4675 MacArthur Court, Suite 800
Newport Beach, California 92660 USA
949.437.1400 fax: 949.724.1459
www.CleanEnergyFuels.com

Todd R. Campbell
Vice President, Public Policy and Regulatory Affairs

Clean Energy

January 6, 2022

The Honorable Liane Randolph
Chair, California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: LCFS Potentially Moving Away from Fuel Neutral, Carbon Reduction Focus

Dear Chair Randolph:

On behalf of Clean Energy, we write to urge the California Air Resources Board (CARB) to maintain the Low Carbon Fuel Standard's (LCFS) fuel neutrality in an effort to focus on and maximize the state's carbon reduction goals. Any proposed changes that move the program further away from a performance-based approach would jeopardize its foundation and success by eliminating the competitive spirit which propels carbon emission reductions. Together, these changes would put the program at risk of legal challenges and of not meeting the carbon reductions that the state is relying on to meet its 2030 climate targets.

As North America's largest provider of renewable natural gas (RNG) transportation fuel with over twenty-five years of leading industry experience, Clean Energy provides construction, operation, and maintenance services for refueling stations nationwide. We have a deep understanding of the growing marketplace, as our portfolio includes 560 stations in 43 states. This includes a significant presence of 207 fueling stations just in California. Clean Energy also is a strong supporter of California's LCFS, was one of its original stakeholders, and continues to promote the adoption of identical policies in other US states and Canadian provinces.

The proposed high-level changes as publicly introduced, without further details, study, or analysis, presents a departure from the performance-based, lifecycle carbon intensity of fuels sold in California. The proposed changes contradict the clear scientific underpinning of the

program and make subjective choices based on technology preferences that are not based on carbon intensity or proven to be commercially or operationally viable for all vehicle classes.

Please consider our specific concerns:

Fuel Neutrality

Clean Energy has been supportive of the LCFS from the beginning because of CARB staff's commitment to fuel neutrality and the emphasis on data and science-backed incentivization of alternative fuels. The LCFS should remain a performance-based program that objectively supports alternative fuels to petroleum and incentivizes those with the lowest calculated carbon intensities. This is especially true of renewable natural gas (RNG) which on average is the most negative carbon intensive transportation fuel of record to date. The main objective of the LCFS is the decarbonization of the transportation sector based on rigorous calculations of carbon intensity. Therefore, the LCFS should not attempt to arbitrarily incentivize specific alternative fuels over others with the goal of driving or developing any one market, especially if those forms of energy are higher in CI. The legislative authorization of the program never envisioned a departure from fuel neutrality.

Prioritization of Reduction of Short-Lived Climate Pollutants (SCLPs)

SCLP reductions are the only emissions reductions that benefit the climate on the timescales necessary to avoid the most severe and irreversible impacts of climate change. Climate change is happening more quickly and more destructively than was predicted even a few years ago. In a presentation on SLCP reductions, Dr. V. Ramanathan from UC San Diego and the Scripps Institute stated that we have much less than 10 years left to bend the atmospheric warming curve.[1] He also said that the only lever we have left to make a difference in that timeframe is reducing SLCP reductions.[2] Focusing on carbon dioxide emissions reductions alone will not begin to reverse global warming for several decades or more. Dr. Ramanthan, along with experts from Environmental Defense Fund and ClimateWorks Foundation, said we must go all out – and fast - on SLCP reductions by doing the following:

- Eliminate diesel use right away since it causes black carbon emissions and other climate pollution
- Reduce wildfire emissions and open burning of forest and agricultural waste
- Reduce methane from livestock and from landfill waste

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[1] Presentation by Dr. Verrabhadran Ramanathan, UC San Diego, on June 24, 2021, at MoveCA's symposium on SLCP Reductions.

[2] Id.

- Reduce HFCs[3]

Climate scientists call for eliminating diesel right away since it is a major source of black carbon emissions (as well as toxic air contaminants and smog-forming pollution).[4] RNG consistently proves to be an effective solution in reducing methane emissions from animal manure and landfills while simultaneously displacing the use of fossil fuels like diesel in the heavy-duty transportation sector. The single biggest opportunity to reduce SLCP emissions in the transportation sector is to replace diesel with negative carbon intensity RNG from organic waste, especially for those vehicle sectors that currently do not have operationally or commercially viable zero emission platforms. RNG not only reduces black carbon from diesel combustion by displacing diesel fuel use, but also reduces methane and/or black carbon emissions from the organic waste that is converted to RNG. Given the urgency of reducing SLCP emissions, this should be the highest focus in the transportation sector.

Best use for RNG is in Transportation

Clean Energy would like to re-emphasize the fact that use of RNG as a transportation fuel remains the highest and best use of this form of energy, which not only mitigates methane emissions from feedstock sources but also displaces high emitting black carbon fossil fuels from the transportation sector, notably diesel fuel.

The credits from the LCFS and federal RINs provide the financial incentive to drive market production and fuel demand. Applications in the residential, commercial, and industrial sectors do not have sufficient economic incentives to make these potential markets a priority as an RNG end use. Furthermore, the California Public Utilities Commission (CPUC) is proposing to add additional barriers to natural gas usage in the building space under its Building Decarbonization proceeding (R.19-01-011) and promoting electrification of this sector. We recommend stronger coordination between CARB and the CPUC to make sure that future policies do not further discourage the use of the only fuel with a negative carbon intensity under the LCFS, especially when we have less than a decade to reduce SLCPs.

Technical Data Management Suggestions

Clean Energy would also like to suggest two technical improvements that will enhance the user experience of viewing and analyzing existing carbon intensity pathway information. In the current webpage, Low Carbon Fuel Standard Reporting Tool Quarterly Summaries, the Underlying Data

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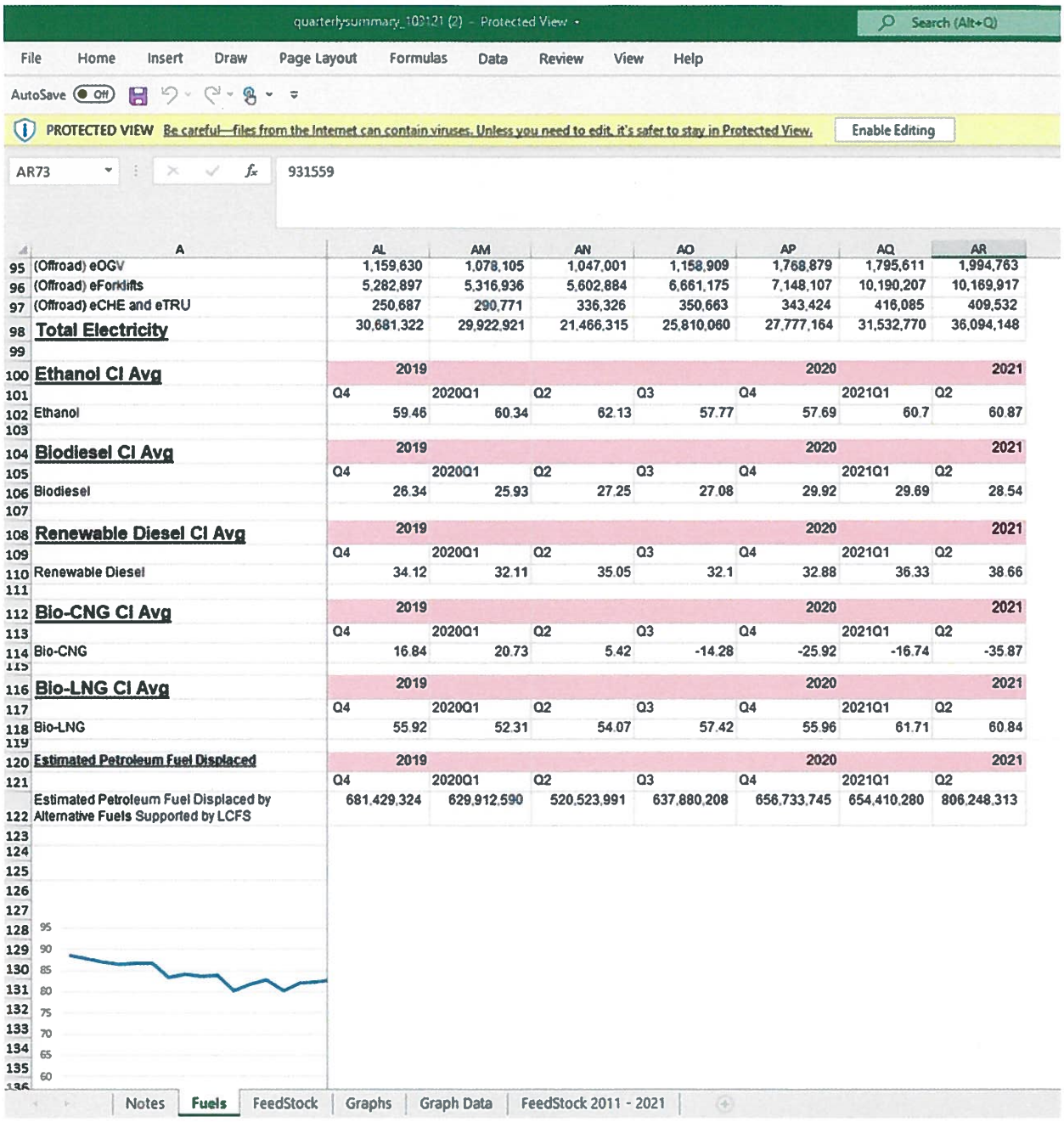
[3] Id.

[4] Presentation of Dr. V. Ramanathan, UC San Diego and Scripps Institute, Presentation June 24, 2021 at Move LA Symposium on Short-Lived Climate Pollutant Reductions. Dr. Ramanathan calls for eliminating "soot" and eliminating diesel powered vehicles.

Set downloadable Microsoft Excel file shows average CI values from different feedstocks. On the "Fuels" tab between rows 100 – 118 are average CI values for different fuel types. On behalf of all users of this file, Clean Energy would like to suggest that CARB add average CI data for EV's and Hydrogen, to be consistent with the data provided for all other fuel types (image shown below).



quarterlysummary_103121 (2) - Protected View

File Home Insert Draw Page Layout Formulas Data Review View Help

AutoSave Off

PROTECTED VIEW Be careful—files from the Internet can contain viruses. Unless you need to edit, it's safer to stay in Protected View. Enable Editing

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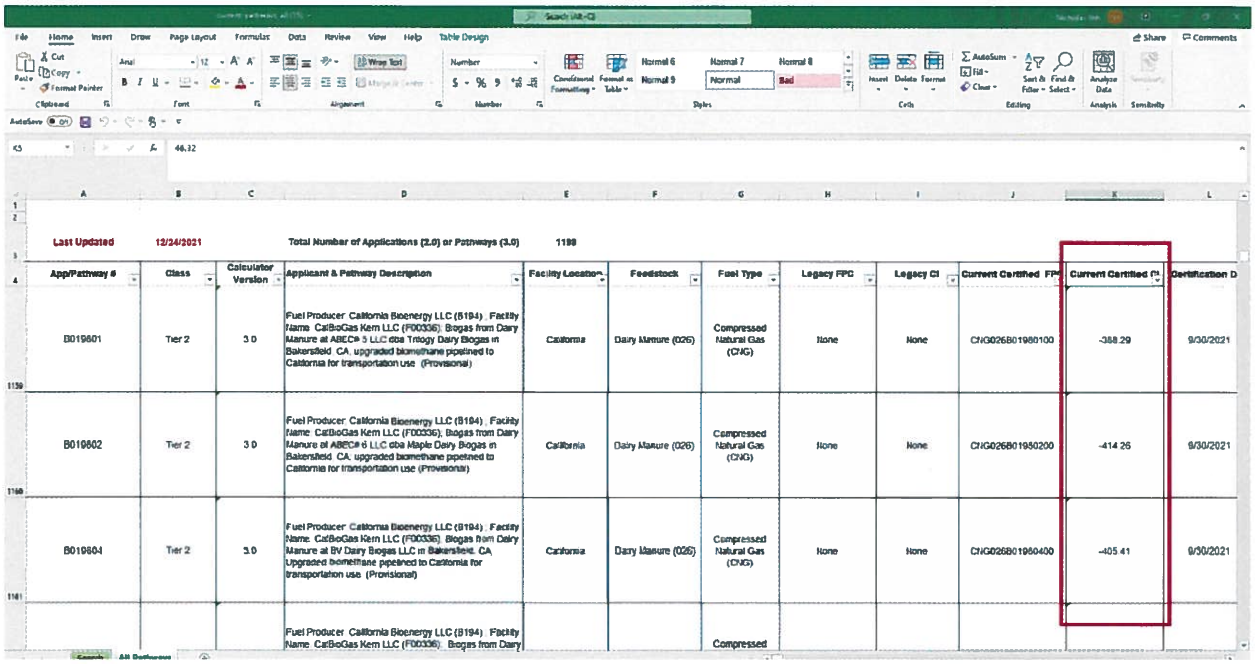
	A	AL	AM	AN	AO	AP	AQ	AR
95	(Offroad) eOGV	1,159,630	1,078,105	1,047,001	1,158,909	1,768,879	1,795,611	1,994,763
96	(Offroad) eForklifts	5,282,897	5,316,936	5,602,884	6,661,175	7,148,107	10,190,207	10,169,917
97	(Offroad) eCHE and eTRU	250,687	290,771	336,326	350,663	343,424	416,085	409,532
98	**Total Electricity**	30,681,322	29,922,921	21,466,315	25,810,060	27,777,164	31,532,770	36,094,148
99								
100	**Ethanol CI Avg**	2019				2020		2021
101		Q4	2020Q1	Q2	Q3	Q4	2021Q1	Q2
102	Ethanol	59.46	60.34	62.13	57.77	57.69	60.7	60.87
103								
104	**Biodiesel CI Avg**	2019				2020		2021
105		Q4	2020Q1	Q2	Q3	Q4	2021Q1	Q2
106	Biodiesel	26.34	25.93	27.25	27.08	29.92	29.69	28.54
107								
108	**Renewable Diesel CI Avg**	2019				2020		2021
109		Q4	2020Q1	Q2	Q3	Q4	2021Q1	Q2
110	Renewable Diesel	34.12	32.11	35.05	32.1	32.88	36.33	38.66
111								
112	**Bio-CNG CI Avg**	2019				2020		2021
113		Q4	2020Q1	Q2	Q3	Q4	2021Q1	Q2
114	Bio-CNG	16.84	20.73	5.42	-14.28	-25.92	-16.74	-35.87
115								
116	**Bio-LNG CI Avg**	2019				2020		2021
117		Q4	2020Q1	Q2	Q3	Q4	2021Q1	Q2
118	Bio-LNG	55.92	52.31	54.07	57.42	55.96	61.71	60.84
119								
120	**Estimated Petroleum Fuel Displaced**	2019				2020		2021
121		Q4	2020Q1	Q2	Q3	Q4	2021Q1	Q2
122	Estimated Petroleum Fuel Displaced by Alternative Fuels Supported by LCFS	681,429,324	629,912,590	520,523,991	637,880,208	656,733,745	654,410,280	806,248,313
123								
124								
125								
126								
127								
128	95							
129	90							
130	85							
131	80							
132	75							
133	70							
134	65							
135	60							
136								

Notes | Fuels | FeedStock | Graphs | Graph Data | FeedStock 2011 - 2021

As an additional measure to facilitate the analysis of carbon intensity values, the downloadable spreadsheet of Current Fuel Pathways on the LCFS Pathway Certified Carbon Intensities webpage

can be improved by formatting the Current Certified CI column "K" (shown below) as numbers within Excel, so that all values are accurately accounted for when trying to calculate average carbon intensities from values within that column. Currently, not all values in this column are formatted as numbers. This means that some values in this column are overlooked by Microsoft Excel when calculating an average, which could lead some users of this spreadsheet to unknowingly make decisions based on calculations from incomplete data.



Last Updated	12/24/2021		Total Number of Applications (2.0) or Pathways (3.0)	1198								
App/Pathway #	Class	Calculator Version	Applicant & Pathway Description	Facility Location	Feedstock	Fuel Type	Legacy FPC	Legacy CI	Current Certified FPC	Current Certified CI	Certification D
B019601	Tier 2	3.0	Fuel Producer: California Bioenergy LLC (B194) ; Facility Name: CalBioGas Kern LLC (F00336); Biogas from Dairy Manure at ABEC# 5 LLC dba Trilogy Dairy Biogas in Bakersfield, CA, upgraded biomethane pipelined to California for transportation use. (Provisional)	California	Dairy Manure (026)	Compressed Natural Gas (CNG)	None	None	CNG026B01980100	-388.29	9/30/2021
B019602	Tier 2	3.0	Fuel Producer: California Bioenergy LLC (B194) ; Facility Name: CalBioGas Kern LLC (F00336); Biogas from Dairy Manure at ABEC# 6 LLC dba Maple Dairy Biogas in Bakersfield, CA, upgraded biomethane pipelined to California for transportation use (Provisional)	California	Dairy Manure (026)	Compressed Natural Gas (CNG)	None	None	CNG026B01980200	-414.26	9/30/2021
B019604	Tier 2	3.0	Fuel Producer: California Bioenergy LLC (B194) ; Facility Name: CalBioGas Kern LLC (F00336); Biogas from Dairy Manure at BV Dairy Biogas LLC in Bakersfield, CA, Upgraded biomethane pipelined to California for transportation use. (Provisional)	California	Dairy Manure (026)	Compressed Natural Gas (CNG)	None	None	CNG026B01980400	-405.41	9/30/2021
			Fuel Producer: California Bioenergy LLC (B194) ; Facility Name: CalBioGas Kern LLC (F00336); Biogas from Dairy			Compressed					

The LRT data upload platform can be made more robust and valuable by storing generation volume and station pathway volume such that a user from a party under the LCFS can run a query to generate a report displaying volume and CI of fuel produced, in addition to volumes and related carbon intensities of gas allocated to station within a given time period. This data is commonly requested from stakeholders in private markets, and CARB's backing on this database would provide credibility and validation when presenting volumes and carbon intensities to an external party. This additional credibility helps promote common support and ethos for the RNG industry.

Also, the voluntary and private markets want the ability to know that certain volumes of alternative fuels at their CI levels have been allocated and retired within the CARB system. There should be certification documents provided for volumes allocated that such volume has been used and thus cannot be used again. Similar to the way RECs are retired on the renewable electricity market, there is a consensus amongst the private industry that without a similar type

of documentation for the GHG reduction benefits associated with such volumes and their CIs, it is difficult to guarantee double counting is not taking place.

For all these reasons, we urge CARB to keep the LCFS fuel-neutral and focused on a performance-based approach. These reasons are the foundation and scientific basis for the program. Any other approach, even minor adjustments that favor specific strategies which are not as effective in reducing carbon emissions, undermines the credibility and effectiveness of the LCFS and will delay California's transition of its transportation fuel system toward a carbon neutral future.

Sincerely,

Todd R. Campbell
Vice President, Public Policy and Regulatory Affairs