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Earthjustice Comments on H2ONSITE Draft Solicitation Attachment on Community Engagement, Benefits, and Impacts Requirements

Additional submitted attachment is included below.



November 30, 2023

Energy Research and Development Division
California Energy Commission
715 P Street
Sacramento, California 95814

Submitted electronically to Docket 22-ERDD-03

RE: H2ONSITE Draft Solicitation Attachment on Community Engagement, Benefits, and Impacts Requirements

Dear California Energy Commission Staff:

Thank you for your efforts to ensure the H2ONSITE projects deliver meaningful benefits to local communities, minimize negative impacts, and reflect community input. In support of those goals, Earthjustice submits these comments on project standards and vetting practices that the California Energy Commission (“CEC”) should incorporate into the program.

It is essential that the CEC incorporate rigorous guidelines related to health-harming air pollution, given AB 209’s requirement to prioritize projects with maximize air quality and health benefits.¹ To do so, the CEC should:

- **Require continuous air monitoring for all projects that are not zero-emissions.** The need for air monitoring applies to both hydrogen production and end-use equipment.
- **Only support zero-emissions production and end-use technologies in non-attainment areas.** Investing in polluting equipment in these areas is inconsistent with achieving health-based air quality standards. Regulators have recognized that meeting these standards in California’s most polluted air basins will require a widespread transition to zero-emission technologies, across large and small stationary sources alike.² Accordingly, the CEC should categorically exclude funding for new emissions sources in non-attainment areas.

¹ California Public Resources Code § 25664.1(g) (codifying AB 209).

² South Coast Air Quality Management District, 2022 Air Quality Management Plan, at ES-5 (Dec. 2022) (“there is no viable pathway to achieve the needed reductions without widespread adoption of zero emissions (ZE) technologies across all mobile sectors and stationary sources, large and small”), <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/final-2022-aqmp.pdf?sfvrsn=16>.

- **Require applicants to demonstrate their targeted end-use cannot readily be electrified.** We appreciate that the Draft Solicitation Concept specifies that projects “must focus on hard-to-electrify sectors or ensuring reliable power generation.” To give teeth to this requirement, we recommend the CEC require applicants to demonstrate that their targeted end-use is either necessary, or superior to other decarbonization alternatives, namely direct electrification. In the cost and technology readiness evaluation, the CEC should require the applicant provide a comparison to the total costs and technology-readiness-level (“TRL”) of direct electrification pathways, and a description of how hydrogen avoids any purported barriers to electrification. These criteria could help distinguish projects that offer redundant or inferior air quality benefits from projects that unlock otherwise unattainable air quality benefits.

For example, a project that produces hydrogen on-site for a local truck fleet is unlikely to be a wise investment of the CEC’s limited resources; most independent analyses indicate that operating a local fleet on hydrogen is a higher-cost and lower-efficiency strategy for eliminating its diesel emissions than direct electrification. By contrast, a project that produces zero-emission hydrogen to power stationary fuel cells that displace diesel back-up generators may reduce less total emissions, but will reduce emissions that batteries or electrification cannot yet eliminate. In the industrial sector, projects that burn hydrogen to produce heat are likely to maintain or increase emissions of nitrous oxides, which would be inappropriate at facilities whose heating needs can be met by zero-emission electric equipment. Comparative TRL analysis from the applicants will help the CEC better vet what constitutes a “hard-to-electrify” end use.

- **Only fund projects at facilities with no outstanding environmental or public health violations and whose feedstock suppliers have no such violations.** For example, it would be inappropriate to fund projects that procure biomethane from dairies that have outstanding air or water pollution violations because providing additional revenue to these facilities could facilitate their expansion and increase local environmental burdens.³
- **Carefully vet all claims regarding benefits from avoided criteria pollution emissions.** We urge the CEC to closely scrutinize claimed benefits associated with assumed baseline conditions for biogenic feedstocks. Genuine biogenic waste streams suitable for hydrogen production are incredibly rare. The high capital costs of biogenic hydrogen production, combined with the high collection costs of small, scattered waste streams create enormous pressure on project proponents to use less-sustainable feedstocks that are more

³ In one recent California Public Utilities Commission decision, the Commission the recognized this risk and required a utility to “collect information on whether dairies under RNG contracts for [the] pilot program are in compliance with all applicable air and/or water pollution control standards or requirements, describe an incidents of noncompliance, and explain when and how it was or will be resolved.” D.20-012-022 (Dec. 22, 2020) at 37–38.

economically or logistically realistic to procure, and exaggerate environmental benefits based on false or unlikely counterfactuals.

For example, one bioenergy facility in the San Joaquin Valley is claiming that their conversion of orchard wood waste to biogas will offset air pollution by diverting toward gasification the material farmers have historically pile burned.⁴ However, the San Joaquin Valley Air Pollution Control District requires a nearly complete phase-out of open burning of this waste by 2024, making historic practice an inappropriate baseline for claiming air pollution benefits. The California Air Resources Board (“CARB”) requires this near-total ban on agricultural burning to be phased in by 2025.⁵ The new regulations permit combustion or stationary-source alternatives to agricultural burning as an exception only in rare circumstances such as for large-volume material that cannot be easily chipped, such as vineyard crops that are enmeshed in wire trellising.⁶ This material is not a good candidate for hydrogen production.

The project proponents mentioned above planned to use nut shells, hulls, and woody orchard waste. This type of orchard waste is well-suited to chipping, shredding, and soil reincorporation – recycling techniques that both receive State incentives⁷ and provide local environmental benefits.⁸ **Thus, the proposed project is likely diverting agricultural waste from a more – not less – sustainable baseline.** The CEC must carefully scrutinize baseline and counterfactual assumptions to ensure applicants are not making misleading claims about their environmental benefit.

- **Prohibit funding for projects that rely on livestock biomethane feedstocks.** Livestock biomethane production imposes unique public health burdens on local communities⁹ and it would be imprudent to spend the H2ONSITE program’s limited budget on a resource that is already heavily subsidized through other programs, such as CARB’s Low Carbon

⁴ Title V Permit Renewal, Facility Number: S-75 (Oct. 2, 2023) at pdf p. 22,

<https://ww2.valleyair.org/media/pv5hldvw/packet.pdf> (“Records shall include certifications that any creditable biomass for which offset credit is claimed has historically been open burned in the San Joaquin Valley air basin.”)

⁵ CARB, Staff Report – Agricultural Burning Alternatives Analysis Report (Oct. 8, 2021) at 3

https://ww2.arb.ca.gov/sites/default/files/2021-10/Agricultural_Burning_Alternatives_Analysis_Report.pdf.

⁶ *Id.* at 2.

⁷ When the Legislature allocated \$180 million in 2021 to fund alternatives to agricultural burning, it required these funds to be prioritized for chipping and soil integration, as this is the most sustainable alternative for orchard waste. *Id.*

⁸ Whole orchard recycling increases water retention and soil carbon sequestration while avoiding ongoing emissions from the gasification process. Emad Jahanzad et al., Orchard Recycling Improves Climate Change Mitigation Potential of Almond Production (Mar. 27, 2020)

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0229588>.

⁹ See, e.g., Emma Foehringer Merchant et al., Inside Climate News, California Has Provided Incentives for Methane Capture at Dairies, But the Program May Have ‘Unintended Consequences’ (Sept. 19, 2020) (citing recent research from Wisconsin, Canada, Washington State and Denmark that suggests digesters can increase ammonia emissions), <https://insideclimatenews.org/news/19092022/dairy-digesters-methane-california-manure/>.

Fuel Standard and the California Department of Food and Agriculture's Dairy Digester Research & Development Program.

Project proponents may claim climate benefits from producing hydrogen biogenic feedstocks that are not based on data or that reflect flawed assumptions. To ensure the CEC does not fund projects with illusory climate benefits, it should:

- **Require methane emission monitoring for all projects that rely on methane feedstocks or biomass gasification, including at biomethane suppliers and at hydrogen production facilities.** Monitoring data is essential for understanding the real climate impacts of hydrogen production processes that involve methane.
- **Prohibit any applicant from claiming that a biogenic feedstock is “carbon negative.”** Crediting biomethane for “avoided methane” emissions has led to inaccurate carbon accounting for the benefits of factory farm methane in the Low Carbon Fuel Standard Program, where entities routinely claim credit for capturing methane at digesters that were built independent of the program.¹⁰ More fundamentally, avoided methane emissions are an inappropriate baseline in the context of California’s aggressive climate goals, which make it unrealistic to assume that California will do nothing about existing methane streams over the life of a project.¹¹ At a minimum, the CEC should not treat any methane from a digester that already exists or that is subsidized by other State programs as “carbon negative,” as it would be improper to operate under the false assumption these digesters collect methane that would otherwise vent into the atmosphere.
- **Account for the full lifecycle carbon emissions of digester gas, if the CEC allows livestock biomethane feedstocks in the program despite their environmental justice harms.** An accurate carbon accounting for the lifecycle greenhouse gas emissions from digester gas must include factors the GREET model currently ignores, such as N₂O emissions from digestate disposal.

Thank you for considering these comments. We would be happy to discuss this matter further with you, and we can be reached at the email addresses below.

Sincerely,
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¹⁰ Jeff St. John, Canary Media, “The biomethane boondoggle that could derail clean hydrogen” (Sept. 11, 2023), <https://www.canarymedia.com/articles/hydrogen/the-biomethane-boondoggle-that-could-derail-clean-hydrogen>.

¹¹ As one expert from the Union of Concerned Scientists put it, “the right baseline assumption for biomethane lifecycle GHG accounting should be one where the methane has been entirely captured or avoided to start, such that there is no assumed net climate benefit from its use.” Julie McNamara, Biomethane Threatens to Upend the Clean Hydrogen Tax Credit (May 25, 2023) <https://blog.ucsusa.org/julie-mcnamara/biomethane-threatens-to-upend-the-clean-hydrogen-tax-credit/>.

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