CALIFORNIA COMPOST COALITION

April 2017 | Vol. 4, Issue 4 Sustainable Organics Recycling

The Heavy-Duty Power of Organics

The true Power of Organics lies in the conversion of food waste and green waste via anaerobic digestion (AD) into a "carbon negative" compressed renewable natural gas (RNG). RNG is getting more incentives to go to the heavy-duty tank, and not necessarily to the grid. With SB 1383 requiring a 75 percent reduction of all organics from landfills by 2025 to mitigate methane, the California Air Resources Board (CARB), together with the California Energy Commission (CEC) and CalRecycle, is planning to further develop these AD facilities to harness this potential biomethane and develop ***The Organic Highway*** with facility grants, fuel production incentives, and fleet vouchers.

From the ports of California to the Great Central Valley, a network of RNG facilities and RNG fueling stations for near-zero NOx heavy-duty vehicles that collect and transport organic materials around California will be funded to decarbonize the fuels and the fleets. Getting the fossil out of the fuel with near-zero emission engines using carbon negative fuel transformed from zero waste at net-zero facilities should receive priority incentives from the cap-and-trade revenues. Being a Zero Hero is not cheap.

The CEC found this business model attractive where the franchised organic feedstocks are taken to an AD facility co-located where the captive fleet is parked and fueled, in a community-scale system that could be replicated throughout California. Last year, CCC and CleanFleets.Net co-authored a white paper for the CEC, "***Biomethane Transportation Fuel Powering the Solid Waste Industry: Community-Scale Distributed Fuel Production Facilities***".

A 25,000 ton per year AD-to-RNG project can be designed without a PUC pipeline as a community-scale model, and can serve a population of approximately 100,000 people. This model can produce 333,000 diesel gallon equivalents per year of RNG with a carbon intensity of negative 22.9 g CO2e/MJ for a fleet of 45 heavy-duty trucks. The solid waste and recycling industry of 15,000 heavy-duty vehicles uses about 150 million gallons per year of fuel. The Edgar Institute has projected that 80 percent of the industry's heavy-duty fleets could be CNG by 2025. We have worked tirelessly for three years to educate CARB and fund ***The Organic Highway,*** using millions in cap-and-trade revenue to provide grants for the difference in the cost of the CNG Class 7 trucks – now with the near-zero NOx engines – over a diesel truck, which varies up to $50,000 per truck.

CARB is beginning to understand that this community-scale model is at the intersection of AB 32, SB 32, and the Governor's **Five Pillars** that California will: (Pillar 1) reduce today's petroleum use in cars and trucks by up to 50%; (Pillar 2) increase from one-third to 50% our electricity derived from renewable sources; (Pillar 3) double the efficiency savings from existing buildings and make heating fuels cleaner; (Pillar 4) reduce the release of methane which includes diverting organics from the landfill by 2025; and (Pillar 5) manage farms, rangelands, forests and wetlands so that they can use compost and store carbon. Organic power has been deemed the most cost-effective GHG reduction strategy that bonds all Five Pillars together and where 100% of the CalRecycle grants have benefitted disadvantaged communities (DAC). The CA Legislative Analysts Office determined the cost of organics grants to be at just $9/ton of GHG reduction while the overall average is $57/ton. Incentives for electrification for public fleets in DACs and modernization is costing $414/ton to $725/ton.

Back to the Future is now as the refuse fleet can be transformed in the short-term to address short-lived climate pollutants such as methane and produce RNG, as heavy-duty electrification is still a generation away. CCC is doing the heavy lifting now on heavy-duty vehicles incentive policy that will need to be further recognized by CARB with vouchers for the near-zero emission engines.

Byways on the Heavy-Duty Highway

A massive transportation funding package (SB 1) is being proposed by Governor Jerry Brown (D) and Democratic leaders, and is on its way to the Governor's desk for signing. It was a close votes due in part to opposition from environmentalists and others.The opposition is over language that they say will result in excess pollution from heavy-duty trucks and unacceptable restrictions on local and state rules to control such emissions. However, other bills are being proposed to lower the carbon intensity and the emissions on the heavy-duty highway. SB 53 (Hueso) would allow allow a weight increase to off-set the CNG tank with 22% less carbon than diesel. AB 476 (Gipson) would define heavy-duty vehicles as Class 7 and Class 8 as to not allow CARB to skew funding towards the electrification of light and medium heavy-duty and calling it 'heavy-duty'. AB 1073 (Garcia) would allocate increased incentive funding to the near-zero emissions heavy-duty sector. With the deployment of the near-zero Cummins Westport engine for heavy-duty vehicles, and with the lowest carbon RNG fuel being used, CARB allocation should focus on providing incentives for the heavy-duty highway that can have near term results to mitigate short-lived climate pollutants.

AB 739 (Chau) should be opposed unless amended to add near-zero heavy-duty fleets instead of just ZEVs. There should be an immediate start to deploying and near-zero-emission heavy-duty vehicle technologies on a wide-scale basis. Near-zero engine strategies result in 3 to 8 times more NOx reductions and have 5 to 14 times more greenhouse gas emission reductions. Near-zero trucks are four times more cost-effective compared to fuel cell or electric vehicle options at this time. Current commercial ZEV technology is mired in cost, limited range, weight, durability, and infrastructure issues. CARB's technical assessments – informed by zero-emission industries during a public process – concluded the technology for the heavy-duty sector will not be deployable until at least 2030, if not years later.

SB 1 (Beall) — known as the Road Repair and Accountability Act of 2017 — is expected to generate approximately $52.4 billion in transportation revenue over a 10-year period, approximately $26.6 billion of which would be allocated to local expenditures and $25.8 billion for state purposes. SB 1 would increase the gasoline excise tax by 12 cents per gallon, effective Nov. 1, 2017, and apply an annual inflation adjustment beginning on July 1, 2020. Additionally, the bill would increase the diesel fuel excise tax by 20 cents per gallon, effective Nov. 1, 2017, with the annual inflation adjustment beginning on July 1, 2020, and increase the sales and use surtax on diesel fuel from 1.75 percent to 5.75 percent, effective Nov. 1, 2017. It has been estimated that the low carbon fuel standard has already added 12 cents per gallon.

The controversial 11th-hour amendment to SB 1 affecting "commercial trucks" would extend the effective date of future rules aimed at overhauling heavy-duty vehicles by the retirement, replacement, retrofit, or repower of a commercial motor vehicle shall not be required until the later of two time frames. They are: 13 years from the model year the engine and emission control system are first authorized by CARB or when the vehicle reaches the earlier of either 800,000 vehicle miles traveled, or; 18 years from the model year the engine and emission control system are first authorized. This provision adds more certainty on current clean truck investments and it puts CARB in a position to have to incentivize replacements before the 13-18 year window, and if CARB wants early reductions, either it fits into the operator's fleet plan or CARB pays for it on the heavy-duty highway.

Bill Watch

SB 53 (Hueso)

TOPIC: This bill would authorize a vehicle operated by an engine fueled wholly or partially by natural gas to exceed these weight limits by an amount, up to a specified maximum, equal to the difference between the weight of the vehicle attributable to the natural gas tank and fueling system carried by that vehicle and the weight of a comparable diesel tank and fueling system

STATUS: SEN Transportation and Housing Committee – Hearing April 18, 2017. Staff recommends **SUPPORT**

AB 476 (Gipson)

TOPIC: This bill instead would define a heavy-duty vehicle as having a manufacturer's maximum gross vehicle weight rating of 26,001 or more pounds, a light-duty vehicle as having a manufacturer's gross vehicle weight rating of under 10,001 pounds, and a medium duty vehicle as having a manufacturer's gross vehicle weight rating of between 10,001 and 26,000 pounds. By defining heavy-duty, the hauler industry can seek incentives focus on CNG trucks with RNG fuel and the new near-zero NOx engines.

STATUS: ASM Transportation Committee – Hearing on April 17, 2017. Staff recommends **SUPPORT**

AB 1073 (Garcia)

TOPIC: This bill would require the state board to allocate, until January 1, 2023, no less than 20% of that available funding to support the early commercial deployment or existing zero- and near-zero-emission heavy-duty truck technology.

STATUS: ASM Natural Resources referral. Staff recommends **SUPPORT**

AB 739 (Chau)

TOPIC: This bill would require, by December 31, 2030, at least 30% of heavy-duty vehicles purchased by the department and other state agencies for the state fleet to be zero-emission. This would provide a bias toward electrical vehicles and not accommodate a CNG fleet with near-zero NOx and RNG, and would set a bad precedent.

STATUS: ASM Accountability and Administrative Review – Hearing April 26, 2017. Staff recommends **OPPOSE** unless amended.

CARB's Low Carbon Investment Plan

Cap-and-trade auction proceeds for low carbon transportation funding has supported CARB's advanced technology and clean transportation incentive programs to reduce greenhouse gas emissions. The Governor's proposed state budget for FY 2017-18 includes $363 million for low carbon transportation investments using Cap-and-Trade auction proceeds. This is the same funding level appropriated to CARB in the FY 2016-17 budget.

The proposed budget states that this funding could provide "investment in incentives for electric vehicles and the development of in-state low-carbon biofuels." CARB held a kick-off workshop on Feb. 10, 2017 to decide on the Investment Plan, and have convened 12 focused workshops since then to carve up the funding with the proposed allocation with CCC and Clean Fleets Coalition staff beating the drum at each of these meetings: $60-80 million for light-duty, $140-150 million for heavy-duty, $120-130 million to A Clean Vehicle Rebate Project (designed to promote the purchase of battery electric, plug-in hybrid), and $15-30 million for biofuels production incentives. These investments accelerate the transition to low carbon freight and passenger transportation with a priority on providing health and economic benefits to California's most disadvantaged communities. To date, over 50 percent of CARB's low carbon transportation funding has been allocated to benefit disadvantaged communities, including low-income residents of these communities.

These investments also support the Governor's climate change strategy pillars of a 50 percent reduction in petroleum use in vehicles by 2030 – part of the AB 32 Scoping Plan being adopted in June 2017 and reducing short-lived climate pollutants (SLCPs) that was adopted on March 24, 2017, and the administration's goal to deploy 1.5 million zero-emission vehicles in California by 2025. Diverting organics from producing methane at landfills as part of the SLCP strategy and making a renewable natural gas that has the lowest carbon intensity and is placed right back into the trucks, is at the intersection of the Five Pillars. With the deployment of the near-zero Cummins-Westport CNG engine, our fleets that collect organics and haul material can be near-zero emissions using carbon negative fuel with zero waste feedstocks now, and not wait eons for the presumed electric heavy-duty truck.

There has been an extreme CARB staff bias toward zero emission vehicles (ZEVs) that are electric and by-pass the CNG fleet funding, even with phased-in RNG fuel use and the near-zero NOx engines. CARB staff is funding the electrification of the light and medium heavy-duty fleet under the guise of the heavy-duty budget, and limiting the budget to just $23 million for near-zero NOx fleet using RNG fuel, of the $363 million proposed budget. The $25 million budget workshop for low carbon fuel incentives with up to 50 cents per diesel gallon equivalent possible for RNG production has been delayed.

Zero emission vehicles are not zero as the electricity is imported with emissions off-site and the life-cycle of the battery is not considered. However, CARB is focused on providing vouchers and incentives for passenger vehicles ZEVs in disadvantaged communities and launching the electrification of light heavy-duty and medium heavy-duty at the expense of the heavy-duty fleet deployment that can happen now. With BAC, Clean Energy, Clean Fleets and CCC thumping at every meeting, it is time for the haulers to do some heavy-duty lifting.

Regs Watch

SHORT-LIVED CLIMATE POLLUTANT SB 1383 PLAN

SB 605 (Lara, 2014) directed CARB to develop a comprehensive short-lived climate pollutant strategy (SLCP), in coordination with other state agencies and local air quality management and air pollution control districts. The effort is to engage scientific experts, identify additional measures to reduce short-lived climate pollutants such as methane, which will require that 75% of all landfilled organics are reduced by 2025 and was placed into law with SB 1383 (Lara, 2016). CARB staff released the updated SLCP Strategy on March 14, 2017, with CARB adopting the SLCP at their March 23, 2017 Board meeting in Riverside. CCC provided comments and testified in support.

https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf

2017 SCOPING PLAN UPDATE

The California Air Resources Board kicked off development of the 2030 Target Scoping Plan in October 2015 in coordination with other State agencies and has since been soliciting feedback and comments from a team of economic advisors, local air districts, community members, affected stakeholders, and the AB 32 Environmental Justice Advisory Committee at public meetings throughout the State. The proposed 2017 Climate Change Scoping Plan Update was released on January 20, 2017, Inauguration Day, sending a message to the President that California will double down on setting the greenhouse gas reduction target to 2030. CCC provided extensive testimony with CEQA comments due on April 10, 2017. CARB plans to adopt the Scoping Plan and certify CEQA at their June 23, 2017 meeting in Sacramento. The Proposed Plan is available here: https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf

CALIFORNIA COMPOST COALITION

CCC Members News

ReFueling the Future NOW

ReFuel Energy Partner's fuel station was the first in North America to utilize wet anaerobic digestion technology to create renewable natural gas for transportation fuel. Atlas Disposal, the parent company of ReFuel Energy Partners, was the first private fleet in the greater Sacramento area to start using natural gas-powered vehicles in 2007. By May 2012, they had enough trucks to support their own station and ReFuel Energy Partners was born! Today, ReFuel sells thousands of gallons of renewable natural gas every day. From refuse companies to load-to-load tractor trailers to local school districts and everyday passenger car owners, they service everyone. ReFuel Energy Partners is uniquely positioned to answer all questions about the long-term costs and benefits of having a natural gas fleet.

ReFuel Energy Partners has established itself as the Sacramento region's premier provider of carbon-negative renewable natural gas and the only facility to offer RNG that is derived from anaerobically digested food waste. A truly closed-loop solution for those customers who collect food waste, tip at the Sacramento Biodigester and then fill up on RNG made from the very food waste they collect. It's only 21 days from dump to pump! ReFuel Energy Partners is here to connect renewable energy to the end consumer by identifying opportunities, teaming with partners and bringing these solutions to market.

The technology was invented by a UC Davis professor, Dr. Ruihong Zhang. The anaerobic digester eliminates 100% of greenhouse gas emissions from landfill food waste, producing fuel that can replace hundreds of thousands of gallons of fossil fuels annually. Even the by-products of the production process are recycled! Tail-gas is generated when Methane (CH4) and Carbon Dioxide (CO2) are separated. That tail-gas is used as a low-BTU fuel to produce power to offset the electrical usage of the entire facility.

Atlas Disposal currently operates 30 trucks that run on renewable natural gas. That's over 60% of the fleet. The latest vehicles planned for purchase feature the Cummins ISLG engines that have been California Air Resources Board (CARB) certified near-ZERO emissions. The ISL G Near-Zero (NZ) NOx natural gas engine is the first MidRange engine in North America to receive emission certifications from both the U.S. Environmental Protection Agency (EPA) and Air Resources Board (ARB) in California for meeting the 0.02 g/bhp-hr optional Near-Zero NOx Emissions standards for medium-duty truck, urban bus, school bus, and refuse applications. So, today, in the Greater Sacramento area, everybody breathes a little easier.

Atlas Disposal is hard at work helping customers comply with GHG reduction goals like those set forth in AB 32, AB 1826 and SB 1383. What started as a boutique collection for restaurants in the downtown area of Sacramento has grown to full service collection and closed-loop zero waste solution for the businesses who have 4 cubic yards or more of organic waste. Soon, customers who generate 4 cubic yards of MSW will need help complying with the landfill reduction on organics and Atlas Disposal stands at the ready to move more organics into clean-burning renewable fuel.

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, renewable natural gas, and biochar.

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