



True North Renewable Energy, LLC
2390 E Camelback Road, Suite 203
Phoenix, AZ 85016
www.tnrenewableenergy.com

January 6, 2022

Matthew Botill
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Comments on December 2021 Low Carbon Fuel Standard Workshop

Dear Mr. Botill:

True North Renewable Energy (TNRE) appreciates your time in hosting the public workshop on potential regulatory revisions to the Low Carbon Fuel Standard (LCFS) on December 7, 2021. TNRE would like to express our continued support for the LCFS as a transformational, technology-neutral and performance-based program that has helped to rapidly usher in a wide array of low carbon fuels for California's transportation market. We appreciate the opportunity to share our comments and recommendations below.

Leverage the LCFS as a key element of achieving carbon neutrality in California

As you undoubtedly know, and as highlighted in the workshop, the LCFS is one of the most powerful climate policies in California. In particular, it provides a strong and targeted market signal for hard-to-abate sectors, which enables low carbon solutions to come to market that would not necessarily emerge otherwise through the Cap-and-Trade Program or the State's other climate policies. Indeed, recognition that Cap-and-Trade or other policies likely would be insufficient to foster investment in low carbon transportation fuels is what led to the creation of the LCFS in the first place.

TNRE supports strengthening the 2030 carbon intensity reduction targets and significantly strengthening the program beyond 2030, in line with California's carbon neutrality target and emissions reductions targets and timelines identified in the Scoping Plan.

As you look ahead to the next set of regulatory amendments, we encourage you to keep this original intent and ongoing rationale behind the LCFS in mind. We encourage you to reinforce the state's commitment to a strong, technology neutral LCFS that continues to drive innovation and progress in hard-to-abate sectors – now and beyond 2030. And we encourage you to make adjustments that reflect the urgency with which we need to act on climate change, and the opportunity we have to do so.

Expand the LCFS to cover other hard-to-abate sectors, including industry, power plants, and other gas end uses

As CARB turns its attention to additional hard-to-abate sectors, where renewable gases like biomethane or green hydrogen will be necessary to achieve deep decarbonization, it is a good time to expand the LCFS to stationary sources other than refineries. Even in its short lifetime, perhaps no policy has done more to

support technologies needed to decarbonize a wide array of industrial and gas end uses – including carbon capture and sequestration, in addition to renewable gas deployment than the LCFS has.

We should celebrate this outcome and build on it, while also recognizing that the current framework distorts the market for these solutions and focuses them on the transportation sector and away from industry, power plants and other sectors where they are also needed. We encourage CARB to use the LCFS to do more to enable a wide array of technologies to accelerate the State’s path to carbon neutrality and net-negative emissions by expanding the program to cover industry, power plants, and other gas or fossil fuel end uses.

Specifically, we encourage CARB to expand the LCFS to include the natural gas storage and carrier systems, which in turn will accelerate decarbonization of the industrial sector and the power sector’s critical baseload and peaking power plants covered under SB 100. An approach that covers all fossil natural gas use, which is the same approach under consideration in Canada, would build on the successful progress of the LCFS already and help to rapidly decarbonize all sectors of California’s economy.

Like the LCFS has done for low carbon fuels in the transportation sector, and the Renewable Portfolio Standard reforms in the electricity sector from nearly 20 years ago – when the state set enforceable targets to shift from fossil-based energy to renewables and created a market framework to (1) encourage new infrastructure, (2) expand energy diversity, and (3) move towards environmentally sustainable energy resources – the end result from expansion of the LCFS to gas storage and carrier systems would jump start a new area of the green economy and support the successful transition of fossil-based gas delivery systems away from natural gas. Setting targets to replace natural gas and creating environmental value for low- and zero-carbon renewable gases beyond the transportation sector will attract investments and accelerate progress toward reaching the state’s climate goals in the hard-to-abate sectors of the economy that currently rely on natural gas.

Update pathways’ inputs based on the latest science, including the global warming potential for methane and assumed landfill methane capture values

As CARB continues to implement this technology-neutral and performance-based standard, it is imperative to incorporate the latest science to accurately capture emissions impacts or benefits associated with various fuels and projects. Assumptions related to biomethane production from organics waste diversion may be particularly outdated. As part of updates to the GREET model and LCFS program, we encourage CARB to:

- Update global warming potential (GWP) values for methane and other climate pollutants based on the latest science, including the most recent climate assessment from the Intergovernmental Panel on Climate Change. For methane, this would change the value from 25 to 28-36.¹
- Update the emissions factor from landfills based on the latest science from aerial surveys conducted by the state, with CARB’s support, and other measurements. These studies show that

¹ <https://www.epa.gov/ghgemissions/understanding-global-warming-potentials>

landfills are a far greater source of methane emissions than currently assumed,² and therefore, that alternatives to landfilling organics provide less of a climate benefit than they do in reality. The result is to discourage and undervalue alternatives to landfilling organics, which complicates efforts to meet the State's short-lived climate pollutant reduction targets under SB 1383.

We appreciate CARB may face additional considerations before updating these factors in the Cap-and-Trade program or for the State's inventory. However, those programs can be updated on their own appropriate timelines. Using the current LCFS amendment process to incorporate the latest scientific understanding will only enhance the program and support its continued success, without impacting CARB's other programs.

We look forward to the discussions ahead

We again want to thank you and reiterate our support of the LCFS program. We look forward to working with you on future changes and remain enthusiastic about creating new, disruptive green economic growth opportunities, green jobs and continuing to lead in helping the state overachieve on its climate goals.

Sincerely,

A handwritten signature in black ink, appearing to read "Gary Aguinaga". The signature is fluid and cursive, with the first name "Gary" and last name "Aguinaga" clearly distinguishable.

Gary Aguinaga
President
True North Renewable Energy, LLC

² For example, see: Duren, R.M., Thorpe, A.K., Foster, K.T. et al. California's methane super-emitters. *Nature* 575, 180–184 (2019). <https://doi.org/10.1038/s41586-019-1720-3>