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VIA ELECTRONIC FILING

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Branch Chief
California Air Resources Board
1001 I Street
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Re: August 2022 Workshop Comments to the Low Carbon Fuel Standard Program

Divert is an impact technology company with a mission to protect the value of food. We are founded on the purpose of creating innovative and efficient solutions toward eliminating food waste. We are passionate about proving that environmental sustainability can be as good for business and consumers as it is for the planet. To that end, Divert is focused on decarbonizing unconsumed food through source reduction, food rescue, and recycling.

We work toward our purpose every day, and have achieved successes such as:

- Using our technology platform to optimize the reduction of food waste generation for the retail food industry, which is the largest generator of food waste in the U.S.
- Cultivating partnerships with retailers and food banks to increase donations for unsold food that meets food donation guidelines but would otherwise be bound for the landfill.
- Establishing ourselves as the largest anaerobic digestion processor of food waste in the U.S., converting food waste to renewable energy via proprietary liquefaction and anaerobic digestion.

Divert is committed to helping California reduce short-lived climate pollutants through the rescue, recovery, and recycling of food waste. As California continues to achieve its food waste reduction and carbon neutrality goals, Divert is:

- Partnering with Feeding America, local food banks, and a private retailer to service over 900 California based stores to identify and facilitate the rescue of unsold food to provide to local communities and families in need.
- Providing California food retailers access to Artificial Intelligence (AI) and Internet of Things (IoT) technology to maximize source reduction and improve the proper handling and freshness of perishable goods.
- Expanding food waste processing and anaerobic digestion capabilities with a new California food waste to energy facility that makes carbon negative renewable natural gas (RNG).

Divert is committed to helping the California Air Resources Board (CARB) and the State of California achieve its carbon-neutrality goals and would like to make the following recommendations:

- **Make the carbon reduction targets more stringent and create further incentive to use low-carbon fuels that effectively reduce short-lived climate pollutant (SLCP) related emissions.**
- **Adjust CI calculations to incorporate fugitive landfill methane emissions.**
- **Incorporate net mileage into the Tier 1 feedstock transport distance calculation.**
- **Incorporate a default distance into the Tier 1 RNG transport distance approximation.**
- **Create a co-production credit for scenarios in which multiple byproducts are created.**

We respectfully submit the following comments in response to the August 18, 2022 public workshop to discuss potential changes to the Low Carbon Fuel Standard (LCFS).

Make the carbon reduction targets more stringent and create further incentive to use low-carbon fuels that effectively reduce short-lived climate pollutant (SLCP) related emissions

In the August 18 workshop, CARB staff highlighted that while the LCFS program is currently over-performing and on track to exceed the carbon neutrality goals set forth in previous rulemakings, SLCP reductions have not kept pace. To better assist California in achieving its larger carbon neutrality goals, Divert is urging CARB to adopt the suggested 30% reduction in carbon intensity through the LCFS Program. We also recommend that CARB further incentivize the use of low-carbon fuels that reduce SLCP emissions and adjust Carbon Intensity (CI) modeling to reflect actual emission reductions.

SB 1383 requires the state to achieve a reduction in SLCP emissions, including a 40 percent reduction in methane, by 2030.¹ In its 2022 Draft Scoping plan, CARB outlines its SLCP related emissions achievements, while noting that these reductions have not kept pace with the broader progress towards California’s decarbonization goals.² The draft states that “more aggressive action is needed” to meet the state’s legislative goals.³

As CARB has acknowledged, the pollution impacts of SLCP’s are especially strong over the short term, and timely action on reducing these pollutants can have an immediate beneficial impact on climate change and public health.⁴ Achieving reductions in SLCP pollutants would help reduce ambient levels of ozone and particulate matter and the cardiovascular and

¹ California State Legislature, “SB 1383 - Short-lived climate pollutants: methane emissions: dairy and livestock: organic waste: landfills” 2015

² California Air Resources Board, “Draft 2022 Scoping Plan Update”, Page 206

³ ID

⁴ California Air Resources Board, “Short-Lived Climate Pollutant Reduction Strategy”, Page 1

respiratory effects associated with air pollution, and many of these benefits would accrue in disadvantaged communities, which are often located near sources of SLCP emissions.⁵

SB 1383 requires a 40 percent methane reduction target by 2030, but by 2025 the state is expected to remain roughly 8 million tons short of anaerobic digestion or composting capacity.⁶ As companies like Divert step in to address this capacity, we believe CARB's modeling should be reflective of avoided emissions and can record all reduced emissions.

Adjust CI calculations to incorporate fugitive landfill methane emissions

Divert is supportive of CARB's interest in updating Emissions Factors (EFs) embedded in Tier 1 Simplified CI Calculators and its openness to consider life cycle inventory data from various sources, including Argonne's GREET 2021 model, United States Environmental Protection Agency, and peer reviewed literature, among others. Through this update, we are urging CARB to update its 75% methane landfill capture assumption in the LCFS Tier 1 Calculator to reflect the latest monitoring data.

As CARB has mentioned in the Draft 2022 Scoping Plan, annual methane emissions from landfills will be higher through 2030 than originally anticipated because the state of California did not achieve its goal of reducing organic waste disposal of 50% below 2014 levels by 2020.⁷ Currently, the state of California assumes that 20% of methane emissions comes from landfills in California. However, a 2019 study by NASA that was conducted in partnership with CARB and the California Energy Commission stated that landfill contributions to the state's methane emissions could be as high as 41% of all methane point sources in California.⁸ Additionally, a 2021 Scientific Aviation Phase II Report released by CARB suggests that CARB inventory underestimates the total amount of methane emissions by more than 30%.⁹ Fortunately, CARB and CalRecycle are leading the effort to aggressively reduce the amount of SLCPs that end up in landfills. However, it's imperative that the state incorporate new research so CI modeling can capture these critical emissions reductions and record California's progression towards carbon neutrality.

To ensure that more recent research is being reflected within CARB's modeling, we suggest that CARB adopt the EPA's Waste Reduction Model v15 calculations for landfill capture efficiency presented in Exhibit 6-10 of "Documentation for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)."¹⁰ For food waste under landfill gas capture that meets California regulatory requirements, the EPA estimated an average capture efficiency of

⁵ California Air Resources Board, "Short-Lived Climate Pollutant Reduction Strategy", Page 13

⁶ Governing Magazine (March 10, 2022), "[It's Time America stopped Throwing Out Food Waste](#)"

⁷ California Air Resources Board, "Draft 2022 Scoping Plan Update", Page 215

⁸ Duren, R.M., Thorpe, A.K., Foster, K.T. *et al.* California's methane super-emitters. *Nature* 575, Pages 180–184 (2019). <https://doi.org/10.1038/s41586-019-1720-3>

⁹ California Air Resources Board, "Airborne Methane Emissions Survey", Page 3

¹⁰ U.S Environmental Protection Agency, Office of Resource Conservation and Recovery, "Documentation for Greenhouse Gas Emission and Energy Factors Used in the Waste Reduction Model (WARM)", Page 18

60%, including the oxidation of fugitive methane in the soil cover. By updating this assumption, renewable natural gas (RNG) developers will better articulate the emissions being offset through their operations, creating more incentive to further reduce SLCPs with increased organics processing capacity. CARB will further incentivize emissions reduction required by SB 1383 and help CalRecycle reach its organic waste recycling goals. Adjustments to this assumption will also provide CARB and the state of California a clearer understanding of what needs to be done to further mitigate methane levels in the state and allow for the greatest environmental benefit to California.

Incorporate net mileage into the feedstock transport distance calculation

In the current form, the Tier 1 model seeks to calculate the total distance in miles that the feedstock travels between destinations. We are recommending that CARB consider clarifying that this calculation can be made to accommodate a total net miles driven. Many companies have made operational strides to lower emissions and meet sustainability goals, and innovations to more efficiently aggregate feedstock and remove pollution from the transportation process should be recognized in CI modeling.

For example, Divert utilizes an innovative reverse logistics process that aggregates unsold food products from food retailers with negative carbon emissions. Divert's process removes the need for diesel trucks to pick up material from separate store locations or make separate trips to landfills.

Divert has worked directly with the Washington Department of Ecology and S&T Squared, the independent owners and maintainers of the tool that British Columbia adopted for their LCFS program. Both have endorsed the usage of net mileage in their CI calculations. By clarifying its use within this calculation, California will further incentivize organizations to incorporate carbon-reducing innovations into their logistics operations.

Introduce a true-up to the crediting to accommodate scenarios where the CI goes above and beyond the initial modeling

Divert recommends that CARB adjust all crediting by allowing for a true-up to accommodate scenarios where the CI score goes above and beyond the initial modeling. Allowing this true-up or allowing for the adjustment based on verified CI levels rather than estimated CI levels, permits CARB to better capture the real-world benefits and create incentives for participants to further reduce their carbon emissions in operations.

California is a leader in the development of a clean-fuels credit market and has paved the way for additional jurisdictions to adopt similar standards. Oregon is currently considering an expansion of its Clean Fuels Program that would incorporate a true-up for projects that are an improvement upon the initial CI estimates.¹¹ Creating consistent requirements across the west

¹¹ State of Oregon Department of Environmental Quality, "Notice of Proposed Rulemaking - June 29, 2022", Page 168

coast creates a stronger market for the adoption of low-carbon fuels and places California as a continued driver of market standards.

Incorporate a default distance into the RNG transport distance approximation

In the current form, the Tier 1 calculator approximates energy needed to compress the gas and emissions from pipeline leakage on a per-mile basis. This approximation creates a burden on gas that is being developed outside the state of California by assuming that there is one pipeline transporting the gas directly to the state, when in reality there is a common carrier pipeline transporting gas across the entire United States. Divert recommends that CARB create a more flexible calculation that incorporates the actual distance traveled and is more reflective of actual emissions for scenarios in which plants are injecting gas into the grid and following a “book-and-claim” model.

Companies like Divert operate facilities across multiple states. The common carrier pipeline interconnects the entire United States, allowing RNG buyers to source from anywhere in the country and make valid reduction claims. Where possible, buying renewable fuel from local methane capture projects can produce community benefits. However, when buyers are not able to source locally, matching RNG certificates to natural gas use is a direct way to access the renewable fuel marketplace. This creates an environmental benefit for the purchaser because the fuel does not incur the emissions associated with transporting it over large distances. Divert would like to see this process reflected in the life cycle analysis of fuels that are not developed in California so projects are not unnecessarily penalized by projected emissions that are not incurred.

By adjusting this calculation, CARB can consistently calculate actual emissions incurred rather than unintentionally penalize projects that offset high-pollutant fuels.

Create a co-production credit

In scenarios where multiple byproducts are created, Divert is recommending that a co-production credit be calculated into the net-savings section of the Tier 1 Calculator.

At Divert, we are focused on reducing carbon emissions in every step of our operations. Our facilities accept unsold food material that cannot be donated and incorporate depackaging and processing that readies it for on site anaerobic digestion. The stored carbon in food is transformed into biogas and then converted into RNG. In wastewater treatment facilities and other production processes similar to ours, a solid digestate byproduct is produced that has many agricultural uses.

The development of biosolids increases opportunities to offset the development of energy-intensive synthetic fertilizer, which is currently responsible for 2.1% of global greenhouse

gas emissions.¹² Biosolid development is likely to increase in the coming years as CalRecycle meets its capacity planning requirements to process organic waste through SB 1383 mandates and the incorporation of any carbon reduction calculations associated with its production would be timely. Application of these biosolids to land can help improve soil health and can help meet the objectives of the California Department of Natural Resources' Healthy Soils and Natural and Working Lands Climate Strategy.¹³ The 2022 Draft Scoping Plan put forth by CARB has, for the first time, included projections for a reduction in the natural and working lands emissions and highlights that a key objective of the plan is to "accelerate the pace and scale of healthy soil practices to 50,000 acres annually by 2025". By allowing for the creation of a co-production credit in scenarios in which multiple byproducts are developed, CARB will be leading alongside the British Columbia LCFS program and further reinforcing its commitment to the carbon neutrality goals set forth in the 2022 Draft Scoping plan by expanding the types of fuels incentivized for use in its carbon neutrality goal.

Conclusion

By considering the above recommendations, CARB staff has the opportunity to inspire further innovation in the low-carbon fuel sector. These suggestions will strengthen the LCFS program by:

- Permitting fuel developers to receive a carbon intensity score based on actual emissions rather than developing calculations based on assumptions that may not apply.
- Creating a more stringent program that prioritizes removing short lived pollutants to provide immediate benefits to low-income communities and communities disproportionately affected by SLCPs.
- Incorporating new innovations in emissions reduction and inspiring additional carbon reduction operational improvements.

We would welcome an opportunity to discuss these suggestions further and additionally talk through our operations to provide further context to our suggestions. If you have any questions, please do not hesitate to contact me at cthomas@divertinc.com or at 202-421-1107. We are eager to collaborate further on this critical effort.

Sincerely,



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¹² Menegat, S., Ledo, A. & Tirado, R. Greenhouse gas emissions from global production and use of nitrogen synthetic fertilisers in agriculture. *Sci Rep* 12, 14490 (2022).
<https://doi.org/10.1038/s41598-022-18773-w>

¹³ California Department of Natural Resources, "Natural and Working Lands Climate Smart Strategy",