

5 Gyres  
Californians Against Waste  
California Communities Against Toxics  
California Public Interest Research Group (CALPIRG)  
California Safe Schools  
Climate Action California  
Coalition for Clean Air  
Coalition for a Safe Environment  
Community Dreams  
East Yard Communities for Environmental Justice  
Ecology Center, Berkeley  
Environmental Working Group  
GAIA  
Natural Resources Defense Council  
Oceana  
Surfrider Foundation  
The Last Beach Cleanup  
The Last Plastic Straw  
Valley Improvement Projects

September 15, 2023

Rachel Wagoner, Director  
California Department of Resources Recycling and Recovery  
1001 I Street  
Sacramento, CA 95814

Transmittal Via E-mail: [rachel.wagoner@calrecycle.ca.gov](mailto:rachel.wagoner@calrecycle.ca.gov)

**Re: Consideration of a Technology Determination for H Cycle Pursuant to Article 2 of the SB 1383 Regulations**

Dear Director Wagoner,

The undersigned organizations would like to express our concern over the technology determination for H Cycle pursuant to Article 2 of the SB 1383 Regulations. Despite the internal testing and reporting commitments outlined in the latest application, we do not believe that H Cycle has met the burden of proof to demonstrate that they meet the requirements of Article 2, and, additionally, the Department has not undergone sufficient environmental review to support making a determination on this application. We urge you to reject the request for approval before you.

### Determination requires full environmental review

The SB 1383 regulations were adopted following a rigorous public process, including a comprehensive Environmental Impact Report (EIR). In the EIR, the Department states that the environmental review “evaluates and describes, on a statewide, program-level basis, the potential environmental impacts associated with the implementation of the regulations, including the expected construction and operation of organic waste recovery facilities, identifies those impacts that could be significant, and presents mitigation measures, which, if adopted by CalRecycle or other responsible agencies, could avoid or minimize these impacts.”

This analysis includes the potential impacts of new composting and anaerobic digestion facilities, along with a discussion of biomass facilities. The analysis does not, however, consider the potential impacts of facilities similar to those proposed by H Cycle.

Because the SB 1383 EIR did not cover the technology, inputs and outputs proposed by H Cycle, any determination regarding such technologies or feedstocks requires an additional environmental impact report to assess potential harms and impacts and take them into account, including environmental justice impacts, as described further below.

At its core, the California Environmental Quality Act (CEQA) is designed to promote informed decision-making. A public agency makes an informed decision under CEQA by weighing the potential negative impacts of the proposed action against its benefits, and that has not been done with regards to this proposed determination.

### Lack of community input

In putting forward the technical determination without considering impacts other than GHG emissions, CalRecycle also undercuts environmental justice principles and protections. These considerations are implicit in Section 18983.2’s explicit focus on specific locations for proposed technologies—the section requires applicants seeking such a determination to provide the Department “each end-use or landfill disposal location”. As far as we can tell, the specific communities that H Cycle would impact have not been informed of this proposed project and impacts.

Given that the determination is for a specific proposed location, the Department should seek the input of those communities that would be impacted by the facility and take environmental justice impacts into account. Section 65040.12 of the Government Code defines environmental justice to mean “the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.” It goes on to say that environmental justice includes “governmental entities engaging and providing technical assistance to populations and communities most impacted by pollution to promote their meaningful participation in all phases of the environmental and land use decisionmaking process.” Additionally, the statute says that environmental justice includes “the meaningful consideration of recommendations from populations and communities most impacted by pollution into environmental and land use decisions.”

In fact, in the most recent legislative session, the legislature created an Office of Environmental Justice and Tribal Relations within CalRecycle that is charged, in part, with “ensuring meaningful involvement of disproportionately burdened communities in department decisionmaking.” Similarly, CalEPA has adopted an Inter-agency Environmental Justice Strategy to, in part, “ensure meaningful public participation and promote community capacity-building to allow communities to effectively participate in environmental decision-making processes.”

Moreover, the courts have long held that “[t]he significance of an activity depends upon the setting” (Kings County Farm Bureau v. City of Hanford) and that impacts that might not be significant in one location may be significant in a different area based on the cumulative impacts of multiple sources of pollution.

The action before the Department is regarding **a discrete proposed facility in a specific location**, and the Department has not solicited any input from the affected communities. Furthermore, it appears that this company may use some form of gasification process. After decades of tracking similarly marketed so-called “conversion” and high energy treatment technologies, including several industry efforts to build such operations in environmental justice communities in California, we have yet to see company claims on emissions, costs, and other essential data points backed by empirical information.

This lack of transparency and public process alone are enough to warrant rejection.

#### Comparison to composting and completeness of information and analysis supporting claims

The underlying premise of the Request for Approval is that the proposed technology provides greater GHG reductions than composting. In the latest application, there is still no data substantiating that claim. To be complete, any analysis reaching a conclusion that the proposed technology provides greater GHG reductions (or other environmental advantages) compared to composting should thoroughly address the following issues and questions:

- 1) Does the analysis consider the creation of emissions and byproducts that arise in thermal technologies that are not present in composting facilities (hazardous waste, dioxin, furans, PAHs, etc)?
- 2) Does the analysis consider the loss of soil health and carbon sequestration from reduced compost production?
- 3) Much of the proposed benefit appears to come from an assumption that the fuel the facility produces will offset the emissions of a diesel fleet. Is there an actual diesel fleet that exists in the area where the project is being proposed that has committed to converting to hydrogen, fuel cell, or synthetic gas-derived natural gas?
- 4) Does the baseline account for the implementation of the Advanced Clean Fleets regulation when considering displaced diesel emissions?
- 5) How will an internal commitment to ensure feedstock quality or internal compliance limits guarantee a feedstock supply consistent with the composition characterized in the application?

- 6) The “engineered slag” produced by the facility is assumed to be a viable form of construction aggregate, but has any testing been done to indicate whether it can be used for that application? If, instead, the material needs to be disposed of, then the benefits of avoided aggregate use would no longer apply, and far greater transport of residual would be required. Further, the fact that the process produces slag indicates that it is a combustion process, since slag is the product of high heat combustion. In contrast, composting operations do not produce slag.
- 7) Would any slag designated for disposal be considered hazardous waste, and does the process generate other byproducts that are hazardous waste? If so, does the greenhouse gas analysis consider the increased impacts of transport to a Class I landfill or other means of disposal, such as incineration?
- 8) The applicant proposes to use mixed waste paper as a feedstock. While food-soiled paper would likely be composted, mixed waste paper would otherwise be recycled under the regulations. Recycling paper has numerous environmental benefits, including the ability to return post-consumer fibers to a production cycle for new paper more than once (as opposed to composting, which is a one-time treatment). Has the applicant evaluated the lifecycle impacts of no longer recycling this material?
- 9) The applicant is proposing to use plastics as a feedstock. Does the baseline account for the fact that the fossil fuel-derived carbon from this material would not be released into the atmosphere without the existence of the facility?
- 10) What is the type of technology used in the facility? Has it been proven to work under real-world operating conditions, or just in a laboratory? Has this process been employed at this scale elsewhere?
- 11) What is the energy balance of the process and how will it be measured and tracked? What is the carbon balance and how will it be monitored?

Without addressing these questions, we believe that any analysis will fail to include important considerations for determining whether the technology truly offers GHG reduction or other environmental benefits over composting and will lack adequate support for its conclusions.

Based on similar thermal treatment processes, we find it exceedingly unlikely, if not impossible, that this facility will even have operational success, and if it does, that emissions and pollution could be less than compost operations and the application of finished compost. Furthermore, such a facility would compete with zero waste strategies of reduction and recycling for paper and other material streams, in addition to organics.

It appears that this facility would be some sort of waste gasification process, a high-temperature thermal process which requires heavy energy input during pretreatment, processing, and post-processing. These approaches have a track record of high-profile failures, fires, explosions, and financial losses. GAIA’s 2017 publication [Waste Gasification & Pyrolysis: High Risk, Low Yield Processes for Waste Management](#) found that \$2 billion has been invested in projects which were either closed or canceled. Further, GAIA’s 2023 report, [Hydrogen Made From Waste: Is it Green or Is it Red?](#) found that waste-to-hydrogen technologies utilize plastic

waste or fossil fuel as fuels, have high GHG footprints and low energy efficiency, and waste between 85-96% of input material.

At a systemic level, a determination of this nature would be a slippery slope toward high temperature incineration and waste to energy approaches to waste management. The European Union is reversing course in its waste strategies after decades of misguided incinerator infrastructure commitments. A wide array of EU laws and regulations now tax incineration to make it more expensive, end public funding and renewable energy subsidies, and recommend that incinerators be closed. Germany, Denmark, and Sweden make incinerators pay for CO<sub>2</sub> emissions under the carbon trading system. Furthermore, the European Union's Waste Framework Directive stipulates that producing fuels from waste cannot be labeled or counted as "recycling." Clearly, the EU has reversed course on its pro-incineration policies due to the high pollution generation and outsized greenhouse gas footprint of this technology. There is no rational justification for California to use the goal of keeping organics out of landfills to build another incinerator.

The available information makes it clear that this facility is a transformation facility and, given what it is planning on burning, that it will have emissions comparable to any other transformation facility, making it one of the leading sources of extremely toxic hazardous air pollutants in the state.

Based on these factors, we believe additional analysis is required before the Department can determine that the technology represents a reduction in landfill emissions comparable to composting. We also believe that additional environmental impact analysis is required before the technology can be used or approved for use in any form.

Sincerely,

Alison Waliszewski, Director of Policy  
5 Gyres

Nick Lapis, Director of Advocacy  
Californians Against Waste

Jane Williams, Executive Director  
California Communities Against Toxics

Jenn Engstrom, State Director  
California Public Interest Research Group (CALPIRG)

Robina Suwol, Executive Director  
California Safe Schools

Janet Cox, President  
Climate Action California

Bill Magavern, Policy Director  
Coalition for Clean Air

Jesse Marquez, Executive Director  
Coalition for a Safe Environment

Ricardo Pulido, Director  
Community Dreams

Andrea Luna, Policy Analyst  
East Yard Communities for Environmental Justice

Martin Bourque, Executive Director  
Ecology Center, Berkeley

Bill Allayaud, California Director of Government Affairs  
Environmental Working Group

Monica Wilson, Associate Director  
GAIA

Darby Hoover, Senior Resource Specialist  
Avinash Kar, Senior Attorney  
Veena Singla, Senior Scientist  
Natural Resources Defense Council

Ashley Blacow, Pacific Policy Manager  
Oceana

Miho Ligare, Plastic Pollution Policy Manager  
Surfrider Foundation

Jan Dell, Independent Engineer  
The Last Beach Cleanup

Jackie Nuñez, Founder  
The Last Plastic Straw

Bianca Lopez, Co-Founder  
Valley Improvement Projects

CC: Yana Garcia, Secretary of Environmental Protection  
Liane Randolph, Chair, California Air Resources Board

**From:** [Short-Lived Climate Pollutants@CalRecycle](mailto:Short-Lived Climate Pollutants@CalRecycle)  
**To:** [Ngo, Victoria@CalRecycle](mailto:Ngo, Victoria@CalRecycle); [Beckner, Scott@CalRecycle](mailto:Beckner, Scott@CalRecycle)  
**Cc:** [Short-Lived Climate Pollutants@CalRecycle](mailto:Short-Lived Climate Pollutants@CalRecycle)  
**Subject:** FW: Comments on H Cycle's SB 1383 Article 2 application  
**Date:** Friday, September 15, 2023 4:58:59 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[Group Comments on H-Cycle Determination - 9 15 23.pdf](#)

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**From:** Nick Lapis <nicklapis@cawrecycles.org>  
**Sent:** Friday, September 15, 2023 4:53 PM  
**To:** Short-Lived Climate Pollutants@CalRecycle <SLCP.Organics@calrecycle.ca.gov>; Garcia, Yana@EPA <yana.garcia@calepa.ca.gov>; Wagoner, Rachel@CalRecycle <Rachel.Wagoner@CalRecycle.ca.gov>; Randolph, Liane@ARB <Liane.Randolph@arb.ca.gov>  
**Cc:** Alison Young <alison@5gyres.org>; Jane Williams <dcapjane@aol.com>; Jenn Engstrom <jengstrom@calpirg.org>; Janet Cox <janet@jwcox.com>; Bill Magavern <bill@ccair.org>; Martin Bourque <martin@ecologycenter.org>; Bill Allayaud <bill@ewg.org>; monica@no-burn.org; Hoover, Darby <dhoover@nrdc.org>; akar@nrdc.org; vsingla@nrdc.org; Miho Ligare <mligare@surfrider.org>; lastbeachcleanup@gmail.com; Jackie Nunez <jackie.nunez@plasticpollutioncoalition.org>; Valley Improvement Projects <valleyimprovementprojects@gmail.com>; tahelme209@gmail.com; MR.RPulido@gmail.com; aluna.eycej@gmail.com; Mark Lopez (markl.eycej@gmail.com) <markl.eycej@gmail.com>; Taylor Thomas <taylort.eycej@gmail.com>; robinasuwol@earthlink.net; Blacow, Ashley <ablacow@oceana.org>; Jnm4ej@yahoo.com; Nicole Kurian <nicole@cawrecycles.org>  
**Subject:** Comments on H Cycle's SB 1383 Article 2 application

Attached please find comments from the following organizations urging your rejection of H Cycle's SB 1383 Article 2 application:

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Californians Against Waste  
California Communities Against Toxics  
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Natural Resources Defense Council  
Oceana  
Surfrider Foundation  
The Last Beach Cleanup  
The Last Plastic Straw  
Valley Improvement Projects

Please don't hesitate to reach out to any of us if you have any questions.



**Nick Lapis** (*he/him*)

Director of Advocacy

[nicklapis@cawrecycles.org](mailto:nicklapis@cawrecycles.org)

916.443.5422 (O) | 415.845.6335 (M)

