June 10, 2022

Shereen D'Souza, Deputy Secretary
Climate Policy and Intergovernmental Relations
Cal-EPA

Liane M. Randolph, Chair
California Air Resource Board

Rachel Machi Wagoner, Director for CalRecycle

RE: Comments on the Draft 2022 Climate Change Scoping Plan
Continuation of the Circular Economy with RNG Procurement

Dear Deputy Secretary D' Souza, Chair Randolph, and Director Wagoner:

CARB's modeling scenarios and recommendations within the Draft 2022 Climate Change Scoping Plan is disrupting the proven localized organic waste Circular Economy that is cost-effective today. Instead, CARB is promoting a ZEV global linear economy supply chain that is not zero for GHG emissions but is laced with human right violations as well as environmental destruction on the first nations people land.

We ask CARB to understand the following: Because of CARB's proposed Advanced Clean Fleet Rule, half of the industry transitioned off diesel fuel to RNG. Because of the ZEV policies within the 2022 Scoping Plan, many in the refuse industry plan will now continue to use diesel for the next 13 to 18 years instead of the continuing the transition off diesel; even though there will be an adequate supply of in-state RNG for the entire refuse fleet in 2025. Continuing to implement the local Circular Economy by transitioning off diesel is not an alternative to the ZEV heavy - duty linear economy as many in the EJAC community may think, but it is the alternative to diesel use. CARB should be technology neutral on programs to phase out diesel and base their decisions on the carbon intensity of fuels and the cost-effectiveness of producing and using the fuels.

For those in the refuse industry that followed CARB's lead into the CNG platform decades ago to transition away from diesel, an alternative performance-based compliance standards have been proposed as part of a SB 1383 transition plan for private and public solid waste entities that produce their own in-state carbon negative RNG and fueling their fleets that utilize near-

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zero NOx engines. RNG should be modeled with its life-cycle analysis of being carbon negative as verified by CARB through the LCFS program, where in the near-term GHG reduction goals can be met with the co-benefit of reducing NOx to near-zero to address the State Implementation Plan.

We ask CalRecycle to recognize the importance of RNG procurement that is used to fuel the fleets that collected the organic waste where a pipeline is not needed and is not available in many remote locations: Edgar & Associates represents both private and public fleets and private and public anaerobic digestion facilities that are fully invested in executing programs to comply with SB 1383. We ask that CalRecycle fully embrace the RNG procurement requirements for the use of biomethane in transportation fuels and inform CARB of their RNG procurement requirements in their modeling scenario proposed in the Scoping Plan Update.

Biomethane is also used to generate power and heat for on-site use at our wastewater, landfills, recycling facilities, and composting facilities. In so many cases there is no reason to inject biomethane into a PUC-regulated pipeline as many wastewater facilities and landfill locations are remote away from pipeline interconnection opportunities. A community-scale operation implementing Circular Economy programs does not, and in many cases cannot, inject into a PUC pipeline. The use of biomethane injected into a pipeline for other off-site industrial uses is a fallacy for those community scale project that have on-site demand. For these reasons, requiring biomethane to be conveyed off-site from wastewater plants and recycling facilities will be disrupting the local Circular Economy.

We ask Cal-EPA to coordinate with CalRecycle's mandates to implement SB 1383 with RNG procurement requirements and CARB's proposed ZEV linear economy. CARB's zeal in picking

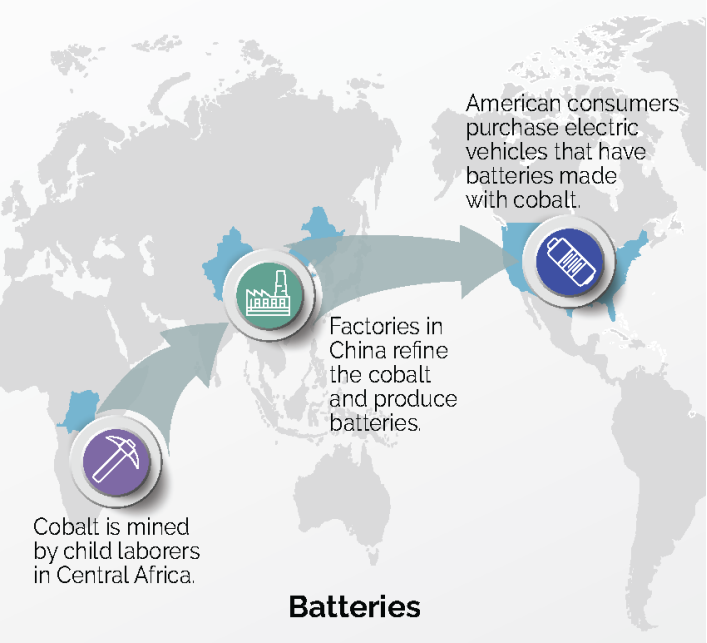
future technology winners while overlooking today's cost-effective, carbon-negative, near-zero NOX programs needs to be rectified by Cal-EPA. Cal-EPA, CARB, and CalRecycle should be promoting and incentivizing the local Circular Economy to achieve real reductions in GHGs and NOx in the near-term and not wait for decades to achieve less reductions in 2045 with the ZEV linear economy. The ZEV linear economy is not disclosed or discussed in the Scoping Plan Update where GHG leakage is being encouraged and where harm is being exacerbated disproportionately on low socio-economic status communities around the world.

ZEVs are not Zero Emissions but have a Carbon Intensity of 62 to 90 (gCO_2e/MJ)

ZEVs are not zero greenhouse gas emission vehicles but have a carbon intensity of **62 to 90 (gCO_2e/MJ)** on a life-cycle basis when combining the electrical energy required to charge the battery and the manufacturing process of the battery. CARB's existing emissions factor to produce the electricity to charge the battery is **24.39 (gCO_2e/MJ)**. The range of emissions from the battery manufacturing alone based upon European Studies, have a carbon intensity of **38.13 – 66.26 (gCO_2e/MJ)** depending on the type of ZEV battery. **Meanwhile, CARB modeling keeps diesel viable for decades and phases out carbon- negative RNG for transportation.**

AB 32 Climate Change Scoping Plan Statutory Requirements is to Minimize Leakage

ZEV batteries that are manufactured out of state are increasing non-Californian emissions in other countries in the amount of **38.13 – 66.26 (gCO_2e/MJ)** depending on the type of ZEV battery. CARB is picking ZEV as the "future technology" while leaking GHG emission out of state. The U.S. Department of Labor published this graphic showing the ZEV linear economy from the Congo to China to California.



AB 32 Climate Change Scoping Plan Statutory Requirements is that CARB Should Not Exacerbate Harm Disproportionately to Low Socio-economic Communities

The Environmental Justice Advisory Committee has been briefed on this topic at five public meetings backed up with dozens of credible references. Cobalt is being mined by forced child labor in the Democratic Republic of the Congo where Amnesty International has documented serious human rights violations linked to the extraction of the minerals used in lithium-ion batteries. Think about the environmental degradation the ZEV battery imposes on the environment, outside of California on the people of Africa, China, South America, and first nations people of Canada. Think about the extraordinary volume of water and resources used to mine rare minerals for the ZEV battery.

The Scoping Plan Should Maximize Near-Term Emissions Reductions in the Transportation Sector.

We support CARB's work to move to the cleanest possible vehicles to reduce climate and air pollution. Many of our clients are developing projects to convert organic waste to hydrogen and electricity to power ZEV's. At the same time, there is no commercially viable ZEV in the Class 7 and 8 truck markets. It is not at all clear when a Class 7 or 8 ZEV will be commercially available, not to mention reliable, affordable, and sufficient to meet the needs of long-haul trucks, waste haulers, and others.

The Draft Scoping Plan highlights the need to eliminate diesel,[1] but fails to offer near-term solutions to get heavy-duty, long-haul diesel trucks off the road as soon as possible. By limiting the proposed strategies to ZEVs only, the Draft Scoping Plan is missing the single biggest opportunity to reduce black carbon, PM, NOx, and other pollutants from diesel trucks - which are the biggest source of air pollution in the San Joaquin Valley and South Coast Air Districts, the two most polluted air districts in the country.

In other sectors and in general, the Draft Scoping Plan highlights the need to keep all options on the table to meet the state's climate goals, but then contradicts that guidance in the transportation sector by focusing the proposed strategies entirely on ZEVs. This is surprising since the Draft Plan acknowledges that:

> "In addition to building the production and distribution infrastructure for zero-carbon fuels, the state must continue to support low-carbon liquid fuels during this period of transition and for much harder sectors for ZEV technology such as aviation, locomotives, and marine applications. Biomethane currently displaces fossil fuels in transportation and will largely be needed for hard-to-decarbonize sectors but will likely continue to play a targeted role in some fleets while the transportation sector transitions to ZEVs."[2]

Given the recognition that biomethane will continue to play a role in transportation and other hard-to-electrify sectors, we urge CARB to include recommended strategies to continue to increase the use of biomethane to replace fossil fuels in heavy duty trucks and other transportation sectors. Those recommendations should include:

- Maintaining a technology neutral, lifecycle carbon intensity based LCFS program.
- Increasing the carbon reductions required by the LCFS between now and 2030.
- Continuing to incentivize near-zero emission vehicles in vehicle classes where there is no commercially viable ZEV option.
- Developing a clear transition strategy for biomethane producers that maintains a viable market for biomethane and biogas from organic waste as vehicles transition to zero-emission technologies.

[1] Draft Scoping Plan at pages 147-148.
[2] Id. at page 152.

In summary, the following comments are filed:

- CARB has a statutory requirement to minimize leakage when considering the AB 32 Climate Change Scoping Plan Update and needs to address the carbon intensity of ZEV linear supply chain battery manufacturing.

- CARB has a statutory requirement to support cost-effective and flexile compliance when considering the AB 32 Climate Change Scoping Plan Update, where heavy-duty ZEV provides neither.

- CARB should include ZEV Battery Manufacturing Emissions into the LCFS since the core tenets of the LCFS are based on life-cycle analysis.

- When modeling for Transportation Demand for ZEVs and Energy Demand by Fuel Type, the carbon intensity of the ZEV batteries should be based on an honest life-cycle analysis referencing the European Studies.

There is no time to waste for a "perfect ZEV tomorrow" in 2045 that may be carbon neutral where there are proven carbon negative programs today that can bend the climate curve by effectively mitigating methane and continuing the Circular Economy, and not disrupt the progress being made.

Sincerely,

Evan WR Edgar
Regulatory Affairs Engineer