets

CalRecycle is commended for their infrastructure grants for compost and anaerobic digestion facilities but leaves wood waste at the curb without any funding or plan. SB 1383 procurement for woody mulch could be a windfall but has not as CALTRANS has also failed over 30 years to utilize woody mulch as we should expect the same out of County Public Works and City Parks. A conceptual top down 75% Wood Waste Market Development Plan chart is included herein to:

The old-line biomass combustion markets has been crowded out by over 1.4 million tons since 2015, while SB 1383 was being promulgated requiring that 75% of solid waste be diverted. Projecting a 75% diversion rate by 2030 and following current incentives and policies, the following markets are projected:

• 200,000 tons per year of SB 498 biomass combustion.

• 250,000 tons per year of SB 498 biomass gasification with the BioMAT program, which will need to be extended past 2025.

• 500,000 tons per year in SB 1383 procurement of woody mulch, now averaging 170,000 tons per year.

• 650,000 tons per year of compost feedstock to balance out the C:N ratio for the added food waste to composting. Note to the Sierra Club- you cannot compost all of the wood waste. With PFAS in biosolids – the market could lose woody biomass bulking agents for composting.

• 1,300,000 tons of biomass to renewable hydrogen

• 1,000,000 tons of non-treated wood waste may still be disposed of to divert 75%, and we hope that with the CalRecycle Zero Waste Plan, this biomass could also be converted to hydrogen. Biomass to renewable hydrogen is the future market as this non-combustion thermal technology can pass the Article 2 process.

Draft Zero Waste Plan

CalRecycle hosted a Workshop on the draft Zero Waste Plan on October 1, 2025. The Draft Plan is a top-down light weight platitude of concepts that are rehashed over the years without any analysis, modeling, or substance. The Draft Plan does not define zero waste, does not model tonnages with programs, does not recognize the Federal EPA organic waste hierarchy, does not conduct a greenhouse gas reduction analysis, and does not mention biomass or hydrogen.

The $2 million CalRecycle Zero Waste Plan contract with Accenture was supposed to model zero waste in 2035, 2040, and 2045 and instead has no modeling at all... CalRecycle should not expend resources on achieving these impossible scenarios of 2035 and 2040 but should instead model the 4 scenarios include modeling 75% by 2030, GHGs, fleet profile, and costs. CalRecycle should stick to modeling zero waste by 2045 and determine when the current mandates of SB 1383 and AB 341 of 75% diversion can be met in 2030. The Legislative Analyst Office and SB 101 (Skinner, 2023) agree with the approach of meeting a current 75% mandate first. Since the AB 341 statewide diversion rate is only 41% in 2022, modeling zero waste in 2035 and 2040 would be a futility in neutrality while ignoring 75%. CalRecycle should determine baseline costs and then run several models to determine the increase in costs in order to keep solid waste and recycling affordable.

Accenture has 779,000 employees with operations and offices in more than 52 countries and over 200 cities worldwide with annual sales of $65 billion, but can't interview stakeholders here in California. Accenture fumbled the contract as the proposal calls for tonnage and GHG modeling, impacts to waste streams, and economic impacts; where we see none of this in the Draft Plan.

CALIFORNIA COMPOST COALITION

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, Inc.
Atlas Disposal Industries LLC
BLT Enterprises of Fremont
Burrtec Waste Industries, Inc.
California Waste Recovery Systems
Cedar Ave Recycling and Transfer
Mt. Diablo Resource Recovery
CR&R Environmental Services
Gilton Resource Recovery
Marin Sanitary Service
ReGen Monterey
Napa Recycling and Waste Services
Northern Recycling Compost
Peña's Disposal Service
Pleasanton Garbage Service
Quackenbush Mt. Compost
Recology
San Joaquin County Public Works
Soiland Co., Inc.
Tracy Material Recovery
Upper Valley Recycling
Waste Management
Zero Waste Energy, LLC.

CCC Partners

California Resource Recovery Assn.
California Organic Recycling Council
California Wood Recycling
GreenWaste Recovery
ReFuel Energy Partners
Resource Recovery Coalition of CA
Zanker Road Resource Management
Z-Best Compost Facility
Zero Waste Energy Development

CCC Technology Partners

CleanFleets.net/ CoolPath Inc.
Engineered Compost Systems
JRMA Architects Engineers
Phoenix Energy
Schaefer Systems International, Inc.
Yorke Engineering LLC

CCC Governmental Affairs

Mandi Strella, EEC
Neil Edgar, Edgar & Associates, Inc.
Evan Edgar, Edgar & Associates, Inc.
Sean Edgar, Clean Fleets Advocates

Biomass to Hydrogen

A Sustainable Path for LA

The Green Hydrogen Coalition, in collaboration with a diverse range of ecosystem advisors, has identified an opportunity to divert municipal waste biomass and biosolids from landfills to produce pure, clean, and renewable hydrogen in the Los Angeles area. The Report was released in June 2025. Leveraging commercially available Non-Combustion Thermal Conversion (NCTC) processes avoids the burning of biomass and its resulting emissions, produces pure and clean hydrogen, significantly reduces landfill volume, and potentially destroys any 'forever chemicals' in the biomass or biosolids.

There is an environmentally and economically sustainable path to process a significant portion of LA County's organic biomass and biosolid waste that would otherwise be sent to landfills. This path would produce 90,000 tons of pure clean hydrogen per year at cost parity with other clean hydrogen production sources, such as scaled electrolytic production, the energy equivalent of 90 million gallons of diesel fuel. Producing clean hydrogen from LA's waste biomass and biosolids will provide immediate air quality improvements by displacing diesel and other fossil fuel combustion including 6,200 tons of avoided CO2 (by reducing diesel truck trips to landfills), and approximately 790,000 tons of avoided CO2 per year if the resulting pure hydrogen is used to displace diesel as a trucking fuel. When converting biosolids (sewage sludge) to hydrogen, the process will also potentially destroy harmful PFAS chemicals.

This Study identifies wood, non-recyclable paper waste, and biosolids as high-potential organic biomass feedstocks for NCTC in LA County. These feedstock materials are uniquely viable due to their consistent large-volume availability in the LA area, the numerous environmental benefits of conversion, and their suitability for conversion to clean hydrogen, including dryness, consistency in the feedstock, ease of preprocessing, and centrality of supply.

- Paper & Cardboard Waste: Non-recyclable or contaminated paper products that cannot be processed through traditional recycling methods.
- Biosolids: Solid byproducts from wastewater treatment plants provide a steady and renewable feedstock.
- Woody Biomass: Collected from municipal green waste programs, offering high carbon and low moisture content for optimal hydrogen production efficiency.

A fleet of nine NCTC plants sited in LA County, each processing 125,000 tons per year would establish a total processing capacity of 1.125 million tons of organic waste biomass, avoiding approximately 520,000 tons CO2 equivalent landfill emissions. This would reduce one-third of LA County's wood, paper, and biosolid waste that would ordinarily be sent to a landfill while producing competitively-priced, clean hydrogen. Financial analysis suggests that the hydrogen produced through NCTC could achieve cost parity with other low-carbon hydrogen sources, making it a viable economic alternative.

In total, these nine plants would produce 90,000 tons of renewable hydrogen annually, equivalent to 90 million kilograms. A kilogram of H2 is approximately equivalent to the energy contained in a gallon of diesel; therefore, this amount of renewable hydrogen would produce the equivalent of 90 million gallons of diesel. Assuming an average Class 8 truck consumes 10,000 gallons of diesel, this amount of renewable hydrogen would eliminate the emissions of approximately 9,000 Class 8 diesel trucks, equivalent to an additional 790,000 tons of avoided trucking CO2 emissions per year.