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September 3, 2021

Ms. Rajinder Sahota  
California Air Resources Board  
1001 I St.  
Sacramento, CA 95814

**Re: True North Renewable Energy, LLC's Comments on Scoping Plan Scenarios**

Dear Ms. Sahota:

True North Renewable Energy, LLC (TNRE) appreciates the opportunity to submit these comments on the California Air Resources Board's (CARB) Climate Change Scoping Plan Scenarios presented on August 17. TNRE develops, builds, and operates state-of-the-art organics-to-renewable energy facilities, including large scale, regional high-solids anaerobic digestion infrastructure. These facilities reuse and repurpose organic resources diverted from landfills to create beneficial, sustainable products, including biomethane and soil-amending compost. TNRE is focused on partnering with communities in California to meet local and state requirements for diverting organic waste from landfills and cutting short-lived climate pollutant (SLCP) emissions.

Prioritization of diverting organics from landfill must be a priority and puts the state on the quickest path to reducing SLCPs in the near-term. In addition to prioritizing SLCPs, we would advocate for the Scoping Plan Scenarios to specifically list the inclusion of food waste when referring to diversion from landfills, as key in reducing methane emissions.

Currently, the organic material available in the California market for diverted landfill waste consists mainly of green organics with de minimis amounts of food. The private haulers assume this composition will not change significantly until enforcement of SB 1383 begins in earnest, and when commingled collection becomes more prevalent. Diverting food waste seems to be particularly overlooked. Many who are looking for alternatives to landfilling organic waste are looking for existing composting capacity, under the assumption that food waste will not be diverted in significant quantities.

Having the Scoping Plan align with enforcement of SB 1383 will drive the implementation and quicker adoption by jurisdictions, food waste generators, waste management companies and organics processors to ensure food waste is appropriately diverted from landfills. Below, we offer additional recommendations for ensuring successful implementation of SB 1383, diverting organics (including food waste) from landfills, and other comments on the workshop.

**Carbon Neutrality Timeframe – Options: CARB should evaluate a continuum of options that provide the best climate outcomes, including a primary focus on quickly slashing emissions of SLCPs**

We appreciate the need and practical implications to run a limited number of scenarios, however we encourage CARB to avoid unnecessarily constraining its ambition or evaluation of options, and explore the full array of practically achievable outcomes and their climate, air quality, health and economic implications.

Primary among variables to consider in greater depth is the wide array of potential options to quickly reduce SLCP emissions, including on timeframes and to levels that would outpace requirements under SB 1383. Quickly and deeply reducing SLCP emissions to their fullest extent will deliver the greatest climate and health outcomes, and should be a priority in the Scoping Plan, regardless of the broader set of assumptions and their implications for emissions in 2030 and timelines for achieving carbon neutrality statewide.

**Short Lived-Climate Pollutant Methane: Reducing methane emissions should be California’s top priority.**

As TNRE previously commented, and your agency has noted, to address climate change quickly<sup>1</sup> there is opportunity and need to urgently reduce SLCP emissions to address climate change.<sup>2</sup> What’s more, California’s pioneering SLCP reduction law, SB 1383, requires the state to reduce potent SLCP emissions by 40-50 percent by 2030 and plays a crucial role in meeting the state’s overall climate and carbon neutrality goals.

CARB should strive to go farther than those minimum requirements. Methane is responsible for about a quarter of current climate forcing, and as an SLCP with about a decade lifetime, reducing emissions now can deliver near-term climate benefits. As the state grapples with devastating wildfires and other climate impacts, reducing methane and other SLCP emissions can actually reduce climate change impacts in the near-term.

This is not an argument against taking any other action to reduce CO<sub>2</sub> or address greenhouse gas emissions from any other sector, but it is an argument to prioritize those activities that deliver the best climate outcomes: CARB should prioritize methane reductions in the scenarios and Scoping Plan, including by tackling and listing that item first in the Scoping Plan and among options to evaluate in scenarios planning, and ahead of other scenario concepts including, but not limited to: engineered carbon removal, carbon free electricity grid, vehicle miles traveled, vehicle fleet electrification, and petroleum fuels.

CARB has already firmly established in the 2017 Scoping Plan the role SLCP emissions reductions in achieving the State’s 2030 greenhouse gas reduction target. Indeed, in the 2017 Scoping Plan, CARB identifies SLCP measures as the single most important near-term climate strategy for California to meet its 2030 greenhouse gas target, besides the Cap-and-Trade Program.<sup>3</sup> What’s more, in its 2013 Scoping Plan Update, which evaluated progress toward meeting the State’s 2020 greenhouse gas target, CARB also elevated the necessary role of SLCP reductions,<sup>4</sup> which laid the initial foundation for SB 605,<sup>5</sup> and

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<sup>1</sup> <https://www.gov.ca.gov/2021/07/09/governor-newsom-holds-virtual-discussion-with-leading-climate-scientists-on-states-progress-toward-carbon-neutrality/>

<sup>2</sup> <https://arxiv.org/abs/2103.07801>

<sup>3</sup> See, for example, Figure 7 at CARB (2017) California’s 2017 Climate Change Scoping Plan: The strategy for achieving California’s 2030 greenhouse gas target, California Air Resources Board, November. [https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping\\_plan\\_2017.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf)

<sup>4</sup> See, in particular, pp. 77-81 at CARB (2014) First Update to the Climate Change Scoping Plan: Building on the Framework, California Air Resources Board, May. [https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/2013\\_update/first\\_update\\_climate\\_change\\_scoping\\_plan.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf)

<sup>5</sup> [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201320140SB605](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB605)

then SB 1383 and the State’s SLCP Reduction Strategy. CARB should reassert its clear prioritization of SLCP reductions in the 2022 Scoping Plan Update.

**Short-Lived Climate Pollutant Methane: Organics diversion is the state’s most concrete and contemporary SLCP policy, deserves additional focus and support.**

California has already set in motion concrete regulatory policies or goals to address methane from most major sources (aside from enteric fermentation). This includes oil and gas regulations, landfill regulations, regulatory direction and targets to reduce methane from dairy manure, and CalRecycle’s organics diversion regulations.

While the policy approach related to dairy methane deserves more work and remains fluid,<sup>6</sup> the main policy in need of support right now is CalRecycle’s regulation to divert 75 percent of organic waste (below 2014 levels) from landfills by 2025. This is the policy that will ultimately deliver methane reductions from the state’s landfills, which are the second largest source of methane in CARB’s SLCP inventory behind agriculture<sup>7</sup> and recognized to emit at levels higher than assumed.<sup>8</sup>

Many local jurisdictions have been slow to assess options for organics (specifically food waste) collection, hauling, and processing and to sign long-term commitments to support the development of new anaerobic digestion infrastructure – due to apprehension on cost of development, and expectation of low levels of food waste over the foreseeable future. This also presumes enforcement of SB 1383 regulations will be delayed or won’t happen, which has been somewhat reinforced by the introduction of SB 619 this year.

We recognize new infrastructure needs to be rapidly developed to meet these goals, and we and others in the industry stand ready to make the investments to bring this infrastructure online in time to meet SB 1383’s and CalRecycle’s mandates. However, we need certainty that the feedstock will be there, and jurisdictions and haulers need to know CalRecycle and CARB are going to stick to the timelines and targets in law in order to commit to offtake with new facilities. This is especially true for food waste, which is the primary source of methane from landfills, and requires anaerobic digestion solutions rather than just composting. If the state thinks it can compost its way to the SB 1383 requirements, it’s assuming low levels of food waste diversion and ongoing emissions from landfilled organics.

In order to support CalRecycle, its regulations and ongoing methane reductions, we encourage CARB to do the following in the Scoping Plan:

- Provide clear signals and statements through the Scoping Plan and development process regarding:
  - The importance of meeting the timelines and requirements in SB 1383 and CalRecycle’s regulations,
  - The importance of diverting food waste, in particular, from landfills, and

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<sup>6</sup> <https://ww2.arb.ca.gov/resources/documents/draft-2030-d-1-ch4-analysis>

<sup>7</sup> <https://ww2.arb.ca.gov/ghg-slep-inventory>

<sup>8</sup> <https://www.nature.com/articles/s41586-019-1720-3>

- The importance of quickly developing new anaerobic digester infrastructure to meet these goals and develop sustainable sources of biogas to help decarbonize other sectors of the economy;
- Support collaborative and workgroup efforts among stakeholders, local jurisdictions, waste haulers, and state agencies to help overcome any barriers to meeting the state’s diversion targets on time;
- Identify diverting food waste from landfills as both a climate priority and a likely challenge, to the extent it relies on behavior change from tens of millions of California residents, and recommend the state develop an education and outreach campaign to support residential and commercial generators in diverting food waste from landfills;
- Work with the California Public Utilities Commission to ensure that its biogas procurement policy pursuant to SB 1440 aligns with SB 1383 goals and timelines, especially as it relates to diverting organic waste (and food waste specifically) from landfills; and
- Create new market opportunities for biogas from diverted organics to help California meet its climate goals, including through new policies to decarbonize the industrial sector, strengthened Low Carbon Fuel Standard targets after 2030, and a commitment to move beyond the requirements of SB 100 to entirely decarbonize the power sector, including existing natural gas power plants.

In short, if developers, California agencies and municipalities, and waste management companies cooperate and innovate together, meeting the recommended targets including landfill diversion of food waste – we can succeed in reducing SLCPs like super pollutant methane and moving toward carbon neutrality.

**Woody Biomass and Solid Biomass Waste: California’s waste biomass is a resource that deserves to be quickly tapped to support achieving carbon neutrality in California.**

Productively utilizing waste biomass is one of the most important – and quite possibly *the* most important – incremental focus areas for CARB to pursue as it looks to achieve carbon neutrality as soon as possible, and ultimately achieve and maintain net negative emissions. This was made clear in the Lawrence Livermore report, *Getting to Neutral*, which identifies biomass utilization with carbon capture and sequestration as the most promising – by far – negative emissions strategy for achieving carbon neutrality in California. That report found tremendous potential for eliminating and avoiding greenhouse gas emissions, both in the near and longer terms, by putting existing waste streams to beneficial use in California. In fact, it suggests that the promise of these strategies could be cost-effectively achieved within five years and would be equivalent to removing every passenger vehicle off California’s roads and electrifying every house in the state.

All the state needs to do to capture these benefits is build 50-100 facilities to put biomass to use in California. CARB should absolutely support this in all scenarios in the Scoping Plan development and clearly identify the benefits of utilizing waste biomass in the state. It should also support markets for biomass-derived energy in all sectors, in a technology neutral way, and develop specific incentives for negative-emissions biomass energy to incentivize the development of carbon capture at these facilities.

Importantly, CARB should recognize that quickly putting these resources to use advances a number of other state priorities, as well – as identified at the workshop and including phasing out agriculture burning, supporting wildfire mitigation efforts, and diverting organics from landfills – and the priority should be supporting the most rapid investment in new biomass-related facilities, rather than picking and choosing among technologies, sectors, or applications. A broad array of climate, environment, economic, and health goals will be advanced by quickly utilizing biomass waste streams that would likely otherwise be landfilled or open burned.

**Together, we can achieve carbon neutrality in California**

We appreciate your consideration of these comments and look forward to engaging in the ongoing Scoping Plan development process. If you have any questions regarding TNRE, these comments and recommendations, or the status of the market for organics diversion, please do not hesitate to reach out to us.

Thank you,

A handwritten signature in black ink, appearing to read "Gary Aguinaga". The signature is fluid and cursive, written in a professional style.

Gary Aguinaga, President  
True North Renewable Energy, LLC