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Sustainable Organics Recycling

## Carbonopoly 2.0 - More than a Board Game

California quit playing checkers when AB 32, the Global Warming Solutions Act of 2006, was signed into law, and started playing three-dimensional carbon chess. AB 32 has survived a proposition to repeal it during the recession and numerous lawsuits over the last decade. CARB was able to adopt cap-and-trade regulations and the low carbon fuel standard without explicit new legislation, but relied on the current authority of AB 32. CARB is ready to set 2030 targets as the AB 32 Scoping Plan 2016 Update is underway with the release of the June 17 Concept Paper and a public meeting on June 23. The Governor has taken 'Carbonopoly' to 2030 and to the international community where climate change is more than just a CARB Board game.

Cap-and-trade has raised billions of dollars where the fate of \$3.1 billion is held hostage once again not making it into the 2016-2017 budget deal. Such as last year, the Senate challenged the budget allocation amounts as a negotiation tactic. Even CARB did not get their allocation for low carbon transportation programs and will not pass 'Go' and will not collect the \$500 million on which we were waiting. CARB plans to adopt the proposed Short-Lived Climate Pollutant (SLCP) Strategy that sets a 2030 target to reduce methane by 40% by 2030, where SB 1383 (Lara) will be the bill to watch this year that could codify the SLCP Strategy with implementation starting in 2018.

Big Oil flexed in 2015 and had the Legislature remove the 50% petroleum reduction goal by 2030 from SB 350 (De Leon). The defiant Governor is pressing ahead in 2016, with Big Oil banking on the elections to stack the Legislature in 2017 to moderate future carbon reduction goals. As CARB delivers the AB 32 Scoping Plan to show how to get to 2030 goals, Carbonopoly is being stymied with low greenhouse gas allowance sales in the May 2016 auction due to the legal uncertainty of the cap-and-trade program past 2020 and whether it's a 'tax' or a 'fee'. Be ready for a carbon power play this year with a return of SB 32 (Pavley) that could bind cap-and-trade revenue allocation and 2030 goals to gain market certainty and to avoid a more difficult task next year with a packed Big Oil Legislature.

The climate change politic game is heating up as our industry is developing the infrastructure and transitioning our fleets from diesel to CNG with RNG fuel on the Organic Highway to reduce greenhouse gases, which is one of the most cost-effective GHG reduction programs at just \$9 per ton. As Californians adapt to uncertain weather patterns, there needs to be certainty past 2020 to 2030 to continue to develop the infrastructure that has shown to be carbon negative and community scale with global impacts and huge financial implications.

**NO PARKING**

**WALKABILITY WAY**  
Carbon Credits: 200

**LOCAL AVENUE**  
Carbon Credits: 100

**COMMUNITY EQUITY**  
Follow instructions on top card  
Carbon Credits: 100

**GREEN URBANISM BOULEVARD**  
Carbon Credits: 100

**WIND FARM ENERGY**  
Carbon Credits: 200

**FUTURE GENERATION WAY**  
Carbon Credits: 100

**OIL ADDICTION AVENUE**  
Carbon Credits: 100

**INDUSTRIAL REVOLUTION**  
Carbon Credits: 100

**POPULATION BOULEVARD**  
Carbon Credits: 100

**JUST VISITING**

**CHANCE**

**ICE CAPS DRIVE**  
Carbon Credits: 120

**FOOD SYSTEMS AVENUE**  
Carbon Credits: 100

**CLIMATE UNCERTAINTY**  
Carbon Credits: 100

**GEO-THERMAL ENERGY**  
Carbon Credits: 200

**REDUCE CARBON FOOTPRINT**  
PAY 300 CARBON CREDITS GET RID OF CAR  
Carbon Credits: 60

**ENDLESS AVENUE**  
Carbon Credits: 60

**COMMUNITY EQUITY**  
Follow instructions on top card  
Carbon Credits: 60

**SUBURBAN SPRAWL**  
Carbon Credits: 60

**GO TO JAIL**

**PACIFIC OCEAN**  
Carbon Credits: 200

**NEW URBANIST WAY**  
Carbon Credits: 200

**COMMUNITY EQUITY**  
Follow instructions on top card  
Carbon Credits: 200

**TREE VALLEY**  
Carbon Credits: 200

**SOLAR ENERGY**  
Carbon Credits: 200

**CHANCE**

**OZONE LAYER**  
Carbon Credits: 200

**OIL TAX**  
PAY 300 CARBON CREDITS  
Carbon Credits: 200

**PLANET EARTH**  
NOT FOR SALE

**COLLECT 200 CARBON CREDITS AS YOU PASS**

**GO**

## RETHINK METHANE TO RNG IN 30 DAYS WITH AB 1383

Methane generation in a landfill could stew for over 30 years with fugitive emissions, but instead could become a carbon negative fuel in less than 30 days with anaerobic digestion. As the war on methane continues with the Short-Lived Climate Pollutant (SLCP) Strategy to reduce methane from 2013 levels by 40% by 2030, the desire to reduce petroleum use by 50% by 2030 is also looming. Harnessing the methane from the landfill and diverting organics to an anaerobic digestion facility to produce a renewable natural gas (RNG) for the CNG fleet solves two problems at the same time.

AB 1383 (Lara) requires CARB to implement the comprehensive short-lived climate pollutant strategy starting in 2018 to achieve a 40% reduction in methane, a 40% reduction in hydrofluorocarbon gases, and a 50% reduction in anthropogenic black carbon, by 2030. CARB held a public workshop on May 19, 2016 on the Plan, and will consider adopting the SLCP Strategy in the Fall. AB 1383 plans to place the Proposed Strategy in statute, with the link to the SLCP noted below.

<http://www.arb.ca.gov/cc/shortlived/meetings/04112016/proposedstrategy.pdf>

California has already established its intent to phase out the disposal of organics from landfills. Existing law sets a goal of diverting 75% of solid waste from landfills by 2020, and 50% of commercial organic waste by 2020 with AB 1826. The SLCP will build on that intent and progress, with market and institutional support, and divert

90% of organics from landfills by 2025, effectively eliminating the disposal of organics in landfills.

As stated in the SLCP Strategy, California's organic waste streams are responsible for half of the State's methane emissions and represent a valuable energy and soil-enhancing resource. Effectively implementing the measures described in this Proposed Strategy will not only reduce methane emissions but provide many other benefits as well, including cutting emissions of CO<sub>2</sub> and boosting economic growth in agricultural and rural communities. Building infrastructure to better manage organic waste streams could lead to billions of dollars of investment and thousands of jobs in the State. This infrastructure could provide valuable new sources of renewable electricity or biogas, clean transportation fuels, compost, other beneficial soil amendments, and other products. Collectively, products from organic waste streams in California, and potential environmental credits from them, could represent a market worth billions of dollars in California.

For example, the Low Carbon Fuel Standard (LCFS) and federal Renewable Fuel Standard provide strong economic incentives to utilize organic waste resources for production of transportation fuels. At current LCFS and RIN credit prices and with the new CARB Low Carbon Transportation Fund, anaerobic digestion projects that generate transportation fuels can be laced with incentives amounting to over \$5.00 per diesel gallon equivalent.

### **SB 1383 (Lara)**

TOPIC: Would require CARB to approve and implement Short-lived Climate Pollutants strategy to achieve 40% reduction in methane, 40% reduction of hydrofluorocarbon gases, and a 50% reduction in anthropogenic black carbon below 2013 levels, by 2030.

STATUS: To be heard in Assembly Natural Resources Committee. **SUPPORT**

### **SB 32 (Pavley)**

TOPIC: Requires the Air Resources Board (ARB) to approve statewide greenhouse gas (GHG) emissions limits equivalent to 40% below the 1990 level by 2030 and 80% below the 1990 level by 2050. Prohibits ARB from implementing the next update of the California Global Warming Solutions Act of 2006 (AB 32) Scoping Plan until ARB has taken specified actions, including submitting the Scoping Plan to the Legislature for review.

STATUS: Amended June 10, 2016. To be heard in Assembly Natural Resources Committee on June 27, 2016. **SUPPORT**

### **AB 2415 (Garcia)**

TOPIC: The bill revises the California Clean Truck, Bus, and Off-Road Vehicle and Equipment Technology Program (Clean Truck Program) to require no less than 50% of program funds to support the commercial deployment of certain heavy-duty trucks that meet specified emissions standards.

STATUS: Held in Assembly Appropriations on May 27, 2016. **SUPPORT**

### **AB 2313 (Williams)**

TOPIC: The bill increases monetary incentives for biomethane projects until December 31, 2021: Requires the PUC to increase incentive program for biomethane projects is increased from \$1.5 million to \$3 million, other than a dairy cluster biomethane projects which would be limited to \$5 million; defines pipeline installation as an interconnection cost.

STATUS: Senate Energy, Utilities, and Communications Committee postponed the hearing on June 21, 2016. **SUPPORT**

### **AB 1683 (Eggman)**

TOPIC: The bill would add members to CAEATFA, including one appointee by each Senate and Assembly; would allow for rollover of unallocated sales tax exclusion into the following year.

STATUS: Held in Assembly Appropriations Committee. **SUPPORT**



<http://rethinkmethane.org/rm/assets/uploads/2016/RM2016-ProjectObjective.pdf>

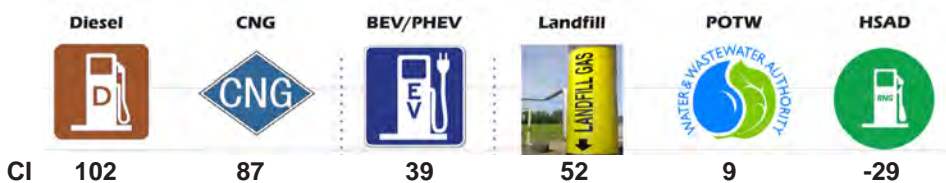
## LOW CARBON BIOMETHANE TRANSPORTATION AND FUELS INVESTMENTS

CCC supports the Governor's proposed Fiscal Year 2016-17 State Budget which includes \$500 million for Low Carbon Transportation and Fuels investments administered by CARB from Cap-and-Trade auction proceeds deposited into the Greenhouse Gas Reduction Fund. This proposal includes \$40 million to support the production of very low carbon fuels, a new addition to CARB's incentive programs which could mean up an incentive of up to \$1.13 per diesel gallon equivalent (dge) for three years starting on July 2017. Plus there could be up to \$30 million in vouchers and incentives of up to \$50,000 per vehicle for heavy duty vehicles using renewable natural gas (RNG) and the new ultra-low NOx engines. All of this is now on hold.

CCC with CleanFleets.Net, Bioenergy Association of California, and Clean Energy have been lobbying CARB staff for over two years on the funding allocation to recognize the value of RNG for heavy-duty truck use where the food waste collected can power the vehicle that collects it. As CARB wages the war on methane with the

Short-Lived Climate Pollutant Reduction Strategy, it makes sense to put that bio-methane back in the tank as RNG which has been deemed a carbon negative fuel. CARB staff had been pushing for funding electrification, bypassing the RNG play. CARB staff was reminded that zero emission vehicles are not zero emissions after all (carbon intensity of 39), but zero waste at landfills can lead to carbon negative fuel. The low carbon fuel standard (LCFS) requires that the carbon intensity (CI) of transportation fuel be 10% less by 2020. The CI from high-solids anaerobic digestion (HSAD) is minus 23 and landfill gas is 52.

With CARB's incentive program of \$1.13/dge, and with the RINs at \$2.81/dge and the LCFS at \$1.79/dge, the low carbon fuel incentive program could total as much as \$5.73/dge. These incentives have been volatile in the past which has limited certainty over time. Last year, SB 32 (Pavley) and SB 350 (DeLeon) attempted to set goals and extend cap-and-trade to 2030 to provide certainty past 2020. Look for Governor Brown to push for 2030 goals before he leaves office.



### CUMMINS WESTPORT - NEAR ZERO EMISSIONS FUELED BY ZERO WASTE CARBON NEGATIVE CNG

Cummins Westport's new ISL G Near Zero NOx natural gas engine is the first MidRange engine in North America to receive emission certifications from both U.S. Environmental Protection Agency (EPA) and California Air Resources Board that meet the 0.02 g/bhp-hr optional Near Zero NOx Emissions standards for refuse and recycling applications. Cummins Westport ISL G NZ exhaust emissions will be 90% lower than the current EPA NOx limit of 0.2 g/bhp-hr and also meet the 2017 EPA greenhouse gas emission requirements. CWI natural gas engines have met the 2010 EPA standard for particulate matter (0.01 g/bhp-hr) since 2001.

### AB 32 Scoping Plan to 2030

CARB released the 2030 Target Scoping Plan Concept Paper and Updated GHG Inventory on June 17 with comments due by July 7, 2016. The 2030 Target Scoping Plan Concept Paper provides an additional opportunity for public and stakeholder engagement and input prior to release of the Draft Scoping Plan later this year. The intent of the paper is to inform an ongoing stakeholder process on how to most effectively achieve a 40% reduction in GHG emissions by 2030 as compared to 1990 statewide GHG emissions. The content of this paper has been informed by several public workshops and meetings held to date following the gutting of SB 350 (De Leon, 2015) on the proposed 50% reduction of petroleum use by 2030. This Scoping Plan Update will provide the road map to 2030 and be the basis to support SB 32 (Pavley) this year, and provide market certainty past 2020.

<http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>

### CARB Regulations in 2018 for Organics Ban by 2025

The California Air Resources Board conducted a public workshop on May 19, 2016 to discuss the Proposed Short-Lived Climate Pollutant (SLCP) Reduction Strategy which was released for public review on April 11, 2016. This is the third iteration over the last year that also included black carbon and refrigerants in the analysis. CARB will consider approving this SLCP Strategy in the fall along with the CEQA document. The SLCP is calling for an effective landfill ban of organic waste in ten years. CARB will be working with CalRecycle to develop a regulation by 2018, noting the progress towards existing targets for landfill diversion by 2020, with the phase in of AB 1826 which is suppose to divert 50% of the commercial organic waste by 2020. With a balanced anaerobic digestion portfolio, over 33 million diesel gallons of RNG can be produced.

## Atlas Refuel Partners Up

### 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.

### CCC Members

Agromin  
Burrtec Waste Industries  
Caglia Environmental  
California Wood Recycling  
CleanFleets.net  
Clover Flat Compost  
Cold Canyon Compost  
CT Bioenergy Consulting LLC  
Harvest Tulare  
Harvest Lathrop  
Marin Sanitary Service  
Mt. Diablo Recycling  
Napa Recycling Compost  
Northern Recycling Compost  
Organic Waste Solutions  
Phoenix Energy  
Quackenbush Mt. Compost  
Recology Blossom Valley Organics  
Recology Feather River Organics  
Recology Jepson Prairie Organics  
ReFuel Energy Partners  
Soiland Co, Inc.  
Sonoma Compost  
Tracy Delta Compost  
Upper Valley Recycling  
Vision Recycling  
Zanker Road Resource Management  
Z-Best Compost Facility  
Zero Waste Energy Development  
Zero Waste Energy, LLC

### CCC Executive Committee

Bill Camarillo, *Agromin*  
Greg Kelley, *Northern Recycling Compost*  
Eric Potashner, *Recology*  
Rachel Oster, *Recology*  
Will Bakx, *Sonoma Compost*  
Christy Pestoni Abreu, *UVR Compost*  
Michael Gross, *Z-Best Compost*

### CCC Team

Neil Edgar, Executive Director  
Evan Edgar, Regulatory Affairs  
Tony Cone, Financial Advisor  
Rick Moore, Peer Review Engineer  
Monica White, Sustainability Advisor  
Sean Edgar, Fleet Advisor

### CCC Legislative Affairs

Justin Malan, EcoConsult  
Neil Edgar, Edgar & Associates Inc.

So much has happened in the world of organics-based Renewable Natural Gas (RNG) for refuse collection fleets since 2014 when Atlas ReFuel was featured in the CCC Newsletter.

ReFuel Energy Partners, (formerly Atlas ReFuel), 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.

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.

The Sacramento Biodigester operated by Clean World expanded the facility from 25 tons per day in 2014 to 100 tons per day in 2015. The facility is capable of processing enough material to deliver a carbon negative solution that offsets landfill

Greenhouse Gas (GHG) emissions by almost 40,000 tons, or to put it more simply, it would power a compressed

natural gas powered civic enough to drive all the way around the earth.

Atlas Disposal is hard at work helping customers comply with GHG reduction goals like those set forth in AB 32 and AB 1826. 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 8 cubic yards or more of organic waste. Soon, customers who generate 4 cubic yards or more will need help complying with the landfill ban on organics and Atlas Disposal stands at the ready to move more organics into clean-burning renewable fuel.

