June 24, 2022

Ms. Liane Randolph, Chair
California Air Resources Board
1001 I Street, Sacramento, California 95814

SUBJECT: Transfer Flow Inc.'s Public Comments regarding CARB's Draft 2022 Scoping Plan

Dear Chair Randolph:

Transfer Flow, Inc. is pleased to offer our comments to the California Air Resources Board (CARB) regarding the Draft 2022 Scoping Plan. Transfer Flow has been in business since 1983 and is a California legal aftermarket fuel tank manufacturer. As the industry's leading California legal aftermarket fuel tank manufacturer, Transfer Flow is a knowledgeable and proficient voice within the transportation industry. Transfer Flow has been issued over 285 executive orders throughout the years and has and will continue to participate in the rulemaking process. Our comments are as follows:

Transfer Flow would like to commend CARB for the daunting and overwhelming task of developing the Draft 2022 Scoping Plan. It was no easy feat, and the CARB staff has worked diligently over the past year on this project.

Transfer Flow disagrees with CARB's singular transportation technology bias.

CARB's singular fixation focusing only on tailpipe emissions reduction does not consider important life-cycle emission analysis[1]. Vehicular emissions should be considered from the cradle to the grave, from manufacturing and usage to end-of-life disposal of both the vehicle and the energy used to power the vehicle or equipment. Requiring all new vehicles sold to either be

[1] https://www.youtube.com/watch?v=S1E8SQde5rk

electric vehicles, plug-in electric hybrids, or fuel cell electric vehicles crowds out other near-zero technologies. Implementation of any available near-zero technologies should be encouraged for a multitude of reasons.

CARB's Draft 2022 Scoping Plan references the University of California's Institute of Transportation Studies report Driving California's Transportation Emissions to Zero[2]. However, CARB's various regulatory actions are not following the advice given in the report[3]. The report advises that all near-zero technologies be ramped up and implemented as soon as feasible in order to curb climate change. The Draft 2022 Scoping Plan recognizes this need for a suite of near-zero transportation options, but these are not the actions CARB staff is supporting through their regulatory activities. Advanced Clean Cars II (ACCII) regulations, Advanced Clean Trucks (ACT) regulations, and the Heavy-Duty Omnibus regulations are all dictating that all sales of new vehicles or equipment must contain some sort of electric vehicle technology and therefore also contain a heavy-duty battery.

Consumers are more likely to adopt near-zero technologies if given a menu of near-zero emission technologies to choose from.

Many consumers disapprove of CARB dictating to them what near-zero technologies they are allowed to purchase and hence utilize. The mining of the raw minerals needed to manufacture the battery packs for electric vehicles has been linked to many horrific human rights violations.[4,5,6,7,8,9,10] Unfortunately, the Draft 2022 Scoping Plan contains no provisions for a battery directive such as the UN has required setting sustainability requirements for batteries placed on the market including responsible sourcing of raw materials, hazardous substances, carbon footprint, and measures to improve the collection, treatment, and recycling of these waste batteries ensuring materials recovery. Many concerned citizens do not support the human rights violations associated with mining the cobalt, lithium, and other minerals required for battery manufacturing.

[2] https://escholarship.org/content/qt3np3p2t0/qt3np3p2t0.pdf?t=qs0sle
[3] https://www.latimes.com/opinion/story/2022-05-17/california-air-resources-board-carbon-neutrality-2045-2030
[4] https://www.amnesty.org/en/latest/news/2019/03/amnesty-challenges-industry-leaders-to-clean-up-their-batteries/
[5] https://www.ft.com/content/c6909812-9ce4-11e9-9c06-a4640c9feebb
[6] https://www.theguardian.com/environment/2021/jan/03/child-labour-toxic-leaks-the-price-we-could-pay-for-a-greener-future
[7] https://www.nytimes.com/2021/05/06/business/lithium-mining-race.html
[8] https://www.washingtonpost.com/graphics/business/batteries/congo-cobalt-mining-for-lithium-ion-battery/
[9] https://therevelator.org/ev-batteries-seabed-mining/
[10] https://earthworks.org/resources/responsible-minerals-sourcing-for-renewable-energy/

The current scoping plan requires the ramp-up of the equivalent of 33 large new gas plants to provide enough power to charge all the projected electric vehicles and then relies heavily on carbon capture technologies to keep the emissions from these gas power plants out of the atmosphere. Current carbon capture technologies are experimental and may prove dangerous.[11]

In many places, such as rural environments or for use in utility vehicles, electric vehicles are not a practical solution. Utility companies working on phone lines, power lines, and construction work all need reliable power sources for transporting people as well as powering their equipment. Electric vehicles do not have a network in remote areas or the energy density to effectively transport and power auxiliary equipment.

Pacific Gas and Electric (PG&E) is, a year later, still powering Californians affected by the Dixie Fire with diesel-powered generators as the infrastructure required to bring electricity into homes has still not been rebuilt. The citizens that live in this area would have to charge their electric vehicles using power created from diesel generators, and the logistics of that do not make sense. For a myriad of reasons, people may be hesitant to adopt electric vehicle technology. In Northern California, many citizens affected by various wildfires are still angry at PG&E for negligently causing various wildfires that have ruined thousands of people's lives. These citizens don't want electric vehicles because they don't feel they can trust PG&E.

For a variety of reasons, consumers may be hesitant to adopt vehicles utilizing electric technologies. Near-zero technologies are going to be more agreeably adopted if consumers feel they have a choice of which near-zero technology works best for them. Not allowing a choice of which near-zero technology consumers choose to implement runs the risk of having the opposite intended effect. Consumers will choose to hold on to their old, dirtier vehicles or buy used vehicles out of state, defeating the intended effect.

Different technologies are appropriate for different scenarios.

Liquid fuels have a strong heritage of radically improving quality of life and this history is not going to erase itself overnight. Basing the performance of all liquid fuels on fossil fuels or even gasoline is a limiting perspective that undercuts the potential for a grassroots fuels movement where fuels are created and consumed locally by repurposing the waste created from California's rich agricultural resources.

Biogas provides the lowest carbon transportation fuel of any kind. According to the California Air Resources Board, biogas fuels from dairy waste and other organic waste are the only

[11] https://www.huffpost.com/entry/gassing-satartia-mississippi-co2-pipeline_n_60ddea9fe4b0ddef8b0ddc8f

transportation fuels that are certified as carbon negative because they destroy methane and black carbon emissions while reducing the need for fossil fuels. Using biogas in heavy-duty trucks can also cut air pollution by more than 85 percent. In areas that are heavily impacted by air pollution and truck traffic, biogas can provide IMMEDIATE and significant relief.[12]

SB-1383 requires waste management companies to sequester organic materials and keep them out of landfills. Several CalRecycle[13] facilities have developed waste-to-energy facilities that convert food and yard waste to carbon-negative biofuels, which are then used to power their garbage trucks and other vehicles. These waste-to-energy projects reduce landfilling and fossil fuel consumption and provide dramatic air quality benefits. They also create good-paying jobs, often in low-income communities. Under the transportation portion of the Draft 2022 scoping plan, these waste facilities would be forced to replace their equipment only with CARB's chosen electric vehicle technology. CARB's Draft 2022 scoping plan wants to use these biofuels to replace fossil fuels in the electricity infrastructure but doesn't want to allow the biofuels to be used to power new vehicles regardless of how clean these transportation technologies may prove to be.

Between 1998 and 2015, Honda sold a factory-built compressed natural gas car, the Honda Civic GX. When the E.O. for the 2012 Civic GX, E.O.# A-023-0529,[14] is evaluated, the vehicle does not contain either an exhaust gas recirculation valve or variable valve timing, which are both NOx reduction technologies. This vehicle, without NOx control technologies, already emitted fewer emissions than the new proposed ACCII emissions standards for hybrid vehicles. Imagine how clean this technology could be if modern NOx and other emission reduction strategies were implemented. Although this vehicle can be powered using carbon-negative renewable natural gas produced locally in-state by organic waste that would otherwise end up in landfills, CARB would not allow this technology because it does not contain an electric vehicle battery.

Comparing low-NOx renewable natural gas made locally to gasoline is like comparing your current high-speed internet to the old, antiquated dial-up internet. CARB's bias against all internal combustion technologies is a short-sighted assumption and serves to undermine the overall goal of reducing emissions.

It's going to take a suite of technologies to achieve carbon neutrality.

[12] https://www.bioenergyca.org/policy/transportation-fuels/
[13] https://calrecycle.ca.gov/organics/slcp/
[14] https://ww2.arb.ca.gov/sites/default/files/classic/msprog/nvepb/executive_orders/EO%20Web%20Files/B__0006/cdoc__pc-ldt-mdv_pc_a-023-0529__itr--1__uid--x-6-9129__ver--orig__sdt--20110923__yr--2012__mcc--hond__fam--chnxv01.8bdt__xtr--1d8_pz_cng.pdf

While the Advanced Clean Trucks, the Heavy-Duty Omnibus, and the Advanced Clean Cars II regulations have focused on CARB's chosen electric vehicle technology, they serve to stymie other clean technologies currently being implemented. The ACCII, ACT, and the Heavy-Duty Omnibus regulations should better align with CARB's Low Carbon Fuel Standards (LCFS). Anaerobic practices that create renewable natural gas and biofuels created by keeping organic matter out of landfills should be encouraged.

The infrastructure buildout and grid reliability needed to support fleet electrification will take considerable time and funding to achieve. The basic strategy of electrifying everything delays our dependency on fossil fuels and falls short of immediately reducing greenhouse gas emissions with currently available technologies as well as significantly mitigating short-term criteria pollutants methane, black carbon, and CO_2. All near-zero transportation technologies; electric, fuel cell, biofuels, renewable natural gas, biodiesel, renewable diesel, sustainable aviation fuels[15], and hydrogen internal combustion engines [16,17,18] are all needed to drive California towards a sustainable future.

The ACCII regulations only require new electric vehicles to have an 80,000-mile durability warranty, but current internal combustion vehicles are required to have a 150,000-mile durability warranty meaning consumers will need almost two electric vehicles to travel the same amount of miles available for every internal combustion-powered vehicle over the life of the vehicle. Therefore, when comparing life-cycle emissions, the emissions created from manufacturing almost two electric cars exceed that for each internal combustion-powered vehicle.

Transfer Flow suggests CARB reevaluate and encourage usage of all near-zero technologies.

In closing, Transfer Flow would like to thank CARB for the opportunity to comment, and we look forward to being a productive part of positive change within the liquid fuels industry.

Sincerely,

Laurel Moorhead

Laurel Moorhead, E.I.T.
Regulatory Compliance Engineer

[15] https://prometheusfuels.com/
[16] https://www.sciencedirect.com/science/article/abs/pii/S0360319919342466
[17] https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/how-hydrogen-combustion-engines-can-contribute-to-zero-emissions
[18] https://www.cnbc.com/2022/02/22/toyota-commissions-yamaha-motor-to-develop-hydrogen-fueled-engine.html