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Sustainable Organics Management

CARB ACTs Out Pushing the Carbon Curve to 2045

California is letting climate change policies that are aimed at carbon neutrality in 25 years get in the way of proven greenhouse gas and NOx reductions today. The latest Intergovernmental Panel on Climate Change Report stressed that just over a decade is all that remains to stop irreversible damage from climate change and that time is running out. Regardless, CARB adopted the Advance Clean Truck Rule (ACT) last week to push the carbon curve out to 2045 with the electrification of the heavy-duty fleet, too little carbon too late. CARB unanimously fumbled a chance to endorse a carbon-negative fuel strategy, coupled with near-zero NOx engines to achieve significant reductions in the near-term where it could have made a real difference to execute the Short-Lived Climate Pollutant Strategy and SB 1383 implementation.

The clean fleet and renewable natural gas (RNG) industry waged a successful battle last fall, keeping the Class 8 (11.9L engine) near-zero NOx emission trucks in the Heavy-Duty Incentive Program (HVIP) after having been 'graduated out' with no money, and then told to sit on a wait list . . . We are still waiting! A strong campaign was mounted to include the near-zero definition into the ACT regulations and was lost. CARB has been pointing at the Carl Moyer Voucher Incentive Program (VIP) and the upcoming Heavy Duty Omnibus regulations for a 'clear set of incentives' for near-zero NOx trucks, realizing that those funds were not meant to materialize. CARB has HVIPed up and promised VIP treatment that will exclude the refuse industry; with upcoming Heavy Duty Omnibus regulations adding ominous costs without the promised incentives.

The COVID-19 recession has frustrated needed funding across the Board and agencies. Banking on a \$7 billion bond measure structured for economic recovery has merit, but still needs explicit language for near-zero HVIP funding, and needs inclusion of the \$300 million amendment for CalRecycle. Within this recession, CARB has masked huge electrification costs and fails to recognize the cost-effective RNG programs touted in their Annual Cap-and-Trade Report. This economic recovery needs established programs and not beachhead electrification strategies which added unneeded costs while stranding huge investments.

The industry has decades of experience and preparation on rolling out low NOx engines with in-state RNG to replace diesel fleets and meet CARB regulations. CARB asked us to get off diesel in the 2000s and we found an elegant community-scale system. Over \$1 billion of public agency and private hauler borrowed/bonded investment in natural gas fleets, with hundreds of millions more dollars invested in the CNG fueling infrastructure. Another \$1 billion has been invested to date in anaerobic digestion and compost facilities, to produce RNG for the fleet that collects the SB 1383 organic waste, which includes the \$153 million in seed money granted by CalRecycle and the CEC. Another \$2 to \$3 billion will be needed by 2025 to divert organic waste from landfills and manifest a real economic recovery program.

As we deploy a reliable cost-effective, carbon-negative low NOx program now in good faith, CARB fails to see the value proposition and is playing a regulatory shell game. As the industry gears up to produce RNG from organic waste as part of the Short-Lived Climate Pollutant Strategy, CARB is instituting a series of regulatory barriers to achieving SB 1383 mandates by levying the huge cost of electrification, reducing RNG demand, and flippantly increasing the carbon intensity of RNG from negative to plus 45. The Low Carbon Fuel Standard (LCFS) designates RNG as carbon-negative NOW far ahead of the 2045 carbon neutrality goal.

Electrification has been characterized as "getting off diesel", which the refuse industry has been financing for 20 years, where the collateral damage will be the abandoned CNG infrastructure and no further development of RNG facilities. Where CNG rhymes with fracking, RNG is fricking carbon-negative and not petroleum-based. With the ACT regulations, CARB has stymied the deployment of a dependable near-zero NOx RNG system, forcing many in the industry to stay on diesel for at least another decade, until electrification can be demonstrated to perform. CARB smugly adopted a perceived perfect 2045 strategy in the middle of a recessionary pandemic instead of allowing the common sense RNG-NZ trajectory to deliver what California really needs to flatten the carbon curve with economic recovery now.

Budget

Zero Funding

Gov. Gavin Newsom and legislative leaders reached an interim budget deal last week that will allow California to close the multibillion-dollar deficit that has opened up during the coronavirus pandemic. The deal avoids the steep cuts to education and safety net programs, but makes reductions to other public services and state worker pay, with a federal bailout, which the August Budget Reviser will address. Finance officials, who originally anticipated a \$6 billion surplus next year, now project California is facing a \$54.3 billion deficit. The state expects a \$41 billion decline in tax revenue after the prolonged statewide stay-at-home order crushed the economy, with the remainder of the gap caused by increased demand on health care and welfare programs, and emergency spending to respond to the pandemic.

The May 2020 Cap-and-Trade Auction only generated about \$25 million in state revenue for the Greenhouse Gas Reduction Fund (GGRF), which is much less than the \$600 million that the state received from recent auctions. The allowances were purchased at the minimum auction price established by CARB – \$16.68. The May Revision maintains the [Governor's Budget Cap and Trade Expenditure Plan](#), and establishes a 'pay-as-you-go' mechanism to authorize budget act expenditures based on actual proceeds received at each quarterly auction. This proposed budget mechanism will prioritize initial auction proceeds for the following programs: (1) Air Quality in Disadvantaged Communities: AB 617 Community Air Protection Program and agricultural diesel emission reduction; (2) Forest Health and Fire Prevention; and (3) Safe and Affordable Drinking Water: this leaves CalRecycle grants, healthy soils, and HVIP funding for near-zero fleets without an explicit funding source.

There has been several legislative attempts to seek funding even with a \$54.3 billion deficit. AB 2285 (Frazier) would extend HVIP funding for one year to Dec. 31, 2021, where 20% of specific funding be made available for zero and near-zero heavy-duty fleets. AB 2612 (Maienschein) attempted to appropriate \$100 million per year for CalRecycle.

Bonds

Near-Zero Chance

The Governor started this year wanting to flatten the carbon curve, and swiftly pivoted in March to address the pandemic. In January the now denied Climate Budget took a disciplined approach to government investment in meeting the state's priority climate goals of reducing climate risk while achieving carbon neutrality. The proposed Climate Budget would have invested \$12.5 billion over the next five years as follows: (1) \$4.75 billion for the Climate Resilience Bond; (2) \$4.82 billion for Cap and Trade Expenditure Plan; (3) \$1.00 billion for Climate Catalyst Fund; (4) \$1.42 billion for Existing Bonds and Special Fund; and (5) \$0.48 billion for the General Fund.

Since the Governor's Budget was released, climate leaders both inside and outside the Administration have identified more than 700 climate-related projects seeking more than \$5.8 billion in near-term capitalization as the bond amount grew, with a large coalition asking for \$100 million for CalRecycle. These include projects in transportation emission reduction, sustainable agriculture and forestry, circular economy, and clean power market expansion. With the May Revision, the state was not in a fiscal position to expand programs, given the drastic budget impacts of the COVID-19 recession and dropped the Climate Catalyst Fund. Support for any Bond measure quickly waned as the concept of economic stimulus for the COVID-19 recovery began to take shape.

There have been numerous legislative attempts to restructure a bond measure for the Nov. 2020 election without the explicit support of the administration, but it has been a fluid and growing process to where AB 3256 (Garcia) seeks almost \$7 billion. AB 3256 would enact the Economic Recovery, Wildfire Prevention, Safe Drinking Water, Drought Preparation, and Flood Protection Bond Act of 2020, which if approved by the voters, would authorize the issuance of bonds in the amount of \$6.98 billion pursuant to the State General Obligation Bond Law to finance projects. One large coalition is seeking \$300 million in amendments for CalRecycle, and another coalition wants funding for near-zero fleets, where we have near-zero chance of success.

Leg Watch

[AB 3256 \(Eduardo Garcia\)](#)

TOPIC: This bill would enact the Economic Recovery, Wildfire Prevention, Safe Drinking Water, Drought Preparation, and Flood Protection Bond Act of 2020, which, if approved by the voters, would authorize the issuance of bonds in the amount of \$6,980,000,000 pursuant to the State General Obligation Bond Law to finance projects for an economic recovery with \$50 million for healthy soils and seek HVIP funding for near-zero and \$300 million for waste diversion. This bill would provide for the submission of these provisions to the voters at the November 3, 2020, statewide general election.

STATUS: Referred to the Assembly Rules Committee on June 8, 2020

[AB 2285 \(Frazier\)](#)

TOPIC: The California Clean Truck, Bus, and Off-Road Vehicle and Equipment Technology Program, upon appropriation from the Greenhouse Gas Reduction Fund, funds zero- and near-zero-emission truck, bus, and off-road vehicle and equipment technologies and related projects. The program provides that projects eligible for funding include, among others, technology development, demonstration, precommercial pilots, and early commercial deployments of zero- and near-zero-emission medium- and heavy-duty truck technology, and requires, until Dec. 31, 2020, no less than 20% of funding be made available for that purpose to support early commercial deployment of existing zero- and near-zero-emission heavy-duty truck technology. This bill would extend the requirement that 20% of that funding be made available for the same purpose until Dec. 31, 2021. This could be a vehicle to add the near-zero definition.

STATUS: In Senate waiting assignment by Rules Committee

[AB 3111 \(Gipson\)](#)

TOPIC: Carl Moyer Memorial Air Quality Standards Attainment Program. This bill would require the state board, by January 1, 2022, to adopt an online application process for the submission of grant applications under the program, and hopes to secure and clarify a funding source for heavy-duty near-zero fleet.

STATUS: In Assembly Transportation

Go Negative Now

We have to go negative now to help get the entire state to neutral. If only CARB could understand that they undermined carbon-negative projects and decreased RNG demand. Lawrence Livermore Labs (LLL) released a January 2020 report, "[Getting to Neutral – Options for Negative Carbon Emissions in California](#)", which featured the conversion of biomass into transportation fuels and natural solutions where compost and biochar are sequestered in the soils. These programs are noted as the most cost-effective solutions, using current technologies to convert food waste, green waste, and wood waste into carbon-negative products such as renewable natural gas and biochar from biomass gasification. To reach its ambitious goal of economy-wide carbon-neutrality by 2045, LLL determined that California will likely have to remove 125 million tons per year of CO₂ from the atmosphere. California can achieve this level of negative emissions at modest cost, using resources and jobs within the state, and with technology that is already demonstrated or mature. LLL concluded this after a comprehensive, first-of-its-kind, quantitative analysis of natural carbon removal strategies, negative emissions technologies, and biomass resources in the state.

The Cal-EPA Vehicle Emissions Study that is underway identifies strategies to significantly reduce emissions from vehicles to achieve carbon-neutrality by 2045 (including transition to zero-emission heavy vehicles, and the adoption of other technology to significantly reduce emissions from heavy vehicles and the role of alternative fuels) needs to include the NZ-RNG platform in coordination with CalRecycle and CARB as part of the SB 1383 Progress Report. Near-zero NO_x engines with carbon-negative RNG are being left at the curb by CARB. We need to be part of the solution to protect the huge investments that the industry made deploying the CNG platform with RNG fuel, as we have transitioned off diesel. It is readily apparent that CARB and the CEC are abandoning the CNG platform, even when using RNG and near-zero NO_x engines, in order to electrify the transportation sector, and by 2045.

Cal-EPA Studies

Cal-EPA authorized \$3 million from Cap-and-Trade proceeds for two studies focused on the State's goal of achieving carbon neutrality by 2045. Comments on the draft scopes of work were submitted by January 15, 2020. Cal-EPA plans further public engagement as the studies develop, where we will have to carve out a role for RNG derived from SB 1383 organic waste streams.

Vehicle Emissions Study: \$1,500,000 shall be available for a study to identify strategies to significantly reduce emissions from vehicles and to achieve carbon neutrality in the sector, including: the transition to zero-emission light-duty vehicles, in particular, passenger vehicles; the transition to zero-emission heavy vehicles, and the adoption of other technology to significantly reduce emissions from heavy vehicles; the role of alternative fuels; and the impact of land use policy.

Demand and Supply of Fossil Fuels Study: \$1,500,000 shall be available for a study to identify strategies to decrease demand and supply of fossil fuels, while managing the decline of fossil fuel use in a way that is economically responsible and sustainable. The scope of the Study shall further develop to evaluate pathways to achieve a carbon neutral economy by 2045 and manage the decline of in-state production as the State's fossil fuel demand decreases.

CEC Deep Carbon

The Challenge of Retail Gas in California's Low-Carbon Future

was published in April 2020 by the California Energy Commission to evaluate scenarios that achieve an 80 percent reduction in California's greenhouse gas (GHG) emissions by 2050, from 1990 levels, focusing on the implications of achieving these climate goals by reducing natural gas use, taking down RNG at the same time. These scenarios suggest that electrification across all sectors is a lower-risk long-term strategy compared to RNG, and is skewed, by discounting the supply of community-level RNG to tethered fleets.

SB 1383 Regulations

CalRecycle received over 41 comments on the revised draft of the SB 1383 regulatory text during the last 30-day rulemaking comment period. It was noted by CalRecycle to only respond to comments on the regulatory text which are directed at the changes (in purple in this fourth draft). The official notice, including the identified list of documents, relied upon and full text of the regulation, including the newly proposed changes clearly indicated. The document is available on the [SB 1383 Rulemaking website](#). This comment period ran from **April 20, 2020 through May 20, 2020**. Hank Brady, the SB 1383 Czar, moved back to the Legislature and CalRecycle staffer, Ashlee Yee is now the Project Manager.

CalRecycle updated the SB 1383 rulemaking package, making minor changes to the final regulatory text and making various source documents relied upon for the rulemaking available for review in response to review by the Office of Administrative Law (OAL). The items identified by OAL that were addressed by CalRecycle in the regulatory text are primarily to improve clarity of the regulatory language to ensure that the meaning of the regulations will be more easily understood by those persons directly affected by them.

The regulations may be adopted by Labor Day, as staff had to respond to the 41 letters which took some extra time. Additionally, after final adoption of the regulations CalRecycle will release a series of implementation tools, including a model ordinance, model franchise agreement, model procurement policy, and model food recovery agreement. These tools will be available to help the regulated community prepare for implementation in advance of the January 1, 2022.

CalRecycle should present a draft SB 1383 analysis, required by SB 1383, by July 1, 2020. Since this analysis will show that significant progress has not been made, incentives and funding should be identified, as well as any additional requirements. Plus, CalRecycle could lower the AB 1826 threshold to 2 CYD/week of MSW by January 1, 2021.

CARB ACTing Out

On June 25, 2020 CARB unanimously approved a new rule mandating truck manufacturers to increase the proportion of electric trucks they sell in the state through 2035. The California Air Resources Board's [Advanced Clean Truck rule](#) (ACT) is designed to put more zero-emission vehicles on the road to help meet the state's ambitious goals for reducing greenhouse gases and improve air quality across Southern California and the Central Valley. CARB Chair Mary Nichols called the rule "the first of its kind in the world." The rule will start in 2024 with requirements for zero-emission trucks to make up 5 to 9 percent of sales, depending on truck size, and gradually increase through 2035, when 55 percent of sales of light trucks, 75 percent of medium- and heavy-duty trucks and 40 percent of tractor-trailers will have to be zero-emissions.

CARB approved the regulation over industry objections, including truck and engine manufacturers and natural gas companies that would prefer the rule count near-zero natural gas-fueled vehicles toward the targets. The Truck and Engine Manufacturers Association, which includes Honda, Caterpillar, Volkswagen, Volvo, Ford, General Motors, and other major manufacturers, asked for the rule to be delayed until 2026 and for it to be coupled with a requirement for trucking fleets to purchase cleaner vehicles. Southern California Gas Co. asked for the rule to permit the use of ultra-low-emitting natural gas-fueled engines. Electric-truck manufacturers, including Tesla and Rivian, hailed the rule and said charging infrastructure would come online fast enough to enable companies to meet the sales targets.

Earlier this year, the agency strengthened the proposed rule to increase sales percentages for all truck categories, extend the targets through 2035, and require pickup truck manufacturers to start meeting targets in 2024, rather than 2027. The agency estimates the changes will result in roughly 300,000 electric trucks on the road by 2035 — about 15 percent of the total trucks expected.

[Advanced Clean Trucks](#)

The California Air Resources Board conducted a [public hearing on June 25, 2020](#) to consider approving for adoption the proposed Advanced Clean Trucks (ACT) Regulation. This was the second of two CARB hearings on this item. CARB certified the Final Environmental Analysis, approving staff's Response to Comments on the Draft Environmental Analysis, and adopted the finalized regulation and amendments, with a unanimous vote. COVID-19 was not considered a reason to delay.

At the first Board hearing on this item, which took place on December 12, 2019, staff presented the original proposal. Following the public hearing, staff continued to work with stakeholders per the Board direction, which included assessing the EMA Proposal, increasing zero-emission vehicle (ZEV) sales, streamlining large entity reporting, as well as a huge play by the industry to include near-zero fleets into the definition. Staff made further changes to the proposal through a 30-day change process, which had a public comment period that began on April 28, 2020, and ended on May 28, 2020. Since the first hearing, staff also finalized the Environmental Analysis for the proposal.

CARB decided to bring up requirements for early compliance and to slightly delay for later years, with Class 7-8 tractors sales to be 5% battery-electric vehicles by 2024, 7% by 2025, 10% by 2026, 15% by 2027, 20% by 2028, 25% by 2029, and 30% by 2030. CARB wants to ramp up to carbon neutral by 2045 with 35% by 2031, 40% by 2032 to 2035+. CARB refused to change the definition to include the near-zero engines with in-state RNG use that would have delivered more GHG reductions and NOx reductions in the near-term.

All regulatory documents for this rulemaking are available online at the following CARB website: <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks>

In the Final Statement of Reasons, CARB will respond to all comments received on record during the comment period. The industry is discussing strategies to push back on the ACT.

[Heavy Duty Omnibus](#)

The California Air Resources Board will conduct a public hearing on August 27, 2020 to consider approving the proposed Heavy Duty Engine and Vehicle Omnibus Regulation and Associated Amendments. CARB is proposing Amendments to the Exhaust Emissions Standards and Test Procedures for 2024 and Subsequent Model Year Heavy-Duty Engines and Vehicles, Heavy-Duty On-Board Diagnostic System Requirements, Heavy-Duty In-Use Testing Program, Emissions Warranty Period and Useful Life Requirements, Emissions Warranty Information and Reporting Requirements, Corrective Action Procedures In-Use Emissions Data Reporting Requirements, Phase 2 Heavy-Duty Greenhouse Gas Regulations, and Powertrain Test Procedures.

On June 25, 2020, after CARB left the near-zero (NZ) engine with in-state RNG use out of the definition in the adopted Advanced Clean Truck regulation, CARB amazingly pivoted toward this rule that was just posted on June 23, 2020 to 'take care' of the NZ-RNG fleet. Looking into the rule, the clear set of incentives are not there, only additional costs. The industry will be hit with a double whammy of quicker electrification and ominous costs and will be forced to drop back to diesel truck purchases.

On-road heavy-duty vehicles operate throughout California and are an essential part of the state's economy with almost a million heavy-duty vehicles operating on California roads each year. These vehicles are a significant source of oxides of nitrogen (NOx) and greenhouse gas (GHG) emissions. In fact, heavy-duty vehicles comprise the largest NOx emission source category in the state, contributing to 31% of all statewide NOx emissions. Since 2010, in California and the rest of the United States, heavy-duty engines have been subject to a NOx standard of 0.20 g/bhp-hr. One element of the proposed rulemaking action establishes an approximately 90% lower NOx standard for on-road heavy-duty engines. This measure is responsible for nearly half of the NOx emission reduction commitment in the entire plan, 52 tons per day (tpd) out of 111 total tpd NOx in 2031.

Heavy-Duty Heavy Lifting with RNG

The industry has over twenty years of experience and preparation on rolling out Low NOx engines with in-state RNG to replace the diesel fleet to meet CARB regulations. Over \$1 billion of public agency and private hauler borrowed/bonded investment in natural gas fleets, with hundreds of millions more dollars already invested in alternative fueled infrastructure, will be stranded with an accelerated transition into electrification that CARB adopted on June 25, 2020 within the ACT Regulations.

Almost \$1 billion has been invested to date, to produce RNG for the fleet that collects organic waste with grants as seed money. The awarded \$75.7 million in CalRecycle grants for anaerobic digestion projects and composting projects leveraged over \$300 million in additional capital investment. Another \$77.8 million awarded by the CEC on biomethane production projects leveraged over \$300 million in additional capital investment.

The industry has done some heavy lifting with over \$1 billion invested in fleets and fueling, and \$1 billion in RNG production facilities, another half-billion dollars in incremental costs to complete the transition from diesel to RNG low-NOx engines, and \$2 to \$3 billion of investments for SB 1383 RNG production facilities is still needed.

The incremental cost differential between diesel and CNG heavy-duty trucks is about \$50,000, and both the CEC and CARB have been requested to maintain funding the difference following the Hybrid Voucher Incentive Program model, after having been 'graduated' from the program. With nearly 5,200 refuse trucks already using CNG/RNG, approximately 7,000 waste collection vehicles and 1,800 transfer trucks are still operating on diesel in California's refuse industry. It would take \$440 million over the next 4 years for the refuse fleet be carbon-negative with near-zero NOx engines.

Waste Sector (Organics, Recycling, MSW)



Class 7 - 12,000 in CA: 5,000 CNG and 7,000 Diesel (60% Public/40% Private)

Class 8 - 2,000 in CA: 200 CNG and 1,800 Diesel

Incremental CNG Truck Cost Compared to Diesel Truck



\$50,000 Per Truck Average - 8,800 Class 7 and 8 Trucks from Diesel to CNG



\$440 Million for 8,800 Trucks (20/21 - 24/25) - \$110 Million per Year

CNG Fleet with RNG Off-Take Agreement



Demand 14,000 Trucks - 50 dge/day/truck - 182 Million dge per Year



RNG Supply - 100 Million dge from Organic/HSAD (minus 23 carbon intensity)



RNG Supply - 50 Million dge from Dairies (minus 281.1 carbon intensity)



RNG Supply - 36 Million dge from Wastewater Plants (9 to 34 carbon intensity)



RNG Supply - 417 Million dge from Landfills (52 carbon intensity)

LCFS Revisions for 2022

CARB staff had proposed an April 8, 2020 meeting to kick off the 2-year regulatory process for the Low Carbon Fuel Standard (LCFS) with a Public Workshop to Discuss Potential Regulation Revisions for 2022. We are poised to push to remove the temporary carbon intensify (CI) of plus 45 for high solids anaerobic digestion (HSAD), but with COVID-19 this process has been postponed without a new start date.

The last LCFS Regulations became effective on January 4, 2019, with the following: (1) Prior legacy CI pathways will expire on December 31, 2020; and (2) [Table 8 – Temporary Pathways for Fuel Indeterminate CIs](#). It has a CI value for RNG to be plus 45, and will be used once the legacy pathway expires on Dec. 31, 2020, if no other action is taken. The applicant can use the Temporary Pathway of plus 45 for 2 quarters until a new CI can be determined. RNG producers should not start off with plus 45 after Jan. 1, 2021, given that current legacy CI is minus 22.93, and a prospective CI of minus 15.29 is of record. RNG producers need a provisional or prospective pathway that is carbon-negative starting Jan. 1, 2021, and not plus 45, as operations are being commissioned in early 2021. New RNG producers with operations starting after Jan. 1, 2021 need to re-instate a 'prospective' and/or 'provisional' CI during 2020, and not get delayed until 2022 with the LCFS Potential Regulation Revisions process that has already stalled out. CARB staff acknowledged that the plus 45 CI is based on waste water treatment CIs, increased by a percentage amount to be conservative, and do not to reflect HSAD. CARB staff needs to administratively allow RNG producers with HSAD facilities to use a provisional or prospective CI at the start of their operations.

With the ACT regulation battle fought hard and lost, we will now lead a coalition to try to fix this issue. Working with the Bioenergy Association of California, and anaerobic digestion facility developers, we will bring this to CARB and Cal-EPA. We have already filed comments with CalRecycle, requiring the SB 1383 Progress Report, stating that a Temp CI of plus 45 is a regulatory barrier to fund the development of AD facilities.

SB 1383 Circular Economy of Collection, Production and Use

Many California Compost Coalition members are the fleet owners that collect organics that fuel their trucks. We are organic facility operators that can produce renewable natural gas (RNG) from collected organics. We are Net-Zero GHG Facilities that can make carbon-negative fuels from the collected organics, and we haul compost and wood chips to markets. We implement the circular economy in California.

Recovered Organic Waste Products have regional markets for current tons and will soon have SB 1383-required local government procurement for

millions of new tons. A ton of organic waste can produce 21 diesel gallon equivalents of RNG and can fuel the entire refuse and recycling fleet. Much of the refuse industry has already transitioned off diesel far before Governor Newsom's proclamation to phase out diesel pollution by 2030, and have developed the \$1 billion CNG fleet and infrastructure that uses RNG and/or will produce their own RNG.

Procurement of Recovered Organic Waste Products is being proposed in Article 12, as authorized in SB 1383 Regulations. Recognizing the

importance in developing RNG demand, compost use, and bioenergy, CCC has been out in front supporting this inclusion in the regulation. CalRecycle presented a fair share calculation with the flexibility of procuring an RNG option, where up to 67 million gallons of diesel gallon equivalents of RNG could be used each year and could fuel up to 5,169 CNG refuse trucks, of the 14,000 statewide refuse fleets. Local jurisdictions can delegate RNG use to the local franchised hauler and fulfill the procurement requirement. This is an elegant community-scale fit that is found in the local Climate Action Plan.

SB 1383 Regulations - Article 12 - California Procurement of Recovered Organic Waste Products

CalRecycle will be providing the annual recovered organic waste product procurement for each jurisdiction on or before January 1, 2022 and every five years thereafter, which shall be calculated by multiplying the per capita procurement target of 0.08 tons per resident which may be achieved directly or via a franchise. Jurisdictions have the flexibility to purchase one of the three products below to implement the circular economy locally, and on a statewide basis would create huge markets for a population of 44 million people by 2025. A balanced procurement portfolio would fuel 2,000 trucks, produce 87 MW and amend 100,000 acres of parklands.

Section 18993.1(e) Of the SB 1383 Regulations, a jurisdiction shall comply with one or both of the following:

- (1) Directly procuring recovered organic waste products for use or giveaway.
- (2) Requiring, through a written contract or agreement, that a direct service provider to the jurisdiction procure recovered organic waste products and provide written documentation of such procurement to

the jurisdiction.

Section 18993.2 (a) A jurisdiction shall include all documents supporting its compliance, including, but not limited to, the following:

- (1) A description of how the jurisdiction will comply with the requirements
- (2) The name, physical location, and contact information of the each entity, operation, or facility from whom the recovered organic waste products were procured, and a general description of how the product was used, and, if applicable, where the product was applied.
- (3) All invoices or similar records evidencing all procurement.; and
- (4) If a jurisdiction will include procurement of recovered organic waste products made by a direct service provider to comply with the procurement requirements mandate, the jurisdiction shall include all records of procurement of recovered organic waste products made by the direct service provider on behalf of the jurisdiction, such as invoices or similar records evidencing procurement.

Compost Use
1 ton waste = 0.58 tons of compost



Up to
1,856,000
tons
185,600
Acres

or


Mulch Use
1 ton waste = 1 ton of mulch



Up to
3,200,000
tons
32,000
Acres

or

Bioenergy
1 ton waste = 650 kW-hrs of renewable energy



Up to
237
MW
3,058,824
Houses

or

Renewable Natural Gas
1 ton waste = 21 diesel gallon equivalents (dge)



Up to
67,200,000
tons
5,169
Trucks

Carbon-Negative Intensity Now!

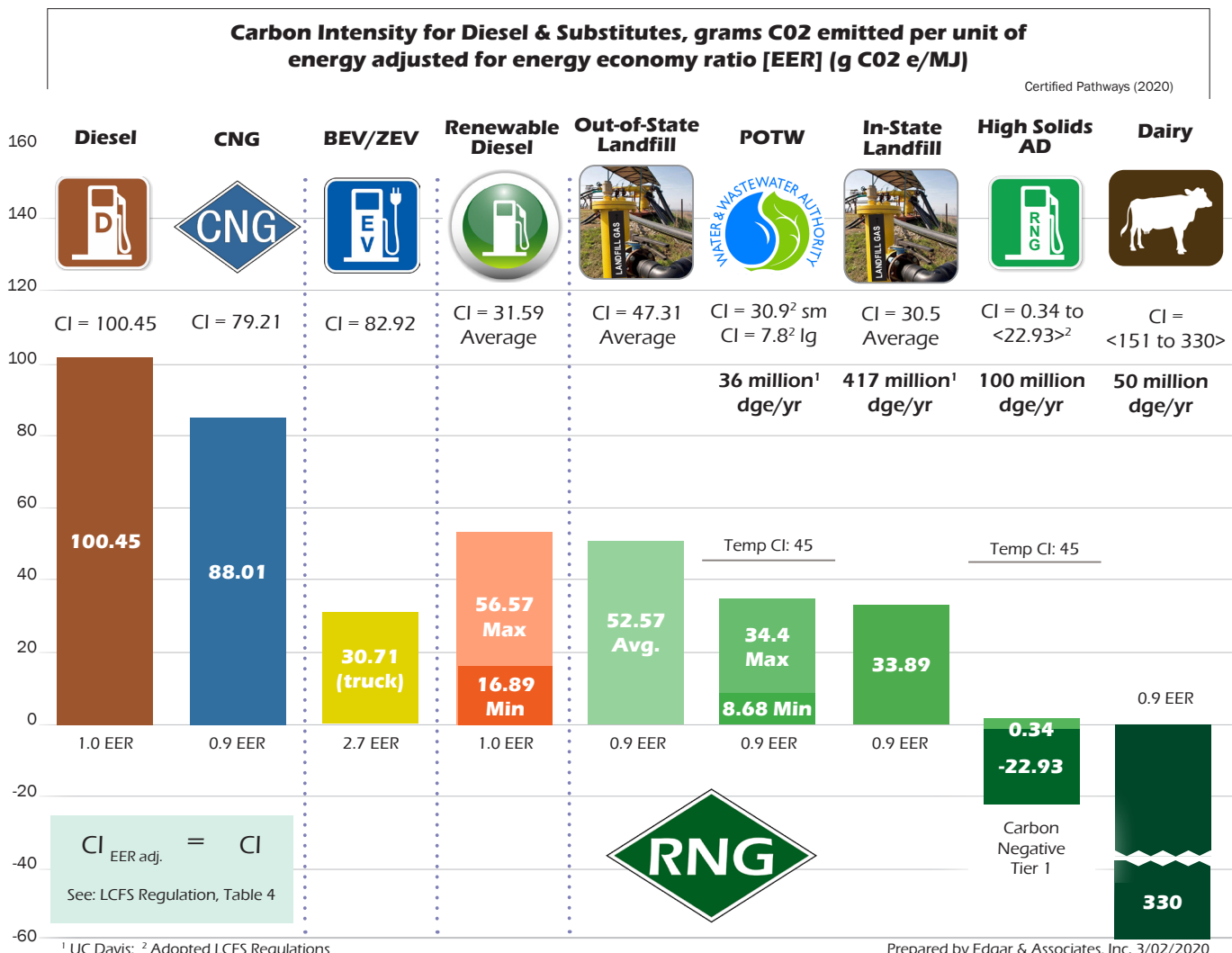
Refuse Fleets Winning the Carbon Race and Losing the War

The Low Carbon Fuel Standard (LCFS), which sets annual carbon intensity (CI) standards, takes into account the GHG emissions associated with all of the steps of producing, transporting, and consuming a fuel—also known as a complete lifecycle. The wide range of carbon intensities is due to variations in feedstock types, origin, raw material production processing efficiencies, and transportation, all of which contribute to an individual producer's fuel pathway CI.

Replacing diesel with the lowest CI fuel should receive priority funding from CARB when allocating GHG dollars. The solid waste industry made great strides developing CNG infrastructure and purchasing CNG fleets to reduce diesel, as CARB advocated for years. The industry viewed pipeline CNG as a bridge fuel that has been replaced by renewable natural gas (RNG) with much lower CIs, such as the case with current RNG use in California. Referencing the [2019 CARB Certified Pathways](#), out-of-state landfill gas averages 52.57 CI while in-state landfill gas averages 33.89 CI and can produce

up to 417 million dge/year. Wastewater RNG has been 8.68 CI for larger facilities and 34.4 CI for smaller facilities and can produce up to 36 million dge/year, with some individual pathways heading toward carbon-negative CI. Anaerobic digestion RNG is now certified as 'carbon-negative' with specific pathway development to 'carbon-negative' CI, and has the ability to produce 100 million dge/year. Dairy RNG can produce 50 million dge/year deep into 'carbon-negative' CI. With CARB using a Temp CI of plus 45 in 2021, a new regulatory barrier is imposed.

Out-of-state landfill RNG is being phased out as in-state RNG is being developed. The solid waste industry is racing to a 'carbon-negative' CI for their RNG fleet by 2025, with full implementation of SB 1383. Meanwhile ZEVs have a 38.9 CI and will not reach a carbon-neutral CI until 2045, when the California grid is expected to be carbon-free. Refuse fleets may be winning the race, but are losing the funding to ZEVs, as near-zero NOx and in-state RNG is passed over by CARB.



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No VIP Treatment

The On-Road Heavy-Duty Voucher Incentive Program (HVIP), as part of the Carl Moyer program, provides funding opportunities for fleet owners with 10 or fewer vehicles to quickly replace their older heavy-duty diesel or alternative fuel vehicles. Local Air Districts have the discretion to set certain local eligibility requirements based upon their priorities. Fleet owners may be eligible for funding to replace the existing vehicle(s) to be scrapped. Having been unceremoniously graduated from HVIP, CARB told the industry that we were going to get VIP treatment with Carl Moyer. After months of bad faith negotiations by CARB, the upcoming draft language plans to exclude refuse fleets from this funding that was going to take the place of HVIP.

CARB HVIPed Up

CARB has graduated the Class 7 near-zero-RNG refuse fleet from HVIP funding and pointed the industry toward the Carl Moyer program for needed funding. We graduate with honors, being the most cost-effective and achieving deep carbon and NOx reductions in the near-term. Last October, CARB voted to keep largest Class 8 (11.9L engine) near-zero emission trucks in the HVIP funding program. This happened after releasing a formal staff proposal that would have eliminated funding for everything except zero tailpipe emission vehicles. After a hard-fought battle to restore funding for near-zero vehicles, CARB agreed to put the biggest vehicles back in the HVIP program and to address concerns about the Carl Moyer (diesel truck replacement) program. Within days, these Class 8 vehicles were placed on a HVIP wait list, and we are still waiting for funding. The Public Workshop on Developing the [FY 2020-21 Funding Plan for Clean Transportation Incentives](#) was scheduled for June 23, 2020, but was recently postponed. As the CARB Chair and upper management point towards other funding sources, this workshop was cancelled just before the ACT regulations were adopted on June 25, 2020. There is no funding plan for the Class 7 or Class 8 NZ-RNG fleet.

CARB Loading

The ad-hoc industry Clean Fleets Coalition has been loading up on CARB policy for the last few years to obtain HVIP and VIP funding, include the near-zero (NZ) definition within the ACT regulations, allocate more Cap-and-Trade revenue to the NZ-RNG platform, and promote the good of the low carbon fuel standard (LCFS). A super group of trade associations including the California Natural Gas Vehicle Coalition, Bioenergy Association of California, Resource Recovery Coalition of California, California Waste Haulers Council, California Compost Coalition with technical leadership from Clean Energy, Gladstein Neandross Associates, and Sean Edgar have regular conferences Friday afternoons and have engaged SWANA and local government fleet owners. We negotiated in good faith with hard facts and science-driven data, promoting the most cost-effective programs and policies to achieve significant GHG and NOx reductions in the near-term, instead of waiting for decades for beachhead EV technology that CARB is favoring. We have already stormed the beaches and declared D-Day on climate change, not waiting for 2045 to be carbon neutral.

We waged a successful battle last fall, keeping the Class 8 (11.9L engine) near-zero emission trucks in the HVIP funding program, after having been graduated with no money, and then we were told to sit on a wait list. We mounted a strong campaign to include the near-zero definition into the ACT regulations and lost. CARB pointed at the Carl Moyer and upcoming Heavy Duty Omnibus regulations for a set of clear incentives for these very low NOx trucks, realizing those funds will not materialize. As we deploy a proven cost-effective, carbon-negative, low NOx program now in good faith, CARB fails to see the value proposition and is playing a regulatory shell game. As the industry gears up to produce RNG from SB 1383 organic waste, as part of the short-lived climate pollutant strategy, CARB is instituting regulatory barriers to achieving SB 1383 mandates by levying the huge cost of electrification, reducing RNG demand, and flippantly increasing the carbon intensity of RNG from negative to plus 45.

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 Facility Members

Agromin
American Refuse
Atlas Disposal
BLT Enterprises - Fremont
Burrtec Waste Industries
Caglia Environmental
California Waste Recovery Systems
California Wood Recycling
Clover Flat Compost
Cold Canyon Compost
GreenWaste Recovery
Marin Sanitary Service
Monterey Regional WMD
Mt. Diablo Resource Recovery
Napa Recycling Compost
Northern Recycling Compost
Peña's Disposal Service
Pleasanton Garbage Service
Quackenbush Mt. Compost
Recology Blossom Valley Organics
Recology Feather River Organics
Recology Jepson Prairie Organics
Soiland Co, Inc.
Sonoma Compost
Tracy Material Recovery Compost
Upper Valley Recycling
Vision Recycling
Zanker Road Resource Management
Z-Best Compost Facility
Zero Waste Energy, LLC
Zero Waste Energy Development

CCC Technology Members

CleanFleets.net
Compost Manufacturing Alliance
Engineered Compost Systems
Filtrex
Phoenix Energy
ReFuel Energy Partners
Synergy BurCell Technologies
Trillium CNG
Yorke Engineering

CCC Governmental Affairs

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