

Rodriguez, Melanie

From: Alexander Erving Dashuta <adashuta@uci.edu>
Sent: Monday, July 15, 2024 1:00 PM
To: Rodriguez, Melanie
Subject: non-agenda comments for 7.15.2024 Port of Stockton Commissioner meeting to "Rodriguez, Melanie"

CAUTION: This email originated from outside the Port. Please exercise caution.

Greetings Ms. Melanie Rodriguez,

I would like to please submit written comments only for the Port of Stockton Commissioner 7/15/24 meeting. They can be found below.

Thank you in advance,
Alex Dashuta

Comments:

Hello, my name is Alex Dashuta and I live in Torrance, California. I adamantly oppose the Golden State Natural Resources wood pellet project. The GSNR project is a promise to be a job-creator, yet their leaders also in the RCRC have opposed prevailing wages. DRAX, the UK-based energy corporation involved with the wood-pellet industry in the American South guarantees a costly repeat of history: the exacerbation of air pollution and fire-explosions. Fire-explosions at wood pellet plants and their storage silos have occurred in more than a dozen states, with a storage silo in Port Arthur, Texas catching fire and burning for 100 days in 2017. It led to a woman's death and sent many local residents to the hospital. Even when the pellets are enclosed, the risk of fire is high. Along with flammable weather during warm dry months, the resulting greenhouse gas emissions and air pollution (during fire-explosions and normal operations) means Port of Stockton residents can also expect to inhale air contaminated with gasses such as 1,3-butadiene, acrolein, benzo[a]pyrene, and anthraquinone. I suggest here as a chemist that if it sounds hard to pronounce, then you shouldn't breathe it. They are toxic carcinogens and irritants likely responsible for high rates of asthma, low birth weights, and cardiovascular disease predominant in communities near wood pellet plants like the GSNR project. In addressing Stockton's public health and safety, the GSNR project will be a government-sanctioned breathing hazard for this community already overburdened with pollution. With sustainable alternatives for energy sources available, there is absolutely no alternative to protecting the health and well-being of residents.

From: [Julie Devincenzi](#)
To: [Rodriguez, Melanie](#)
Subject: GSNR Pellet Project at the Port of Stockton
Date: Sunday, July 14, 2024 12:54:35 PM

CAUTION: This email originated from outside the Port. Please exercise caution.

Hello M. Rodriguez,

I sent an email on 7/12/24 at 8:54 p.m. Since then I have learned that one of my daughters-in law just found out she is pregnant. I had mentioned in my email that this project would impact my children and future grandchildren. Since learning of her pregnancy, the future is now the present.

Please add this comment to my earlier email.

Thank you.

Julie Devincenzi

To: Port of Stockton Commissioners
From: Mary Elizabeth, M.S., R.E.H.S.
Date: 7.15.2024
Re: GSNR Wood Pellet Export Project

The Golden State Natural Resources under the authority of the Golden State Financing Authority formed and governed by representatives of the Rural County Representatives of California first proposed their export of 1 million metric tons of dried wood pellets through the Port of Richmond with both public and private terminals. But when no support was given by Richmond City Council, the project came to Stockton. Over 140 organizations submitted comments against the project in the December 2022 and June 2023 notices of preparation. In June 2024, 58 organizations requested that there be at least a 90 day comment period for review of a Draft Environmental Impact Report (DEIR) which is expected to be released within the next two months.

We have submitted comments to the Commission on a number of occasions describing our concerns with the GSNR wood pellet export project. I ask today that the Port of Stockton invite some of the scientists that are working on this project to give you a briefing in advance of the DEIR for which Port staff will be developing comments.

GSNR consultants have informed members of public attending public meetings that because the wood pellets will be stored in domes, the proposed operations are safe.

On 7.13.2024 an incident was reported at the Port of Savannah in Georgia, USA.¹ The City of Savannah Fire Department responded to an industrial fire at Marine Terminal Drive, on the Savannah River, with 22 responding fire units on the scene. The scene was evacuated, and no injuries were reported, according to the Savannah Fire Department post. The post said there was an underground wood-chip conveyer facility that caught fire and caused a tank explosion on the site. The wood-chip conveyer belt fire has been contained and



crews are working on containing fire within one of three tanks involved, according to the post's most recent update. This smoke in Stockton would cause breathing problems for many Stockton residents. One pellet production facility that supplies some of the pellets exported through the Port of Savannah uses around 1.5 million metric tonnes of fresh wood to produce 750,000 tonnes of dried pellets.² Deforestation reduces nature's carbon dioxide sequestration ability. Carbon dioxide is a greenhouse gas causing global warming and climate change.

¹ <https://www.savannahnow.com/story/news/fire/2024/07/13/savannah-fire-department-responds-to-wood-chip-conveyer-belt-fire/74392426007/>

² <https://ruralprogressive.com/2023/12/18/worlds-largest-wood-pellet-plant-world-record-in-waycross-georgia/>

From: [Bill Boley](#)
To: [Rodriguez, Melanie](#)
Cc: [Cashman, Jason](#)
Subject: Letter of Support - BayoTech Hydrogen Hub at Port of Stockton
Date: Thursday, July 11, 2024 8:23:48 AM
Attachments: [image001.png](#)
[CAT Signed with DocuSign Bayotech - Port of St.pdf](#)

CAUTION: This email originated from outside the Port. Please exercise caution.

Dear Commissioners:

Caterpillar is pleased to offer the attached letter of our support for the Bayotech Hydrogen Hub to be located at the Port of Stockton. Hydrogen represents a significant step forward in supporting communities and companies during the transition from fossil fuels to new forms of lower carbon intensity energy. The Port of Stockton hydrogen production would be instrumental in helping to meet the growing hydrogen demand in California. I commend the Port of Stockton for considering this innovative initiative and urge the Board to vote in favor of the Bayotech Hydrogen Hub. Thank you for your attention in this matter.

Sincerely,
Bill Boley



William Boley

Director – Hydrogen and Alternative Fuel Technology
Caterpillar Inc. | Email: Boleywc@Cat.com
Office: 309-494-6964 | Cell: 309-339-5023

Caterpillar: Confidential Green



Caterpillar Inc.

Integrated Components & Solutions Division

P.O. Box 1875

Peoria, IL 61656 US

10 July 2024

Board of Commissioners
Stockton Port District
2201 West Washington Street
Stockton, California 95203

RE: BayoTech Hydrogen Production and Dispensing Facility Project

Dear Commissioners:

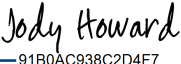
Caterpillar's legacy of sustainable innovation spans nearly a century. Throughout that time, we have provided products and services that improve the quality of life and the environment while helping customers fulfill society's need for infrastructure in a sustainable way. We support the transition to a lower-carbon future, and we are contributing by significantly reducing greenhouse gas (GHG) emissions in our operations and continuing to invest in a diverse portfolio of products, technologies and services that help customers achieve their sustainability goals. We offer machines and engines that are capable of operating on alternative fuels, such as biodiesel, biogas, hydrogen, HVO and methanol. Especially pertinent here, Caterpillar has been developing hydrogen power system options for our customers who wish to pursue this pathway to reduce their carbon footprint and we see projects focused on infrastructure as filling an acute need.

The BayoTech Hydrogen Hub holds promise to play a pivotal role in meeting the escalating demand for hydrogen in California. Locating the hydrogen hub at the Port of Stockton creates a strategic step that aligns with the global shift toward cleaner alternative energy solutions for transportation, manufacturing, and heavy equipment operation.

Development of hydrogen production and filling facilities, such as that proposed by BayoTech, are critical in supporting communities and companies during the transition from fossil fuels to new forms of lower carbon intensity energy. Hydrogen produced locally at the Port of Stockton can fuel zero tailpipe emission vehicles, power generators, and cargo handling equipment. These applications offer the potential to reduce greenhouse gas emissions with improvement to air quality in surrounding communities of concern.

We urge you to grant approval of the BayoTech Hydrogen Hub at the Port of Stockton. The establishment of hydrogen production at the Port has the potential to help meet the burgeoning demand for hydrogen in California.

Sincerely,

DocuSigned by:

91B0AC938C2D4F7...
Jody Howard

July 10, 2024

DS
SH

DS
TB

DS
AK

DS
KH

Director of Innovation & Emerging Technology

This letter and Caterpillar's support expressed herein is confidential. Trade secrets, proprietary and/or company confidential information is protected from public disclosure under the California Public Records Act and other applicable law and public disclosure of this letter or Caterpillar's support is not allowed without Caterpillar's express written approval. Although Caterpillar is pleased to voice its support, this letter is not to be construed as evident of any definitive contract or other legally binding commitment regarding the project. Caterpillar's future endeavors, including with respect to the matters set forth in this letter, remain subject to Caterpillar's sole and absolute discretion.

To: The Board of Commissioners
Port of Stockton
2201 West Washington Street
Stockton, CA 95203



Re: Support for BayoTech Hydrogen Hub at the Port of Stockton

Dear Commissioners,

Maximum Hydrogen/CNG Delivery LLC has been dedicated to high-pressure and cryogenic gas delivery, with a focus on hydrogen transportation since 2017. Our extensive experience has shown that a reliable, locally available, and competitively priced hydrogen supply is crucial for successful hydrogen programs.

BayoTech stands out as a leader in this field, with validated technologies and proven operational expertise to ensure dependable and economical hydrogen production. The proposed BayoTech Hydrogen Hub holds immense potential for regional economic development and is set to meet the growing hydrogen demand in California.

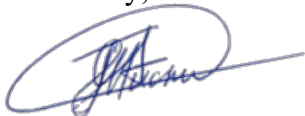
Local hydrogen production and filling facilities, such as BayoTech's project at the Port of Stockton, are vital for supporting the transition from fossil fuels to clean energy. Locally produced hydrogen can fuel zero-emission heavy-duty vehicles, power generators, and cargo handling equipment, significantly reducing emissions.

Moreover, hydrogen infrastructure projects like BayoTech's offer substantial economic benefits. By establishing local hydrogen production, BayoTech will attract sustainability-focused companies to the community, create good-paying union jobs, and provide opportunities for workers transitioning from carbon-intensive sectors.

We strongly urge you to approve the BayoTech Hydrogen Hub at the Port of Stockton. This initiative promises to drive economic growth, create jobs, reduce pollution, and meet California's increasing hydrogen demand.

Thank you for considering this important project. Should you have any question please contact me directly at dmitri@maximumhydrogen.com

Sincerely,



Dmitri Tisnoi
President
Maximum Hydrogen/CNG Delivery LLC

From: [Tyson Eckerle](#)
To: [Rodriguez, Melanie](#)
Cc: [Cashman, Jason](#); [Gia Vacin](#)
Subject: BayoTech H2 Production Facility
Date: Monday, July 15, 2024 3:21:52 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

CAUTION: This email originated from outside the Port. Please exercise caution.

Dear Commissioners,

The Governor's Office of Business and Economic Development (GO-Biz) supports the proposed BayoTech hydrogen production facility at the Port of Stockton (3028 Navy Drive). This project will contribute to achieving California's ambitious climate and pollution reduction goals, including reaching carbon neutrality by 2045 (AB 1279).

According to CARB's 2022 Scoping Plan, California will need 1,700 times the hydrogen production in 2045 relative to 2022 as part of a suite of interventions. To help meet this challenge, Governor Gavin Newsom tasked GO-Biz to develop a Hydrogen Market Development Strategy, currently underway.

GO-Biz is also the state's lead for the Alliance for [ARCHES](#), the entity awarded up to \$1.2 billion (the largest award to a single state) by the Biden-Harris Administration to develop a regional clean hydrogen hub in California that will create a renewable, clean hydrogen ecosystem in the state and beyond. These federal funds will be tremendously leveraged, bringing nearly \$12 billion in matching state and private sector dollars. Key early offtakers in this system will be ports. BayoTech's project complements these efforts.

The BayoTech hydrogen production facility will utilize woody biomass, helping to address two needs—utilization of a waste stream and production of renewable hydrogen that will help us move away from fossil fuels in the Stockton region and beyond.

Enabling projects like these is essential in helping realize our clean energy future. Thank you for your consideration of this project and your willingness to be a leader in this space.

Sincerely,

Tyson Eckerle
Senior Advisor, Clean Infrastructure & Mobility
Governor's Office of Business and Economic Development
Tyson.eckerle@gobiz.ca.gov
916-322-0563



Public Comment:

Good afternoon Chair, Vice Chair, and Commissioners,

On behalf of LMR, I want to express my concerns and reasons to oppose BayoTech's proposed project in South Stockton.

BayoTech plans to use a process called steam methane reformation to create hydrogen from fossil fuels. This process aka, as grey hydrogen, is not moving us forward into a cleaner future. Instead, they are perpetuating our reliance on fossil fuels and building infrastructure that will only add to the pollution in our community.

South Stockton is already struggling with serious environmental and public health issues. Research has led to our designation as an AB 617 community. CalEnviroScreen 4.0 data reveals that the proposed project site is within a Census Tract (6077000801) that is home to 7,624 Stocktonians and is classified as a sensitive population based on health and socioeconomic factors:

- 96th percentile for asthma rates.
- 89th percentile for cardiovascular disease.
- 82st percentile for low birth weight.
- 84th percentile for poverty.

Let's also remember that hydrogen production comes with significant hazards. Hydrogen is volatile, highly flammable, and prone to leakage, which could lead to dangerous and potentially catastrophic situations.

Here's what we must recognize: for these reasons, it is absolutely critical that BayoTech abides by the CEQA process and provides the rightful access to a full Draft Environmental Impact Report. This process is not just a formality; it is a vital step that ensures our community is fully informed about the environmental impacts of this project. By ignoring this requirement, BayoTech is not only neglecting their legal responsibilities but also continuing the cycle of marginalization and pollution that South Stockton has endured for far too long.

A true transition to an equitable future with clean energy must not ignore the crucial need for public accountability and environmental justice.

Thank you for listening.

Gloria E. Alonso Cruz, Environmental Justice Advocacy Coordinator, Little Manila Rising



July 15th, 2024

Dear Board of Commissioners of the Stockton Port District,

On behalf of the North Valley Labor Federation and our membership we urge you to approve the construction of the BayoTech Hydrogen Production and Filling Facility.

As a labor federation that is committed to creating more high-paying, local jobs in the Northern Central Valley, we commend BayoTech for voluntarily entering into a Project Labor Agreement with the San Joaquin Valley Building & Construction Trades Council. This agreement will create good, local, union jobs, and ensure that Stockton and San Joaquin County residents benefit from the construction of this project.

This agreement would ensure that the jobs necessary to complete the over 50,000 work hours for this project would have living wages, benefits, and prioritize local hire. BayoTech will also make sure its Hydrogen Hub is made to the highest standards of construction in terms of health and safety by hiring highly skilled and trained workers.

We also applaud Bayotech's continued efforts to develop a Community Benefits Agreement with interested parties. It is both unusual and commendable for a developer to initiate discussions with local groups seeking additional meaningful ways to invest in the community and we appreciate their continued efforts in this area.

In addition to these impacts on the local workforce, BayoTech's Hydrogen Hub also presents a critical opportunity for our region to transition from fossil fuels to renewable energy. This is important for the health of our local community and environment.

For these reasons, the North Valley Labor Federation urges you to approve the construction of the BayoTech Hydrogen Hub.



P.O. Box 3133
Modesto, CA 95353

Sincerely,

William Kelly
Executive Director
North Valley Labor Federation
will@nvlf.org
209-259-3903



July 11, 2024

Verne Letter of Support for BayoTech Hydrogen Hub

Dear Commissioners,

I am writing to express my support for the BayoTech Hydrogen Hub on behalf of Verne Inc..

Verne is a developer of high-density hydrogen storage and refueling solutions for heavy-duty transport. Verne provides cryo-compressed hydrogen technology, a novel high-density and low-cost state, to revolutionize the way hydrogen is stored and distributed. Verne have commercial partners in trucking, aviation and off-road vehicles, and Verne's storage technology is being trialed by major vehicle manufacturers and U.S. National Labs. Verne has received investments & grants from NextEra Energy, Amazon, United Airlines, Caterpillar, Breakthrough Energy, Department of Energy and Department of Defense.

Hydrogen will be critical for decarbonizing several difficult-to-decarbonize sectors including heavy-duty transportation, which is responsible for 12% of U.S. greenhouse gas emissions. Due to the low energy density of batteries, battery electric vehicles fail to meet the range or weight requirements of heavy-duty vehicles like cargo handling equipment or drayage trucks that operate at ports. Hydrogen vehicles will be critical to meet the needs of the heavy-duty transportation sector and enable a transition to zero emission operations.

California has been a leader in zero-emission transportation innovation and deployment. However, it is important for California to continue to invest across the value chain to enable rapid decarbonization and maintain its role as a leader in clean technology innovation. This BayoTech Hydrogen Hub will encourage further innovation and deployment of hydrogen technologies and establish the Port of Stockton as a leader in hydrogen solutions for heavy-duty transportation.

Sincerely,

Bav Roy
Co-founder & COO, Verne

bav@verneh2.com

115 Stillman Street San Francisco, CA 94107



July 15, 2024

Port of Stockton
Attention Board Secretary
P.O. Box 2089
Stockton, CA 95201

Dear Stockton Port District Commissioners,

The San Joaquin Building Trades Council represents nineteen local union affiliates and over 12,000 working families in San Joaquin County. On their behalf, I write to express our support for the Commission to make appropriate approvals for the construction of the BayoTech Hydrogen Production and Filling Facility.

This project will be covered by a Project Labor Agreement between BayoTech and the SJBTC. This means the 50,000 work hours necessary to complete this project will go primarily to Stockton and San Joaquin residents. With family-thriving wages and benefits, the jobs created represent an added investment by BayoTech in the local workforce, the local economy, and our communities.

By signing this agreement, BayoTech has also chosen to seek the most skilled and best trained workers our community has to offer, as our members maintain the highest standards in the safest conditions. Further, the added work capacity will allow expanded opportunities in union apprenticeships, including through our MC3 Apprentice Readiness Program, to provide broader access to careers in union construction.

I also applaud BayoTech's continued efforts to develop a Community Benefits Agreement with interested parties. It is commendable for a developer to initiate and pursue discussions with local stakeholders seeking additional meaningful ways to invest in the community and we appreciate their continued efforts to do so.

For all these reasons and more, the SJBTC strongly encourages that appropriate approvals be made to begin construction on the BayoTech Hydrogen Production and Filling Facility.

Sincerely,

Tim Robertson, Executive Director
San Joaquin Building Trades Council



Toyota Motor North America, Inc.
1630 W. 186th Street
Gardena, CA 90248

April 5, 2024

Jason Cashman
Environmental and Regulatory Affairs Manager
Port of Stockton
2201 West Washington Street
Stockton, California 95203

RE: Port of Stockton BayoTech Hydrogen Production and Filling Facility Project

Dear Mr. Cashman,

Toyota Motor North America, Inc. is pleased to support BayoTech's proposed Hydrogen Production and Filling Facility in Stockton, California. Toyota has been committed to the development and deployment of hydrogen fuel cell technology over the last 25 years. We are encouraged by the activities of BayoTech to facilitate the adoption of fuel cell products at the Port of Stockton and in the surrounding communities.

Development of hydrogen production and filling facilities, such as that proposed by BayoTech, are critical in supporting communities and companies during the transition from fossil fuels to new forms of clean energy. Hydrogen produced locally at the Port of Stockton can fuel zero-emission heavy duty vehicles, power generators, and cargo handling equipment. These applications offer the potential to reduce greenhouse gas emissions with improvement to air quality in surrounding communities of concern. Thank you for the opportunity to comment in relation to this CEQA Mitigation Plan.

Sincerely,

A handwritten signature in black ink, appearing to read "Craig Scott".

Craig Scott
Group Manager – Fuel Cell Solutions



SAN JOAQUIN REGIONAL TRANSIT DISTRICT

421 East Weber Avenue • Stockton, CA 95202 • (209) 943-1111 • (209) 948-8516 Fax • sjRTD.com

July 8, 2024

Melanie Rodriguez
Commission Secretary
Port of Stockton
2201 West Washington Street
Stockton, California 95203

RE: Port of Stockton BayoTech Hydrogen Production and Filling Facility Project

Dear Ms. Rodriguez:

On behalf of the San Joaquin Regional Transit District (RTD), I am writing to express our support of the Port of Stockton BayoTech Hydrogen Production and Filling Facility Project.

In an effort to decarbonize the global economy, policymakers worldwide recognize the need to complement electrification strategies with fuels like hydrogen. The U.S. Department of Energy named hydrogen as a key component of a comprehensive portfolio of solutions to achieve a sustainable and equitable clean energy future. The State of California has been a global leader in the development of the hydrogen industry, with projects ranging from production through end use.

Development of hydrogen production and filling facilities, such as that proposed by BayoTech, are critical in supporting communities and companies during the transition from fossil fuels to new forms of clean energy. Hydrogen produced locally at the Port of Stockton can fuel zero-emission heavy-duty vehicles, power generators, and cargo handling equipment. These applications offer the potential to reduce greenhouse gas emissions with improvement to air quality in surrounding communities of concern.

Hydrogen infrastructure projects such as this also offer economic benefits, by establishing local hydrogen production. BayoTech is providing a valuable resource to attract new sustainability-focused companies to the community. Hydrogen infrastructure projects like this also create jobs – including good-paying union jobs. BayoTech's project will provide opportunities for workers transitioning away from carbon-intensive sectors, leveraging existing skills while developing new skills.

Thank you for the opportunity to comment. I can be reached at aclifford@sjRTD.com or (209)467-6691, if you have any questions.

Sincerely,


Alex Clifford
Chief Executive Officer

CHIEF EXECUTIVE OFFICER: Alex Clifford
BOARD OF DIRECTORS: CHAIR Michael P. Restuccia • VICE CHAIR Gary S. Giovanetti
Balwinder T. Singh • Les J. Fong • Stephan Castellanos

NORSTAR SHIPPING (USA) LLC

575 Riverside Avenue Suite 102

Westport, Connecticut 06880

United States of America

Telephone: +1 203 955 1515

www.norstar-group.com



Jason Cashman
Environmental and Regulatory Affairs Manager
Port of Stockton
2201 West Washington Street
Stockton, California 95203

3rd July 2024

RE: Port of Stockton BayoTech Hydrogen Production and Filling Facility Project

Dear Mr. Cashman:

My name is William Ewert, Operations Manager and Product Development Lead for Low Carbon Fuels here at Norstar Shipping (USA). <https://www.norstar-group.com/>

Norstar Group is an International Ship Owner, Operator, Manager, with Commercial, Technical, Crewing functions in-house. We currently manage a fleet of about 45 oceangoing product/ chemical tankers and dry bulk carriers, plus product/ chemical tankers we charter in. Forefront to our efforts is working to decarbonize the Maritime Sector by developing technologies to employ the use of Low Carbon Fuels for Maritime use including Hydrogen, Ammonia, and Methanol. We seek to deploy these technologies and supply the Low Carbon Fuels across the sector in Vessels, Bunker Barges, Port Infrastructure and Tank Terminals.

In an effort to decarbonize the global economy, policymakers worldwide recognize the need to complement electrification strategies with fuels like hydrogen. The U.S. Department of Energy named hydrogen as a key component of a comprehensive portfolio of solutions to achieve a sustainable and equitable clean energy future. The State of California has been a global leader in the development of the hydrogen industry, with projects ranging from production through end use.

Development of hydrogen production and filling facilities, such as that proposed by BayoTech, are critical in supporting communities and companies during the transition from fossil fuels to new forms of clean energy. Hydrogen produced locally at the Port of Stockton can fuel zero-emission heavy duty vehicles, power generators, buses, and cargo handling equipment. These applications offer the potential to reduce greenhouse gas emissions with improvement to air quality in surrounding communities of concern.

Hydrogen infrastructure projects such as this also offer economic benefits, by establishing local hydrogen production. BayoTech is providing a valuable resource to attract new sustainability-focused companies to the community. Hydrogen infrastructure projects like this also create jobs – including good-paying union jobs. BayoTech's project will provide opportunities for workers transitioning away from carbon-intensive sectors, leveraging existing skills while developing new skills.

Thank you for the opportunity to comment in relation to this CEQA Mitigation Plan. I can be reached at will.ewert@norstarshipping.com if you have any questions.

Sincerely,

William Ewert
Norstar Chartering (USA) LLC
Cell: 203-917-5665

Rodriguez, Melanie

From: Will Ewert <will.ewert@norstarshipping.com>
Sent: Wednesday, July 3, 2024 10:53 AM
To: Cashman, Jason
Cc: Rodriguez, Melanie; Hernan Henriquez; Chris Bonehill; Will Ewert
Subject: Norstar / Bayotech Letter of Support
Attachments: Letter in support of BayoTech Stockton Hydrogen Hub 2024.docx

CAUTION: This email originated from outside the Port. Please exercise caution.

Good day Mr. Cashman,

I am writing to you on behalf of Norstar Shipping in support of our friends at Bayotech and their initiative to bring a Hydrogen Production and Filling plant into the Port of Stockton. We have been working with Bayotech for a few years now to support each other in bringing zero emissions fuels and infrastructure to fruition here in the US.

Please see our letter of support in attachment, we hope to hear from you on the opportunities that you and the Port of Stockton can bring to help decarbonize the maritime industry.

Happy 4th of July

Best Regards,



William Ewert

Business and Product Development Lead for
Green & Renewable Fuels and Infrastructure
Norstar Chartering (USA) LLC

Phone: +1 (203) 955 1515

Cell: +1 (203) 917 5665

Email: will.ewert@norstarshipping.com

Group Email: ops@norstarshipping.com

575 Riverside Avenue, Suite 102
Westport, CT 06880
USA

www.norstarshipping.com



Hydrogen Fuel Cell Partnership
3300 Industrial Blvd, Suite 200
West Sacramento, CA. 95691
916-371-2870

www.h2fcp.org | info@h2fcp.org

June 14, 2024

Jason Cashman
Environmental and Regulatory Affairs Manager
Port of Stockton
2201 West Washington Street
Stockton, California 95203

RE: Context of the Port of Stockton BayoTech Hydrogen Production and Filling Facility Project

Dear Mr. Cashman:

If constructed, BayoTech's proposed Hydrogen Production and Filling Facility in Stockton, California will be a critical asset in the California hydrogen and fuel cell electric truck market. Currently there is limited hydrogen production and distribution facilities within California, and the need is even more severe in relation to supporting heavy duty trucks for Port and on the road applications. This project would significantly support the California Air Resources Board's goal to achieve 100% zero emission trucks sales by 2036, with drayage leading the way.

This, Bayotech, Port of Stockton project will demonstrate hydrogen production and distribution technology near and directly supporting fuel cell trucks (and other applications). The potential environmental benefit of this project is, it could accelerate the adoption rate of zero-emission, hydrogen fuel cell truck, replacing diesel, by demonstrating a lowering of the total cost of ownership. This would result in both a reduction in carbon and criteria air pollutant emissions, noting that California identifies diesel exhaust as a toxic air contaminant and a carcinogen.

The [Hydrogen Fuel Cell Partnership](#) was founded by the California Air Resources Board in 1999 as the California Fuel Cell Partnership. We have operated continuously since that time as a public-private partnership with a mission to enable a hydrogen fueled transportation economy.

Sincerely,

A handwritten signature in black ink, appearing to read "William Elrick".

William Elrick
Executive Director

The Hydrogen Fuel Cell Partnership is a nonprofit public benefit corporation educating the public about the benefits of electrification of transportation related to hydrogen and fuel cell technology.



SIERRA
CLUB
FOUNDED 1892

Delta-Sierra Group
Mother Lode Chapter
P.O. Box 9258, Stockton CA 95208

July 15, 2024

Re: Agenda Item #15, July 15, 2024

Good afternoon, Port Commissioners,

My name is Margo Praus and I'm a long-time resident of Stockton. I sit on the AB617 Community Steering Committee which works to improve air quality in the South West Stockton area which surrounds the Port of Stockton. I am the Chair of the Delta-Sierra Group.

Before you consider a term of 10 years with two additional 5 year lease options on Port property, for this polluting, fossil-gas, hydrogen production project proposed by BayoTech, there must be a full Environmental Impact Report prepared for public review. The Mitigated Negative Declaration does NOT adequately address the impacts associated with the project.

In 2020 when the AB617 committee started meeting regularly, the Port started to work on mending its very strained relationship with the community and began meeting regularly per the Port Outreach meetings. They brought information about opportunities to promote cleaner air wherever possible. Some business cannot easily transition to cleaner opportunities, such as large oceangoing, international vessels. But to bring a new, polluting project to the Port without adequate oversight and mitigation, defeats the sincere efforts that have been gradually achieved.

Clean hydrogen is a sustainable solution that the Valley Link project in South County is already committing to. Consider that pathway. Don't add to the pollution burden with the impacts of natural gas pipeline safety and global warming concerns.

Oppose this approval today.

Sincerely,

Margo Praus

Chair, Delta-Sierra Group

margopraus@msn.com

Rodriguez, Melanie

From: Julie Devincenzi <jmdevincenzi@yahoo.com>
Sent: Friday, July 12, 2024 4:28 PM
To: Rodriguez, Melanie
Subject: BayoTech Hydrogen Project at the Port of Stockton

CAUTION: This email originated from outside the Port. Please exercise caution.

Dear Sir,

This is my comment for the July 15, 2024, meeting. I live in the Stockton area impacted by your intended project. This project will greatly effect my health and that of my family and neighborhood community in a negative way. I respectfully request a full environmental impact report be prepared before your company goes any further with this.

Julie Devincenzi

Restore the Delta
2616 Pacific Ave #4296, Stockton, CA 95204
209-479-2559
www.restorethedelta.org



To: Port Commissioners

July 12, 2024

Re: Opposition to BayoTech Gray Hydrogen Project

Dear Port Commissioners,

We are writing to reiterate our strong objections to the BayoTech project for gray hydrogen production at the Port of Stockton.

Our primary concern, as detailed in previous comment letters submitted to the Port of Stockton, is the need for a full Environmental Impact Report (EIR), that the surrounding communities are environmental justice (EJ) communities. Moreover, as this is the first Hydrogen Production Project at the Port of Stockton, we believe it's especially important to get this first project right.

We believe a comprehensive analysis is crucial for understanding and addressing the full scope of potential environmental impacts on our community. The current Initial Study/Mitigated Negative Declaration (IS/MND) is insufficient given the feedstock and technology being used in this project.

We also have serious reservations about:

- BayoTech's use of LCFS book-and-claim credits rather than direct, local emissions reductions. This approach does not adequately address the immediate air quality concerns of our community.
- Lack of comprehensive commitments to zero-emission operations for BayoTech-contracted hydrogen deliveries.
- Lack of restrictions on end-use applications for the produced hydrogen, which we believe are crucial for ensuring true environmental benefits.

Restore the Delta remains committed to advocating for responsible development at the port that prioritizes direct, local environmental benefits and meaningful community involvement. We urge you to reconsider the BayoTech project and instead pursue alternatives that better serve the interests of our community.

Sincerely,

A handwritten signature in black ink, appearing to read 'Davis Harper'.

Davis Harper
Carbon and Energy Program Manager

A handwritten signature in black ink, appearing to read 'Barbara Barrigan-Parrilla'.

Barbara Barrigan-Parrilla
Executive Director

A handwritten signature in black ink, appearing to read 'Esther Mburu'.

Esther Mburu
Carbon Policy Analyst



Representative Josh Harder
1776 W March Lane, Suite 360
Stockton, CA 95207

July 5, 2024

San Joaquin County Board of Supervisors
44 N San Joaquin Street, Suite 627
Stockton, CA 95202

RE: Consideration of Support of the BayoTech Dirty Hydrogen Project at the Port of Stockton

Hon. Representative Harder and San Joaquin County Board of Supervisors:

The Delta-Sierra Group was disappointed to see that you, Representative Harder and the San Joaquin County Board of Supervisors, submitted letters of support to the Port of Stockton for the BayoTech hydrogen production facility proposed to be constructed on Port of Stockton grounds.

We wonder how completely the applicant who provided the support letter template, shared the details of the project with you?

While hydrogen is a much-touted new fuel, are you aware that there are "dirty" types of hydrogen production that continue fossil fuel extraction activities? One such "dirty" hydrogen is called grey hydrogen which uses natural gas (methane) for energy and feedstock. Grey hydrogen continues the extraction and the impacts related to the use of fossil fuels, namely trapping heat that causes global climate change. The Sierra Club strongly opposes grey or "dirty" hydrogen projects that use fossil fuels to produce hydrogen gas for fuels. See the attached excerpt from a recent Sierra Club report analyzing hydrogen.

On the other hand, "green" hydrogen production uses water and renewable energy and is a sustainable solution which the Sierra Club supports. For example, the Valley Link Rail Project plans to use green hydrogen and is planning a green hydrogen production facility.¹

If the Valley Link Rail Project developers found this pathway forward, surely the Port of Stockton can find such partners instead of bringing additional long-term, dirty polluting projects into the area.

Taking action now, will affect us long into the future. Let's be thoughtful about our community health and wellbeing. Our region already has some of the worst air quality in the nation, affecting the health of residents.

BayoTech must provide a full Environmental Impact Report, rather than an inadequate Negative Declaration analysis with some mitigation, for this project. A full environmental impact analysis pursuant to CEQA is needed to fully calculate the effect on our community

¹ Valley Link Rail Project Hydrogen Production Feasibility [Staff Report](#) and [Feasibility Study](#)

and fully mitigate those impacts. The disadvantaged community residents and the elementary school in the vicinity must be considered and protected.

This BayoTech project would use fossil natural gas amounting to approximately two percent more of all the fossil natural gas used in San Joaquin County. Instead of using more fossil fuel we should be reducing our dependence on fossil fuels.

Please reconsider your support for the BayoTech project as proposed and support a full environmental analysis that considers all impacts associated with the project.

Thank you for reconsidering your support for this dirty hydrogen project. We are available to meet with you or your staff if you wish to discuss these important issues. Please contact me at 209-670-4442 or margopraus@msn.com.

Sincerely,

Margo Praus, Chair
Delta-Sierra Group
Sierra Club

cc: Commissioners of the Port of Stockton
Stockton City Council
Rob Bonta, California State Attorney General
California Air Resources Board
San Joaquin Valley Air Pollution Control District
Stocktonia
Stockton Record
Catholic Charities, Environmental Justice
Tree Stockton
Center for Biological Diversity
Sunflower Alliance
Environmental Justice Coalition for Water
Interfaith Climate Action Network Contra Costa County
Restore the Delta
Little Manilla Rising

Sierra Club Policy on Hydrogen Related Issues: Green, Blue, and Gray Hydrogen

The Sierra Club at the national level has engaged on the complicated and quickly evolving issues related to hydrogen production. In 2022, the Club adopted a short report “Hydrogen: Future of Clean Energy or a False Solution?”²

This BayoTech project as proposed is clearly defined in the Club policy document as a “gray” or “dirty” hydrogen project that must be opposed.

A summary of the Sierra Club hydrogen policy is included below.³

The fossil fuel industry is hyping hydrogen of all kinds as a low-carbon replacement for all sorts of uses of fossil fuels—from powering vehicles and heavy industry to heating buildings. In reality, many hydrogen projects will only lock us in to continued fossil fuel use and additional investments in fossil fuel infrastructure.

The Sierra Club only supports the use of green hydrogen—hydrogen made through electrolysis that is powered by renewable energy. Even in the case of green hydrogen, other conditions must be met for its use to be a good idea.

The fossil fuel industry is generating a ton of interest around hydrogen, presenting it as a solution to the climate crisis and conflating green hydrogen produced from renewables with hydrogen produced from fossil fuels. Currently, [more than 99 percent](#) of the United States’s annual supply of hydrogen, about 10 million metric tons, comes almost entirely from fossil fuels through [“steam methane reforming”](#) (SMR), an energy-intensive process in which methane gas is broken down into hydrogen and carbon dioxide. Hydrogen produced through SMR is a high-emissions product given the name “gray hydrogen.” In contrast, “green” hydrogen is produced by splitting water into its constituent hydrogen and oxygen components through electrolysis, which is powered by renewable energy. While industry touts hydrogen as a “clean” solution, globally only [0.02](#) percent of current hydrogen production is green. “Blue” hydrogen production uses carbon capture and sequestration (CCS) to remove carbon dioxide (CO₂) that is emitted during hydrogen production.

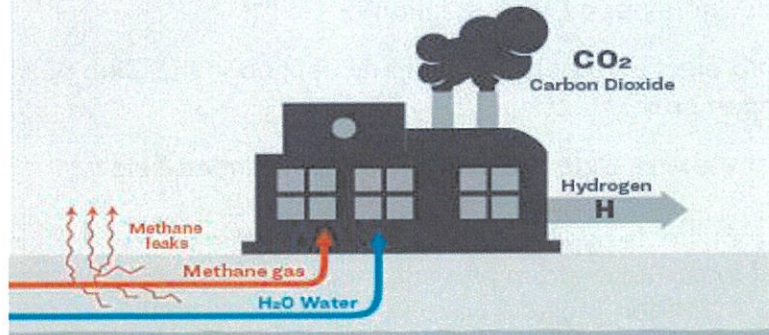
² https://www.sierraclub.org/sites/www.sierraclub.org/files/blog/Sierra%20Club%20Hydrogen%20factsheet_External.pdf

³ <https://www.sierraclub.org/articles/2022/01/hydrogen-future-clean-energy-or-false-solution>

Three ways to make hydrogen

Gray hydrogen plant

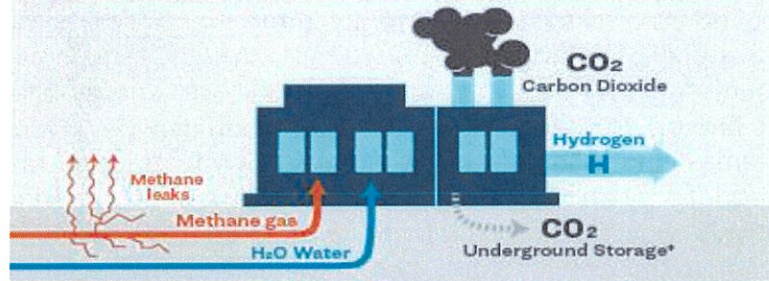
Steam methane reforming process uses methane gas and creates a reaction that results in hydrogen and carbon dioxide, which is released into the atmosphere.



Blue hydrogen plant

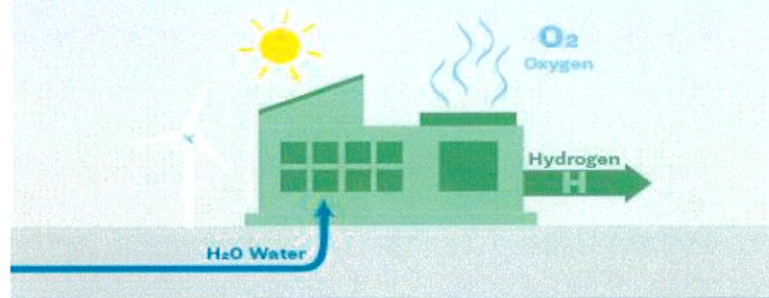
Steam methane reforming process uses methane gas and creates a reaction that results in hydrogen and carbon dioxide. Some of the carbon is captured and stored, while some is released into the atmosphere.

*Underground storage of carbon poses additional environmental issues



Green hydrogen plant

Process uses electrolysis to separate the hydrogen from oxygen in water and is powered with some form of renewable energy. No fossil fuels are used.



Source: Sierra Club

The most common types of hydrogen, their feedstocks, and associated CO2 emissions from production are shown in the table below. Green hydrogen is the only type that the Sierra Club would consider supporting, but even green hydrogen projects should be evaluated on a case-by-case basis.

The Colors of Hydrogen

Green	Electrolysis Splitting of water powered by renewable energy ¹
Blue	Steam Methane Reforming of gas + Carbon Capture and Sequestration Hydrogen from gas with some of the carbon dioxide captured via carbon capture and sequestration
Gray	Steam Methane Reforming² of gas Steam methane reforming, no carbon dioxide capture; most common form globally
Brown	Gasification of coal Hydrogen from coal/lignite, no carbon dioxide capture

Source: Sierra Club

1) For the purpose of this report, “renewable energy” includes wind, solar, or geothermal energy. Industry groups are also using the term “green” hydrogen to include electrolysis powered by biomass or biogas, both of which harm the climate and public health.

2) There is another process that can be used instead of SMR, which is autothermal reforming (ATR). ATR is already used in the production of ammonia and methanol, and is being suggested as a replacement for SMR because it allows carbon capture at higher rates than conventional SMR, at lower cost. See: Gorski, Jan, Jutt, Tahra, Wu, Karen T., “[Carbon intensity of blue hydrogen production](#),” (Pembina Institute, August 2021).



SIERRA
CLUB
FOUNDED 1892

Delta-Sierra Group
Mother Lode Chapter
P.O. Box 9258, Stockton CA 95208

July 15, 2024

Re: Agenda Item #15, July 15, 2024

Good afternoon, Port Commissioners,

My name is Margo Praus and I'm a long-time resident of Stockton. I sit on the AB617 Community Steering Committee which works to improve air quality in the South West Stockton area which surrounds the Port of Stockton. I am the Chair of the Delta-Sierra Group.

Before you consider a term of 10 years with two additional 5 year lease options on Port property, for this polluting, fossil-gas, hydrogen production project proposed by BayoTech, there must be a full Environmental Impact Report prepared for public review. The Mitigated Negative Declaration does NOT adequately address the impacts associated with the project.

In 2020 when the AB617 committee started meeting regularly, the Port started to work on mending its very strained relationship with the community and began meeting regularly per the Port Outreach meetings. They brought information about opportunities to promote cleaner air wherever possible. Some business cannot easily transition to cleaner opportunities, such as large oceangoing, international vessels. But to bring a new, polluting project to the Port without adequate oversight and mitigation, defeats the sincere efforts that have been gradually achieved.

Clean hydrogen is a sustainable solution that the Valley Link project in South County is already committing to. Consider that pathway. Don't add to the pollution burden with the impacts of natural gas pipeline safety and global warming concerns.

Oppose this approval today.

Sincerely,

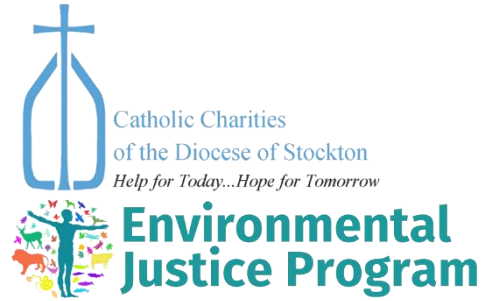
Margo Praus

Chair, Delta-Sierra Group

margopraus@msn.com



SIERRA CLUB
DELTA-SIERRA GROUP
MOTHER LODE CHAPTER



Port of Stockton Commissioners and Staff
2201 West Washington Street
Stockton, California 95203
Via email to mrodriguez@stocktonport.com

7.15.2024

Re: Certification of Final BayoTech Hydrogen Production Project Recirculated IS/MND and Lease Agreement

We, the undersigned, have submitted comments on the first BayoTech Initial Study/Mitigated Negative Declaration (IS/MND) in July 2023, on the Recirculated BayoTech IS/MND in April 2024, or have just learned of this climate warming project.

We request a full Environmental Impact Report analysis in accordance with CEQA for projects that have the potential to significantly impact the environment. We request that the Port Commissioners not approve a 10 year lease with BayoTech with two 5 year options for a fossil gas hydrogen production facility at the Port of Stockton.

While hydrogen is a much-touted new fuel, there are "dirty" types of hydrogen production that serve to extend fossil fuel extraction. One such "dirty" hydrogen is called gray hydrogen; it uses fossil gas methane for energy and feedstock. Methane is a potent fast-acting greenhouse gas that is 80 times more powerful than CO₂ over a twenty-year period until oxidized into CO₂, a greenhouse gas that can last in the atmosphere for ten to thousands of years.¹

GREY Hydrogen	GREEN Hydrogen
Produced from methane aka "natural gas".	Produced from water with solar energy.

Grey hydrogen, like the BayoTech project proposes, perpetuates the extraction of and impacts related to the use of fossil fuels, namely trapping heat that causes global climate warming. Environmental justice groups strongly oppose gray or "dirty" hydrogen projects that use fossil fuels to produce hydrogen gas used as an allegedly low-carbon fuel.

¹ <https://climate.mit.edu/ask-mit/how-do-we-know-how-long-carbon-dioxide-remains-atmosphere>

This BayoTech project would use fossil natural gas amounting to approximately two percent more of all the fossil natural gas used in San Joaquin County. Instead of using more fossil fuel, we should be reducing our use and dependence on fossil fuels.

On the other hand, “green” hydrogen production uses water and renewable energy and is a sustainable solution. For example, the Valley Link Rail Project plans to use green hydrogen and is planning a green hydrogen production facility.² If the Valley Link Rail Project developers found this pathway forward, surely the Port of Stockton can find such partners instead of bringing additional long-term, dirty polluting projects into our community.

Taking action now will affect us long into the future. Let's be thoughtful about our community health and wellbeing. Our region already has some of the worst air quality in the nation, negatively affecting the health of residents.

BayoTech must provide a full environmental impact report for this project, rather than rely on an inadequate negative declaration analysis with some mitigation. A full environmental impact analysis pursuant to CEQA is needed to fully calculate the effect on our community and fully mitigate those impacts. The disadvantaged community residents and the elementary school in the vicinity must be considered and protected. We urge you to not certify the draft Final BayoTech Hydrogen Projection Project Recirculated IS/MND and to require a full environmental impact analysis pursuant to CEQA and postpone finalizing any lease agreements for the BayoTech hydrogen production project.

Sincerely,

Mary Elizabeth, Delta-Sierra Group, melizabeth.sierra@gmail.com

Margo Praus, Delta-Sierra Group, margo.praus@msn.com

Dotty Nygard, CEO, Tracy Earth Project, dotty@tracyearthproject.org

Jonathan Pruitt, Stockton Community Organizer, jonathanpruitt952@gmail.com

Ector Olivares, Catholic Charities of Stockton, eolivares@ccstockton.org

Katya Evanhoe, Tree Stockton Foundation, katyaevanhoe@gmail.com

Julie Dunning, Tree Stockton Foundation, jdsunshine3@att.net

Jan Warren, Interfaith Climate Action Network of Contra Costa County, jtxwarren@gmail.com

Shoshana Wechsler, Sunflower Alliance, swechs@sonic.net

Patricia Barrett, Mineral Baths Community Gardens, patricia_barrett@hotmail.com

Esperanza Vielma, Environmental Justice Coalition for Water. espe@ejc4w.org

Gloria Alonso, Environmental Justice Advocacy Coordinator, gloria@littlemanila.org

Attachments: Coalition letter from July 2023 and April 2024

² Valley Link Rail Project Hydrogen Production Feasibility [Staff Report](#) and [Feasibility Study](#)



Jason Cashman Port of Stockton
Port of Stockton Commissioners
2201 West Washington Street
Stockton, California 95203
Via email to ceqa@stocktonport.com

7.10.2023

Re: Port of Stockton BayoTech Hydrogen Production and Dispensing Facility Project; Initial Study/Mitigated Negative Declaration

Dear Port Commissioners,

The Delta-Sierra Group of the Sierra Club and the undersigned hereby submit an argument that the proposed BayoTech Hydrogen Production and Dispensing Facility Project may have a significant environmental impact even after the proposed mitigation measures are fully implemented. An environmental impact report (EIR) must be prepared because the proposed Project may substantially degrade the quality of the environment. We appreciate the extended time for comment submittal from 6.29.2023 to 7.10.2023 considering the length of the appendices to the BayoTech Initial Study/Mitigated Negative Declaration. In addition to the reference to the 180 day lead agency processing time for negative declaration applications in the extension, California Code of Regulations, Title 14 Section 15107 states:

With private projects involving the issuance of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies, the negative declaration must be completed and approved within 180 days from the date when the lead agency accepted the application as complete. Lead agency procedures may provide that the 180-day time limit may be extended once for a period of not more than 90 days upon consent of the lead agency and the applicant.

Furthermore, The California Code of regulations states:

(a) A lead agency shall provide a notice of intent to adopt a negative declaration or mitigated negative declaration to the public, responsible agencies, trustee agencies, and the county clerk of each county within which the proposed project is located, **sufficiently prior to adoption by the lead agency of the negative declaration or mitigated negative declaration to allow the public and agencies the review period provided under Section 15105.**¹

Prior to determining whether a negative declaration or environmental impact report is required for a project, the lead agency shall consult with all responsible agencies and trustee agencies. Prior to that required consultation, the lead agency may informally contact any of those agencies. Pursuant to the Public Records Act ("Act") (Gov. Code § 7920.000, et seq.) please provide all communications with responsible agencies and trustee agencies regarding whether the BayoTech Hydrogen Production and Dispensing Project required a negative declaration or environment impact report.

The public review time is to occur once the application is accepted or after 30 day if no finding is made.² Then, the lead agency shall determine within 30 days after accepting an application as

¹ [California Code of Regulations \(westlaw.com\)](https://www.westlaw.com/california/coderegs/15105)

² [California Code of Regulations \(westlaw.com\)](https://www.westlaw.com/california/coderegs/15105)

complete whether it intends to prepare an EIR or a negative declaration or use a previously prepared EIR or negative declaration except as provided in Section 15111. The 30 day period may be extended 15 days upon the consent of the lead agency and the project applicant.³

The BayoTech Initial Study/Mitigated Negative Declaration was made available May 30, 2023 for a 30 day public comment period.⁴ The Port of Stockton has been aware of this Project for at least 60 days, likely much longer. No disclosure of the application date was provided to inform the community of the 180 day/270 day consideration period.

The Port Commissioners will decide whether the Project, as put forth in the BayoTech Initial Study/Mitigated Negative Declaration, may have a significant effect on the environment which was not mitigated or avoided and if this is the case, “the lead agency shall prepare a draft EIR and certify a final EIR prior to approving the project. It shall circulate the draft EIR for consultation and review pursuant to Sections 15086 and 15087 and advise reviewers in writing that a proposed negative declaration had previously been circulated for the Project.”⁵

We will provide substantial evidence as fact and fact-based reasonable assumptions or expert opinion⁶ that the BayoTech Initial Study/Mitigated Negative Declaration failed to consider fully the following significant negative environmental impacts and potential significant impacts that may remain for the proposed Project:

- Hydrogen Gas Hazards, Hydrogen Production Process and Dispensing Safety, Natural Gas Supplies, Hydrogen Production Emissions
- Greenhouse Gases, Global Warming Potential, Climate Change, Emissions, and Mitigation Measures
- Environmental Assessment of Odor Impacts
- Mitigation Measures Already Required by Development Code
- Cumulative Impacts from Existing and Proposed Facilities at the Port of Stockton

Project Location

The property is bounded by Forrestal Village Road on the north, west, and south and by Navy Drive on the east; train tracks also encircle the northern part of the property. The site is currently vacant and encompasses approximately 5 acres of undeveloped, graded land as shown below.



The proposed Project would involve issuance of a new lease by the Port to BayoTech with undisclosed terms and conditions, initially for 20 years, to construct a hydrogen gas production, compression, and

³ [California Code of Regulations \(westlaw.com\)](https://www.westlaw.com/california/codes/regulations)

⁴ [Ceqanet](https://ceqanet.org)

⁵ [View Document - California Code of Regulations \(westlaw.com\)](https://www.westlaw.com/california/codes/regulations)

⁶ Introduction to CEQA. <http://www2.courtinfo.ca.gov/protem/courses/ceqa/07-01.htm>

storage facility on an approximately 5-acre vacant parcel. Up to 2,000 kg of hydrogen would be stored on site in fixed storage containers called storage pods. The produced hydrogen is to be used for fueling stationary and mobile fuel cell power applications within the Port (undisclosed proportion) and for fueling stationary and mobile fuel cell power applications for commercial and industrial customers located in the area and/or throughout the region (undisclosed proportion). Hydrogen produced at the facility would be distributed by hydrogen transportation trailers owned by either BayoTech and or various customers. Dispensing the hydrogen into the trailers may take between 1 and 10 hours, and each trailer can carry between 50 and 500 kg of hydrogen, according to the BayoTech Initial Study/Mitigated Negative Declaration.

Hydrogen Gas Hazards

Hydrogen gas (H₂) is highly flammable with lower ignition energies than gasoline or methane (natural gas). Special engineering controls are needed to monitor including leak detection along with special flame detectors because hydrogen burns with a nearly invisible flame.⁷ Hydrogen is a nontoxic and lighter-than-air gas, which negates most risk from inhalation or pooling. However, the U.S. Department of Energy strictly regulates the production, storage, and delivery of hydrogen at high pressure due to its flammability, according to the BayoTech Initial Study/Mitigated Negative Declaration.

Hydrogen gas transportation and storage requires specialized infrastructure to prevent embrittlement of metals, as hydrogen (H₂) is the smallest molecule and can leak through metal or polymer materials as well as through tiny cracks. Hydrogen is an attractive fuel because emissions are only heat and water when combusted. Additionally, hydrogen powered vehicles weigh less, resulting in fuel conversions that are 2 to 3 times more efficient than internal combustion engines using gasoline or diesel.⁸

However, hydrogen gas has been identified as an indirect greenhouse gas (GHG) that causes increases in methane, ozone, and stratospheric water vapor in the atmosphere.⁹ Most of hydrogen's warming impacts occur during the first few decades after its emission. Rapid reduction in greenhouse gas emissions is critical to avoid several tipping points can further contribute to warming impacts.¹⁰ Currently, there are no commercially available leak detection systems for hydrogen that can detect smaller leaks that would have climate warming effects.⁷ Larger leaks can be detected by the sound produced when escaping pressurized vessels.¹¹

Hydrogen gas can be produced using three energy sources: fossil fuels (methane or coal), biogases (renewable and municipal trash), and solar. The type of hydrogen production proposed is from natural gas which produces carbon dioxide without carbon sequestration and is called "gray hydrogen". Approximately 95% of hydrogen produced in the United States is by the reaction of natural gas (methane) with high temperature steam (700°C–1,100°C) in a process known as steam methane reforming (SMR). Generating hydrogen in this manner is carbon intensive and energy intensive relating to energy needed for compressing and cooling the hydrogen gas. Further energy would be required to

⁷ Department of Energy. Safe Use of Hydrogen. Accessed <https://www.energy.gov/eere/fuelcells/safe-use-hydrogen>.

⁸ Department of Energy. Hydrogen's Role in Transportation Accessed <https://www.energy.gov/eere/vehicles/articles/hydrogens-role-transportation>.

⁹ Ocko, I.B and Hamburg, S.P., "Climate consequences of hydrogen emissions" Atmos. Chem. Phys., 2022. Accessed <https://doi.org/10.5194/acp 22-9349-2022>.

¹⁰ Cho, R. "How Close are We to Climate Tipping Points", Columbia Climate School State of the Planet From the Field IPCC Report AR6. 2021 Accessed <https://news.climate.columbia.edu/2021/11/11/how-close-are-we-to-climate-tipping-points/>

¹¹ Mine Safety Appliances (MSA). Working Safely with Hydrogen Understanding Layered Gas Detection and Fire Prevention Technologies. Accessed <https://msa.webdamdb.com/download.php?ti=133037581&tok=1h6uoGWbeBVYxOHuiirNXQRR>

produce liquified hydrogen gas.¹² The quantification of the amount of hydrogen gas that will be stored onsite (310 gallons) suggests that perhaps the Project will include further cooling and compressing of the gas to produce a liquefied hydrogen fuel product instead of a pressured gaseous fuel.

According to the BayoTech Initial Study/Mitigated Negative Declaration H₂ on site storage tanks are described as the following:

- Each pod contains 25 cylinders.
- Pod dimensions are 9 feet wide, 12 feet long, 9 feet high.
- Each cylinder capacity is 310 gallons of H₂ fuel.

Hydrogen Production Process and Dispensing Safety

BayoTech would install two modular steam methane reformers (SMRs), hydrogen pumping equipment, and a central dispensing system, which would produce, store, and distribute gaseous hydrogen. The SMR system reacts natural gas and steam, in the presence of a catalyst, to produce synthesis gas (syngas). Downstream of the SMR, two additional small reactors use the water-gas shift reaction to convert the carbon monoxide (CO) in syngas to carbon dioxide (CO₂). The final step in the process is a purification step, which uses pressure-swing adsorption to produce 99.97% pure hydrogen at a product flow rate of up to 2,000 kg per day (approximately 70 standard cubic feet per day).

The details of the proposed hydrogen production and dispensing processes are further described in the Appendix B Air Quality Results and Assumptions which contained a separate report titled “Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Report” prepared by EnSafe and dated December 2022 (pages 148-1233).

The production process begins with the removal of sulfur-based chemicals using a desulfurization process involving some “filter” which is “assumed” to require replacement annually. Sulfur in the form of mercaptan sulfur is added by Pacific Gas and Electric to all natural gas (methane) transported as a safety measure, allowing olfactory detection if a leak occurs.¹³ Some fraction of the natural gas (methane) supplied to the proposed Project may not be desulfurized before use based on the following information:

The SMR produces syngas from natural gas and steam feedstocks and requires heat which is supplied by the combustion of natural gas and process gases.

The process gases resulting from the production process is described as desulfurized but the natural gas that would be combusted to produce heating energy may or may not be desulfurized. The required full environmental impact analysis should clarify the process so that decision makers and the public can readily understand the processes that would be occurring at the proposed Project.

The proposed facility would operate 24 hours per day, 7 days per week, and 350 days a year producing up to 700,000 kilograms of hydrogen annually using two BayoTech’s H2-1000 Generation Systems and methane (natural gas) supplied by Pacific Gas and Electric utilizing existing Port of Stockton power infrastructure. According to the BayoTech Initial Study/Mitigated Negative Declaration up to 2,000 kg of hydrogen would be stored on site in fixed storage containers called storage pods. The hydrogen gas is compressed and stored in BayoTech’s hydrogen storage pods until being dispensed to transport trailers owned by BayoTech or others. These trailers will transport the produced and compressed hydrogen gas

¹² Ochu, E.R, Braverman, S., Smith, G. and Friedmann J. Hydrogen Fact Sheet: Production of Low-Carbon Hydrogen” Columbia SIPA Center on Global Energy Policy. May 2021. Accessed 6.26.2023 at https://www.energypolicy.columbia.edu/sites/default/files/pictures/HydrogenProduction_CGEP_FactSheet_052621.pdf.

¹³ Pacific Gas and Electric https://www.pge.com/pipeline/library/doing_business/glossary/index.page

to customers in the area (customers throughout the region). The customer service range was not identified in the BayoTech Initial Study/Mitigated Negative Declaration and should have been described in accordance with the California Environmental Quality Act.

The entire hydrogen gas production facility is designed to be operated unattended and monitored remotely from the central control room in Albuquerque, New Mexico. An operator at the Port of Stockton proposed site will primarily assist the truck dispensing operations between the hours of 8:00 AM and 5:00 PM.

Elsewhere in the BayoTech Initial Study/Mitigated Negative Declaration states:

On-site dispensing operations would take place for up to 16 hours per day, between 6:00 a.m. and 10:00 p.m. based upon customer demand, during which time – at a minimum – one trained and qualified BayoTech technician would be present. Typical on-site staff are expected to include one maintenance person during normal operation and one or two truck drivers picking up and dropping off trailers. During shift changes, safety inspections, maintenance, and other normal operations, additional BayoTech or contractor personnel may also be on site.

Based on these conflicting hours needed for dispensing, it is unclear what will happen between the hours of 6:00 to 8:00 AM and 5:00 to 10:00 PM if assistance is needed with dispensing this extremely flammable material or if in fact there will be multiple shifts. Trailer inspections should occur prior to dispensing hydrogen gas, especially since other than BayoTech trailers will be used. Further analysis of the operations is needed, which should be described in the required full environmental impact report analyses.

Information about community hazard analysis was not provided in the BayoTech Initial Study/Mitigated Negative Declaration in the case of communication technology interruptions, whether the trained and qualified BayoTech dispensing operators/maintenance person will be trained to handle emergency responses, or how the remote monitoring will alert Port of Stockton and City of Stockton emergency responders.

The BayoTech Initial Study/Mitigated Negative Declaration, elsewhere described the central control room located in Albuquerque, New Mexico as:

“...production would be remotely monitored and controlled using industry standard control systems and cloud infrastructure from a purpose built, state-of-the-art control center, located at BayoTech’s operational headquarters in Albuquerque, New Mexico.”

No information was provided about the number of monitoring staff at the Albuquerque New Mexico that will be in the central control room or whether the central control room is staffed 24 hours a day. Electrical grid overloads are becoming ever more common, in addition to normal outages related to weather and accidents. How will emergency responders be notified in case of anticipated “malfunctions” if communication technologies are interrupted or there is an electrical outage? Community safety information to mitigate the hazards of hydrogen gas production and handling was not disclosed in the Initial Study/Mitigated Negative Declaration and must be further analyzed in a full environmental impact review analysis.

Natural Gas Supplies

The condition of the Port of Stockton gas infrastructure pipelines for conveying methane from Pacific Gas and Electric supply pipelines to the facility was not discussed. Leaking pipelines are hazardous to

the community and climate. The BayoTech Initial Study/Mitigated Negative Declaration failed to characterize the existing infrastructure that would be used for conveyance of methane or the new infrastructure that is needed. The BayoTech Initial Study/Mitigate Negative Declaration did not indicate that Pacific Gas and Electric will be delivering natural gas at a pressure higher than standard delivery pressure and what if any impact there would be relating to infrastructure or natural gas availability. According to Pacific Gas and Electric, “Gas will normally be delivered at PG&E’s standard delivery pressure of seven inches of water column.” ¹⁴ This standard transmission pressures of 7 inches of water converts to 0.25 pounds per square inch. ¹⁵

The amount of natural gas (methane) used was described in many ways making quantification more difficult as indicated below.

- 1) The total energy input, which is based on the higher heating value of the fuel to be burned, is estimated to be approximately 8,000,000 British thermal units (BTU) per hour.
- 2) Each one of the steam methane reformers require methane at 7,968 standard cubic foot per hour (between 145 pounds per square inch and 175 pounds per square inch)
- 3) Maximum hourly heat input per steam methane reformer unit (4 MMBtu/hour)

The natural gas flow rate proposed 175 pounds per square inch is significantly higher than Pacific Gas and Electric natural gas flow rates of 0.25 pounds per square inch.

Elsewhere, other and even higher natural gas flow rates are described in Table 5 (below) that can be significantly higher than 175 pounds per square inch. Flows up to 291 standard cubic feet per minute, multiplied by 60 minutes/hour yields 17,460 standard cubic feet per hour which is significantly greater than 7,968 standard cubic feet per hour described above.

Table 5
Predicted Daily and Annual Utility Requirements

Utility	Requirements
Pipeline natural gas	142 – 291 standard cubic feet per minute
Electricity (480 volts)	600 – 1,220 kWh per day
Sanitary	1,496 – 2,950 gpd
Potable water	2,993 – 6,118 gpd

The BayoTech Initial Study/Mitigated Negative Declaration failed to clearly describe the amount of natural gas (methane) that will be used to produce hydrogen gas using the steam methane reformer method in plain language so that decision makers and the public can rapidly understand the proposed Project’s impact.

The BayoTech Initial Study/Mitigated Negative Declaration disclosed how much electricity was used in San Joaquin County as follows:

In 2020, total electricity consumption in the County was estimated at 5,736.91 gigawatt hours (CEC 2020b). PG&E has a variety of renewable and non-renewable sources.

Utility-provided energy demand in San Joaquin County has steadily increased and is experiencing the fastest growing customer demand in PG&E’s Stockton Division due to new residential development and growth in the agriculture and industrial sectors (PG&E 2022).

¹⁴ Pacific, Gas, and Electric. Gas Rule No. 2, effective 1.1.2022. Accessed https://www.pge.com/tariffs/assets/pdf/tariffbook/GAS_RULES_2.pdf

¹⁵ Engineering Toolbox. Accessed https://www.engineeringtoolbox.com/pressure-units-converter-d_569.html

The (PG&E 2022) reference: PG&E, 2022. Company Profile. Accessed October 26, 2022. Available at: https://www.pge.com/en_US/about-pge/company-information/profile/profile.page did not contain any specific San Joaquin Data nor data regarding the Stockton Division.

A citation was provided for total natural gas (methane) consumption in San Joaquin County, but the actual amount was not included in the BayoTech Initial Study/Mitigated Negative Declaration:

CEC, 2020c. Gas Consumption by County. Accessed August 29, 2022. Available at: <http://www.ecdms.energy.ca.gov/gasbycounty.aspx>.

The following information was obtained from the California Energy Commission website for energy consumption in 2021 for San Joaquin County.¹⁶

San Joaquin County Energy Use	Natural Gas (Millions of Therms)	Electricity (GWh or Million KWh)
Residential	96.14	2125.38
Non-Residential	90.18	3482.68
Total	186.32	5608.06

The relationship between Therms and British Thermal Units (BTU) is 1 Therm equals 100,000 BTU.¹⁷ Eight million BTU/hour would equate to 80 Therms per hour or 1920 Therms per day or 700,800 Therms per year. The proposed BayoTech Hydrogen Production and Distribution Facility would represent approximately a one percent increase in total natural gas (methane) usage COUNTYWIDE. No evaluation was provided of the relative proportion of natural gas (methane) that will be used to the City of Stockton's use, where the proposed Project is to be located. Whether this increased use is significant or not is not discussed and analysis to determine whether the proposed Project may represent a significant increase in energy usage is required by the California Environmental Quality Act, including possible impacts on the physical environment including infrastructure associated with conveyance of the natural gas through the San Joaquin-Sacramento Delta under increased subsidence and sea level rise conditions associated with Project's analysis of climate change conditions.

Hydrogen Production Emissions

Hydrogen production emissions occur during two production processes, start-up and operations emission. The expected startup emissions for each steam methane reformer will occur 12 times per year and were quantified as such. These startup events will vent emissions of syngas formed during the steam methane reaction that contain mostly H₂ (hydrogen gas), CH₄ (methane), CO₂ (carbon dioxide), and CO (carbon monoxide).

No quantification of emissions resulting from "up-set" conditions, "shut-down", or "malfunction event" conditions was included in the BayoTech Initial Study/Mitigated Negative Declaration, except that the occasions were "rare" which was undefined.

"On rare occasions, start-up conditions and up-set conditions would result in syngas releases into a vent dedicated for the control of releases during such start-up, shut-down, and malfunction events."

Quantification of this syngas emissions over the 12 hour period when venting during startup operations is described as follows which does not include up-starts, shut-down or malfunction events.

¹⁶ California Energy Commission Energy Usage by County. Accessed 7.3.2023 at <https://ecdms.energy.ca.gov/>

¹⁷ Units and Calculators Explained, U.S. Energy Information Administration. <https://www.eia.gov/energyexplained/units-and-calculators/british-thermal-units.php>

Start-up Emissions – 12 hours of Venting per start-up per H2-1000 unit

SMR Start-up venting with two H2-1000 Units

Maximum Potential to Emit Project Start-up Venting Emissions (two H2-1000 unit)				
Syngas Component	Pounds per Day ¹	Tons per Year ²	GWP ⁽⁴⁾	Metric tons/year
Hydrogen (H ₂)	9.76	0.06		
Methane (CH ₄)	22.2	0.13	25	3.02
Carbon Dioxide (CO ₂)	250.16	1.50	1	1.36
Carbon Monoxide (CO)	5.16	0.03		4.38
Nitrogen (N ₂)	261.24	1.57		
Water vapor (H ₂ O)	1.24	0.01		

*Notes: BayoTech H2-1000
Emission Start-up Data for
two units, October 2022.*

The form of nitrogen that will be vented during startup was not disclosed in the text description of startup operations but was described in tabular form as nitrogen gas (N₂). Ancillary to the steam methane reformer unit is the selective catalytic reduction (SCR) unit which is described as a post-flue gas treatment. The selective catalytic reduction unit uses anhydrous ammonia (NH₃) as a reducing agent which is introduced into the flue gas stream to reduce NO_x emissions to nitrogen gas (N₂) when in contact with a catalyst. The startup emissions were not adequately described to determine whether NO_x will be emitted. Further description of the process is needed.

The operational emissions (flue-gas exhaust) have been estimated using BayoTech 2022 data as 59.7% nitrogen, 3.7% oxygen, 21.9% CO₂, 14.7% water, 5 ppm of NO_x (with SCR), and trace amounts of CO (at 76 ppm), PM (at 7 ppm) and volatile organic compound (VOC) (at 5 ppm) and will be further discussed below.

Greenhouse Gases, Global Warming Potential, Climate Change, Emissions, and Mitigation Measures

The BayoTech Initial Study/Mitigated Negative Declaration cited the white paper prepared by the University of California Berkeley and the California Board of Forestry and Fire Protection, entitled “*Introduction to the Hydrogen Market in California*” as the source for the statement “Previous modelling approaches have estimated that hydrogen could play an important role in decarbonization of transportation, as well as buildings and industry sectors.” This 2020 memo was a draft for public comment relating to the use of forestry products.

Atmospheric chemistry of greenhouse gases is an ever-expanding science, as more information has been collected, further interactions have been identified. One such interaction involves hydrogen gas releases to the environment. As stated previously, hydrogen gas is “lighter than air” which is of benefit to ground level atmospheric conditions but creates a source of greenhouse gas at higher atmospheric elevations. Currently, there are no commercially available leak-detection systems for hydrogen that can detect smaller leaks that would have climate warming effects.⁸

The BayoTech Initial Study/Mitigated Negative Declaration described the handling of the transport trailers as followed:

A filling operator would hook up returned empty truck trailers and vent any residual H₂ through the manifold vent stack during the dayshift (between the hours of 8 am and 5 pm) so that truck operators could come in during any hour, connect to an empty trailer, and then safely fill a trailer.

The BayoTech Initial Study/Mitigated Negative Declaration failed to include quantification of the “residual H₂” that would be vented into the atmosphere.

The following graphic from “Climate Consequences of Hydrogen Emissions” shows the relationship between hydrogen gas and hydroxide (OH). As H₂ gas increases, the methane oxidizing hydroxide decreases. With decreased availability of hydroxide to oxidize methane, the methane residence time in the atmosphere and global warming potential increases.⁸

I. B. Ocko and S. P. Hamburg: Climate consequences of hydrogen emissions

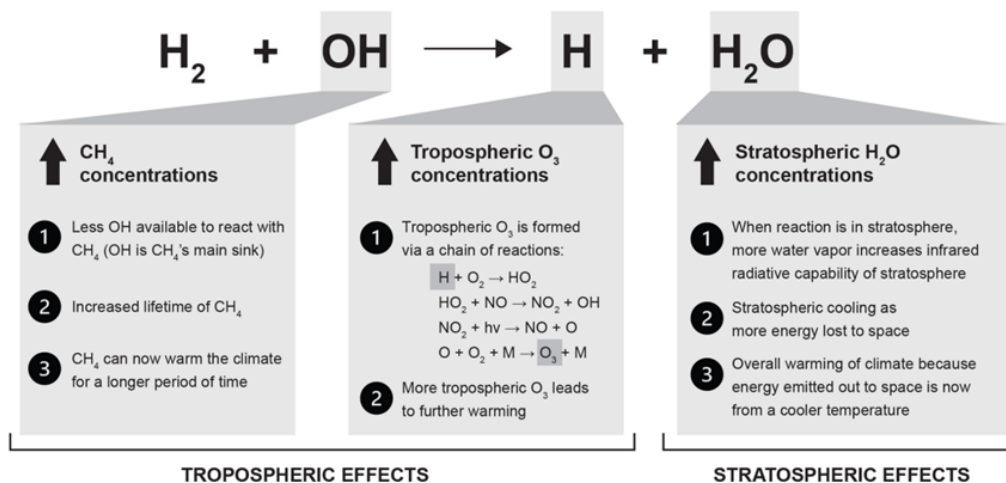


Figure 1. Effects of hydrogen oxidation on atmospheric greenhouse gas concentrations and warming.

The United States Environmental Protection Agency estimates that methane (CH₄) has a global warming potential (GWP) of 27-30 over a period of 100 years whereas carbon dioxide (CO₂) has a GWP of 1.¹⁸ Methane emissions last in the atmosphere about a decade on average given sufficient oxidation potential, which is much less time than carbon dioxide whose atmospheric lifetime is on the scale of thousands of years. But because methane absorbs much more energy than carbon dioxide, methane has a much higher GWP than carbon dioxide. The methane GWP also accounts for some indirect effects, such as the fact that methane is a precursor to ozone, and ozone is itself a greenhouse gas.

The BayoTech Initial Study/Mitigated Negative Declaration stated that for greenhouse gas emissions analysis, methane is assumed to have a GWP of 21 over a 100 year period. This represents a significant underestimation of the potential effects related to operations involving the use of methane to produce hydrogen gas, between 22% and 30% underestimated.

$$\frac{27 - 21}{27} \times 100 = 22\% \quad \text{and} \quad \frac{30 - 21}{30} \times 100 = 30\%$$

No reference was provided in the BayoTech Initial Study/Mitigated Negative Declaration for the use of a global warming potential of 21 for methane.

The December 2022 “Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Report” prepared by EnSafe in the BayoTech Initial Study/Mitigated Negative Declaration Appendix B included the following Table: Total Emission Rates for one H₂-1000 unit using BayoTech Data. This table uses 25 for the global warming potential of methane emissions and noted that this data came from the IPCC second and fourth assessment report.

¹⁸ <https://www.epa.gov/ghgemissions/understanding-global-warming-potentials>

Operational Emissions

Total Emission Rates for one H2-1000 unit using BayoTech Data						
Criteria Pollutant	Emission Factor (ppmw) ⁽¹⁾	Potential Criteria Pollutant Emissions				
		lb/hr	lb/day	lb/yr	tons/year	
NO _x	5	0.022	0.52	191	0.095	
CO	76	0.331	7.94	2,897	1.448	
VOC	5	0.022	0.52	191	0.095	
PM/PM ₁₀	7	0.030	0.73	267	0.133	
SO ₂	0.6	0.002	0.06	21	0.010	
Max Single HAP (Hexane)	1.6	0.007	0.17	61	0.030	
Total HAP	1.7	0.007	0.17	63	0.032	

Greenhouse Gas Emissions	Emission Factor (ppmw) ⁽³⁾	Potential GHG Emissions				GWP ⁽⁴⁾	Metric tons/year
		lb/hr ⁽¹⁾	lb/day	lb/yr	Metric tons/year		
CO ₂	219000	953	22,869	8,347,212	3,786	1	3,786.23
CH ₄	2	0.01	0.24	88	0.04	25	0.99
N ₂ O	1	0.00	0.06	23	0.01	298	3.09
							3,790.32

Notes:

(1) BayoTech H2-1000 Unit Emission Data Sheet with Low NO_x Burner and SCR device. October 7, 2022

(2) Based on U.S. EPA AP-42 Section 1.4, Table 1.4-1. and Table 1.4-2 for Natural Gas Combustion

(3) GHG emission factors are based on BayoTech H2-1000 Unit Emission Data

(4) GHG resultant values includes the 100-yr global warming potential (GWP) values from the IPCC second assessment report (SAR) and fourth assessment report (AR4).

The United States Environmental Protection Agency uses 27-30 global warming potential factors over a 100 year period for methane in compliance with international greenhouse gas (GHG) reporting standards under the United Nations Framework Convention on Climate Change (UNFCCC). UNFCCC guidelines now require the use of the GWP values from the IPCC's Fifth Assessment Report (AR5), published in 2013.¹⁷

Recently, the United States Environmental Protection Agency published interim guidance in the Federal Register /Vol. 88, No. 5 /Monday, January 9, 2023 /Notices pg1199:¹⁹

“Methane is a potent greenhouse gas over a 100-year period, the emissions of a ton of methane contribute 28 to 36 times as much to global warming as a ton of carbon dioxide. Over a 20-year timeframe, methane is about 84 times as potent as carbon dioxide.”

Carbon dioxide levels in the atmosphere continue to rise and as of 2021 atmospheric levels of 414.21 ppm were reported.¹⁸ Evidence has long been available showing that hydrogen production from fossil fuels without carbon sequestration is not “clean” because emissions of greenhouse gases occur during production instead of combustion as is the case for fossil fuels. Carbon dioxide is produced during hydrogen gas formation and during the process of energy conversions from methane to hydrogen gas.

The local agencies most relevant to the Project, the San Joaquin Valley Air Pollution Control District and City of Stockton use an analysis of impacts, business as usual (BAU), which has been found unusable after a 2015 California Supreme Court ruling in Center for Biological Diversity v. California Department of Fish and Wildlife, according to the BayoTech Initial Study/Mitigated Negative Declaration. The BayoTech Port of Stockton greenhouse gas emission threshold for significant was determined based on the South Coast Air Quality Management District thresholds which showed a level of significance greater than 10,000 million tons of CO₂e (carbon dioxide equivalence) per year. According to the BayoTech Initial Study/Mitigated Negative Declaration, the South Coast Air Quality Management District screen values, Tier 3, construction emissions are averaged over 30 years and are added to the Project’s operational emissions. Instead, and more conservatively, the BayoTech Port of Stockton impact evaluation amortized greenhouse gases relating to construction over a 20-year period (the project lease under a land use agreement with the Port of Stockton) as shown below in Table 12

¹⁹ Federal Register/Vol.88, No.5/Monday, January 9, 2023. Effective Interim Guidance Accessed at: <https://www.govinfo.gov/content/pkg/FR-2023-01-09/pdf/2023-00158.pdf>

from the BayoTech Initial Study/Mitigated Negative Declaration. Table 12 shows that greenhouse gas emissions from the proposed Project and amortized construction related greenhouse gas emissions will significantly affect the environment, based on the South Coast Air Quality Management District criteria.

Table 12
Operational Greenhouse Gas Emissions

Sources	Annual GHG Emissions (MT per year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
H2-1000 Unit #1	3,786.23	0.99	3.09	3,790
H2-1000 Unit #2	3,786.23	0.99	3.09	3,790
H2-1000 Units 1 & 2 Start-up Venting Emissions	1.36	3.02	0	4
Area	0.01	<0.005	<0.005	0.01
Energy Consumption	2,401	0.17	0.02	2,412
Mobile (vehicle tailpipe emissions)	2,223	0.04	0.34	2,328
Solid Waste (generation and transport)	0	0	0	0
Water Consumption	1.1	0.04	<0.005	2
Total Operational GHG Emissions				12,327
Total Construction GHG Emissions (amortized, from Table 11)				5.95
Total Combined Construction and Operational GHG Emissions				12,333
Threshold				10,000
Exceed Threshold?				Yes

Note:

Emissions may not precisely sum due to rounding.

As discussed previously, the numbers representing carbon dioxide equivalence for methane emissions are low and no hydrogen gas emissions were included in the greenhouse gas emissions analysis indicating that the level of analysis performed did not fully account for the greenhouse gas production associated with the proposed Project's operations.

The BayoTech Initial Study/Mitigated Negative Declaration characterized correctly that the greenhouse effect keeps the Earth's atmosphere near the surface warmer than without any greenhouse gases that trap heat that would otherwise leave the atmosphere. Without the greenhouse gases Earth would be too cold for water-based organisms, such as exist on our planet.

Global warming environmental changes in California include:

- rising temperatures with an increased number of excessive heat days,
- changes in crops relating to higher temperatures with increased evaporation rates,
- drought, and
- lack of frost days necessary for many fruits.

Other local impacts include:

- worsening air quality problems,
- a reduction in municipal water supply due to reduced Sierra snowpack,
- sea level rise, and
- increases in wildfires relating to drought and changes in terrestrial ecosystems.

Public health is also affected by rising temperature, air pollutants, and increased infectious disease rates. These global warming effects were cited in the Initial Study/Mitigated Negative Declaration to have been from the Climate Change Center's California Changing Climate 2018: A summary of the Key Findings from California's Fourth Climate Change Assessment.²⁰

²⁰ <https://www.climateassessment.ca.gov/state/overview/>

The Fourth Climate Assessment also included “High Resolution Measurement of Levee Subsidence related to Energy Infrastructure in the Sacramento-San Joaquin Delta”.²¹ The Delta was “once a great marsh, the Delta now is a network of channels and sunken “islands” that cover—together with Suisun Marsh—about 1,300 square miles. Laid over those islands and channels is the infrastructure of a twenty-first century economy: water supply conduits; major arteries of the state’s electrical grid; natural gas fields, storage facilities, and pipelines; highways and railways; and shipping channels, all surrounded by an increasingly urban landscape.”²²

Subsidence is the sinking of the ground because of underground material movement and is most often caused by the removal of water, oil, natural gas, or mineral resources out of the ground by pumping, fracking, or mining activities.²³ Due to shallow groundwater and reduced water quality, farmers in the Delta do not typically extract groundwater. The only extraction done in the Delta is natural gas. In addition to natural gas extraction which may or may not affect subsidence rates, microbes oxidize the peat soils, high in organic carbon, when exposed to the atmosphere. This aspect of ground level lowering is thought to be the most important factor. There are important efforts being made to reduce subsidence in the Delta. These efforts to reduce subsidence involve enhanced deposition of vegetation at considerable costs.²⁴ Reducing subsidence is important for existing natural gas (methane) infrastructure safety.

To meet California’s climate goals, use of fossil fuels like natural gas will need to decrease by 80 percent or more by 2050. This means that the source of the natural gas (methane) for hydrogen gas production that is proposed should not be considered to comply with existing plans since natural gas uses will be increased. Hydrogen gas will be an important alternate fuel as described previously and will be produced using renewable energy and the process of electrolysis.²⁵ Hydrogen produced using natural gas (methane) without carbon sequestration is not renewable, not sustainable, and does not reduce carbon dioxide emissions necessary to meet California’s climate goals. During the writing of this comment letter, the Earth experienced the highest average temperature ever recorded relating to natural cycles and increased greenhouse gas emissions.²⁶

The proposed BayoTech production and dispensing facility will produce 2000 kg/day of hydrogen gas which correlates to 700,000 kg yearly, if operating 350 days as indicated. This level of production reportedly will result in the production of 12,333 metric tons of carbon dioxide equivalence per year or 12,333,000 kilograms of carbon dioxide equivalence. However, the BayoTech Initial Study/Mitigated Negative Declaration only proposes to mitigate 2,333 metric tons of carbon dioxide equivalence to under level of significance ignoring that the baseline for the proposed site has zero carbon dioxide emissions. This doing business as usual – every project approval – allowing 10,000 metric tons of

²¹ Brooks, Benjamin A., Jennifer Telling, Todd Ericksen, Craig L. Glennie, Noah Knowles, Dan Cayan, Darren Hauser, Adam LeWinter. (U.S. Geological Survey). 2018. “High Resolution Measurement of Levee Subsidence Related to Energy Infrastructure in the Sacramento-San Joaquin Delta. California’s Fourth Climate Change Assessment”, California Energy Commission. Publication Number: CCA4-CEC-2018-003. Accessed at https://www.energy.ca.gov/sites/default/files/2019-11/Energy_CCA4-CEC-2018-003_ADA.pdf

²² Delta Stewardship Council. 2013. “The Delta Plan”. Accessed at <https://deltacouncil.ca.gov/pdf/delta-plan.pdf>

²³ <https://oceanservice.noaa.gov/facts/subsidence.html>

²⁴ Delta Stewardship County. Subsidence Reversal for Tidal Reconnection. 1.18.2023. Accessed <https://viewperformance.deltacouncil.ca.gov/pm/subsidence-reversal-tidal-reconnection>

²⁵ California Energy Commission. 2020. “The Challenge of Retail Gas in California’s Low-Carbon Future Technology Options, Customer Costs, and Public Health Benefits of Reducing Natural Gas Use”. Accessed <https://www.energy.ca.gov/sites/default/files/2021-06/cec-500-2019-055-f.pdf>

²⁶ Jacobo, Julie. “Earth reaches hottest day ever recorded 4 days in a row”. ABC News. 7.7.2023. Accessed <https://abcnews.go.com/US/4th-july-breaks-record-highest-temperature-measured/story?id=100702850>

carbon dioxide equivalence will continue the growth of carbon emissions responsible for climate change effects that are affecting our community and beyond. People are suffering from the effects of increased carbon dioxide and other greenhouse gas emissions in the atmosphere.

In making legal findings, the State of California, Court of Appeal, Fourth Appellate District, Division One stated:²⁷

“To meet legislative GHG emission reduction targets, CARB recommends reducing emissions to six MTCO₂e per capita by year 2030 and to two MTCO₂e per capita by 2050. This is equivalent to reducing 2014 emissions by 40 percent (by 2030) and 77 percent (by 2050).”

Taking up carbon dioxide through sequestration and making changes to the business as usual approach are needed to slow carbon dioxide emissions and reduce use of short-term greenhouse gases with high global warming effects.

The proposal that all of the carbon dioxide produced does not require mitigation ignores the efforts made at a local level to reduce carbon dioxide emission and imposes a burden on the community to mitigate the full emissions from the proposed BayoTech Project to achieve California’s climate change goals.

Not only did the BayoTech Initial Study/Mitigated Negative Declaration fail to propose to fully mitigate the carbon dioxide emissions but the proposed mitigation measure involved the purchasing of “renewable natural gas using “book and claim” credits in accordance with California LCFS methodology according to the California Air Resources Board.” The low carbon fuel standard (LCFS) includes “book and claim” credit for full term analyses of greenhouse gas emissions from fuel production through tailpipe emissions.

Further, the BayoTech Initial Study/Mitigated Negative Declaration included the following statement suggesting that the hydrogen gas produced would be marketable as an eligible fuel for credit purchasing.

Hydrogen fuel from steam methane reformation, such as that produced by the proposed Project, is eligible for LCFS credit generation via fuel pathway. Credit values are calculated accounting for the carbon intensity of the mode of production compared to the fuel it would replace; therefore, assigned LCFS credits represent a net reduction in CO₂ from fuel generated or dispensed in the state.

No energy conversion is 100% efficient. Energy is used and lost during the steam methane reformer process converting natural gas (methane) to hydrogen gas. The LCFS data indicate that the conversion is 72% efficient.²⁸ Low carbon fuel does not represent greenhouse gas reductions, only a lessening of the greenhouse gases emitted and their subsequent effect on climate change. Any credits related to hydrogen gas under the existing LCFS will be reduced over time and will further be reduced because when credits are assigned, a lifecycle approach is applied. Any plans to sell the credits as if the hydrogen that was produced was “blue” with carbon sequestration will be significantly reduced as only “grey” hydrogen gas will be produced. These low carbon fuel credits do not reduce the requirement for BayoTech to mitigate negative impacts associated with the proposed Project under the California Environmental Quality Act. The BayoTech Initial Study/Mitigated Negative Declaration failed to fully

²⁷ Golden Door Properties v County of San Diego. Accessed <https://ceqaportal.org/decisions/1943/Golden%20Door%20Properties,%20LLC%20v.%20County%20of%20San%20Diego.pdf>

²⁸ CA-GREET3.0 Lookup Table Pathways – Technical Support Documentation. Pg 38. Accessed: <https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/ca-greet/lut-doc.pdf>

mitigate the carbon dioxide produced, leaving on the debit side global warming potential gases affecting climate.

The BayoTech Initial Study/Mitigated Negative Declaration proposed to mitigate greenhouse gas produced, as a result of the production and dispensing of hydrogen gas from natural gas (methane), without carbon sequestration:

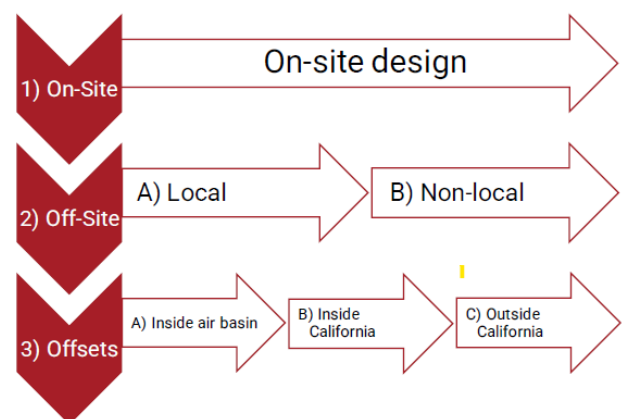
GHG-MM-1: Renewable Natural Gas (RNG). BayoTech will acquire RNG in sufficient quantity and carbon intensity to reduce the net carbon emissions of the fuel stock used in hydrogen production by an equivalent of 2,334 MT of CO₂e per year, below the threshold of significance. BayoTech will provide the Port with annual reports of RNG purchase records and overall fuel consumption to demonstrate the required carbon emission reduction (2,334 MT per year). The reports must identify the quantity of RNG and traditional natural gas consumed and fully document the availability of RNG. To meet the requirements of this mitigation measure, RNG can be acquired directly or acquired utilizing a certified book and claim accounting methodology in order to meet project demand.

The renewable natural gas which is pipeline quality gas produced from a renewable source including livestock waste, landfills, wastewater sludge, food waste, and other organic waste operations. RNG is essentially captured biogas (gas produced from the decomposition of organic matter) that has been processed to purity standards. Typically, a lifecycle approach is used to calculate the GHG emissions associated with RNG, including energy used to convert the organic material or waste to biomethane, and any methane leaks along the supply chain, as well as all avoided emissions resulting from the project. If the biogas is produced from waste rather than crops grown to generate natural gas, RNG avoids more emissions than it generates, leading to a net-negative carbon intensity. Although BayoTech would use natural gas procured from existing physical utility distribution pipelines, the use of RNG would be facilitated using the “Book and Claim” credits, based on the purchased environmental attributes of RNG produced at other locations, in accordance with established California LCFS methodology, according to CARB. These credits may be procured by BayoTech and/or in coordination with suppliers and customers within the hydrogen value chain.

The source of these fuels has not been identified nor was a selection hierarchy provided. As a general rule, offsets purchased in the general area of the Project are preferred if onsite mitigations are insufficient as shown in the CARB Scoping Plan GHG Reduction and Mitigation Hierarchy shown on the right.²⁹

No analysis of more defined and feasible mitigation measures was provided to substantially show that the mitigation selected was adequate to mitigate the significant increased energy use and greenhouse gas emissions that have global warming potential. Nor were these “offsets” shown to be additional.

In addition to the proposed offset of 2,333 metric tons of carbon dioxide equivalence, direct investment projects that reduce, avoid, or sequester GHG emissions must be included to fully mitigate the 10,000



²⁹ Office of Planning and Research. CEQA 202 Series: Greenhouse Gas Emissions. 4.18.2023. Accessed https://opr.ca.gov/ceqa/docs/20230517-CEQA_202_GHGAnalysis_Slides.pdf

metric tons of carbon dioxide equivalence that remain. For example, BayoTech could invest in a weatherization project that reduces carbon emissions within the community while also reducing residents' heating and cooling expenses. Other direct investment projects are urban forest and urban tree planting and the installation of solar panels on the property or elsewhere on Port of Stockton property or in Stockton. During the development of the environmental impact report, community meetings should be held for residents, in person, to become informed of the Project's environmental impacts, planned mitigation, and Port of Stockton's emergency responses related to the hazards of hydrogen gas produced at the proposed location.

The BayoTech Initial Study/Mitigation Negative Declaration failed to adequately characterize the global warming potential of the Project operations providing evidence to support a fair argument of potentially significant environmental impacts triggering a requirement for a full environmental impact analysis under the California Environmental Quality Act.

Environmental Assessment of Odor Impacts

As an aside on page 74 of the Initial Study/Mitigated Negative Declaration, BayoTech revealed the following:

Additionally, anhydrous ammonia will be used in the SCR unit for abatement of NO_x.

Anhydrous ammonia will be delivered by suppliers to storage tanks designed specifically for that purpose. From the tanks, the ammonia will feed directly into the SCR unit. The 10-cubic-foot SCR unit will emit ammonia from the deaerator vent to not exceed the permitted limit of 10 ppm.

BayoTech has plans to install two modular steam methane reformers (SMRs), hydrogen pumping equipment, and a central dispensing system, which would produce, store, and distribute gaseous hydrogen. Two SCR units operating simultaneously would double ammonia emissions.

According to the Public Health Statement prepared by the United States Center for Disease Control: Ammonia has a very strong odor that is irritating and when in the air is detectible at a level higher than 5 ppm and low levels of ammonia may harm some people with asthma and other sensitive individuals.³⁰ Without disclosure of other odor producing facilities in the vicinity of the proposed Project the cumulative impacts relating to odor cannot be determined. The regulatory agency that enforces odor impacts, the San Joaquin Valley Air Pollution Control District has not established cumulative significance thresholds regarding odor impacts. Regardless, of whether or not the regulatory agency has established standards for a negative environmental impact, disclosure of those impacts are necessary

The BayoTech Initial Study/Mitigated Negative Declaration stated that "the facility itself would not generate odors during operation." This statement is in direct conflict with statement that ammonia from the deaerator vent that is part of the selective catalytic reduction module (SCR) will be emitted at levels not to exceed 10 ppm.

Regardless that the San Joaquin Valley Air Pollution Control District has not developed screening distances for hydrogen fueling facilities, the BayoTech Initial Study/Mitigated Negative Declaration states: "If a project would result in an odor source with sensitive receptors located within 1 — 2 miles screening distances, additional analysis would be required."

Sensitive receptors identified by BayoTech include residential houses located 4600 feet to the north and the nearest school is Washington Elementary located 7200 feet, both within 2 miles of the proposed

³⁰ <https://wwwn.cdc.gov/TSP/PHS/PHS.aspx?phsid=9&toxid=2>

hydrogen production and distribution facility. Thus, according to the BayoTech Initial Study/Mitigated Negative Declaration additional analysis is required.

The median asthma incidence across the United States and Territories is 9.6% for adults and 7.4% for children.³¹ In California the incidence is higher with 16.2% for adults and 11.9% for children. In San Joaquin County the asthma incidence is 14.6% for adults and unfortunately 19.5% for children.³²

The CalEnviroScreen 4.0 from the California Office of Environmental Health Hazard Assessment ranks the Census Tract where the proposed Project is located as having a very high pollutant burden and a 96 percentile asthma incidence as shown right.³³

Further analysis and mitigation of impacts associated with the use of anhydrous ammonia and venting of flue gases is necessary to reduce impacts to the neighboring community.

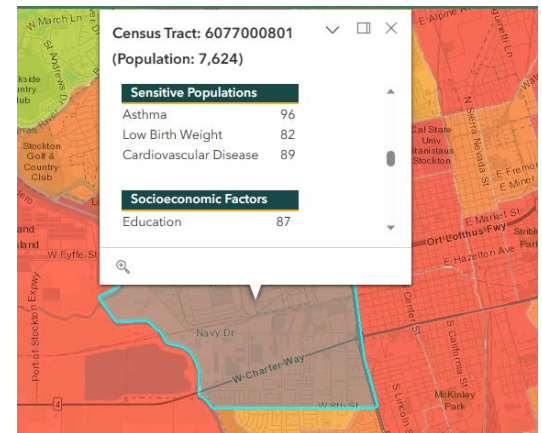
Mitigation Measures Already Required by Development Code

Light/Glare Mitigation Measures: The following mitigation measure would be implemented to reduce potential glare impacts:

“AES-MM-1: Use of full cut-off light shields and/or anti-glare lighting. The proposed project will include construction elements that would lessen impacts of light and/or glare, such as full cut-off light shields and/or anti-glare lighting.”

The City of Stockton Development Code already requires that “lighting sources shall be shielded to avoid glare in compliance with the Development Code (Light and Glare). To minimize the total number of freestanding light standards, wall mounted lights should be utilized whenever possible.”³⁴ As the City already requires shielding this should not have been identified as a mitigation measure. City of Stockton building permits are required and will include a review of compliance with the existing development code at the time the building permit application is submitted. The BayoTech Initial Study/Mitigated Negative Declaration states that the proposed Project is expected to create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

No quantitation of the expected amount of substantial light or glare that is anticipated was provided in the BayoTech Initial Study/Mitigated Negative Declaration. The City’s requirements outlined in the proposed mitigation measure AES-MM-1 is not a mitigation measure as it is already required. If additional mitigation measures are needed vegetative barriers should have been proposed to reduce negative impacts to the neighboring community as shown on the cover of the BayoTech Initial Study/Mitigated Negative Declaration, above. Urban darkness has been shown to lessen the effects of artificial light on



³¹ <https://www.cdc.gov/asthma/data-visualizations/default.htm>

³² <https://www.cdph.ca.gov/Programs/CCDC/DEOD/CEHIB/CPE/Pages/CaliforniaBreathingCountyAsthmaProfiles.aspx>

³³ https://experience.arcgis.com/experience/11d2f52282a54cee6184203/page/CalEnviroScreen-4_0/

³⁴ City of Stockton <http://www.stocktongov.com/government/departments/permitCenter/planDesign.html>

health outcomes including depression and sleep disorders.³⁵ Full mitigation of light and glare effects is needed in our community.

Cumulative Impact from existing and proposed facilities at the Port of Stockton

No cumulative impact analysis, related to the effects of past projects, the effects of other current projects, and the effects of probable future projects, was performed because the BayoTech Initial Study/Mitigate Declaration stated:

“The proposed project would result in minimal less-than-significant impacts, some of which require mitigation. The proposed project’s operations were specifically designed to avoid significant air quality, GHG, noise, and transportation impacts. Therefore, the proposed project would result in less-than-significant impacts as related to cumulative impacts.”

No listing of existing greenhouse gas emitting processes at the Port of Stockton, nor proposed projects was provided to suggest that an adequate cumulative impact analysis was performed. The largest emitters of pollutants and greenhouse gases are related to the Port of Stockton on and off-site including a biomass energy conversion plant.³⁶ While the Port of Stockton has made efforts to characterize onsite emissions and to take advantage of incentive opportunities to increase use of electric equipment, high carbon emitting projects exist under lease and are proposed.

Sierra Club California just signed on to a letter “Scoping Comments on the Reissued Notice of Preparation of a Draft Environmental Impact Report for the Golden State Natural Resources Forest Resiliency Demonstration Project”.³⁷ The proposed wood pellet production facilities are projected to produce one million metric tons of wood pellets each year (700,000 metric tons/year at the Lassen facility and 300,000 metric tons/year at the Tuolumne facility) – making these two facilities as big as the polluting Enviva facilities in the Eastern United States.

The construction and operation of wood pellet storage and handling facilities, along with increased truck and rail traffic through neighborhoods surrounding the Port of Stockton, will be responsible for a massive increase in ocean going vessel traffic, the dirtiest engines in our community. Increased truck, rail, and ocean going vessel travel in the area of the Port of Stockton will increase pollutant exposure of already disproportionate burdened Stocktonians. With these air pollutants come greenhouse gases and with those wood pellet storage and handling facilities comes significant fire risk contributing to the already identified impacts associated with the BayoTech Hydrogen Production/Dispensing proposed Project. Cumulative impacts must be evaluated in the required environmental impact review.

The Manteca Bulletin published the press release associated with the comment letter on the notice of preparation including the following local comments:³⁸

“I simply want to express my opposition to this project. It is unacceptable that our environmental justice community has been overlooked during the scoping process simply under the pretense of achieving ‘efficiency,’” noted Gloria Alonso Cruz, environmental justice advocacy coordinator

³⁵ <https://www.darksky.org/light-pollution/human-health>

³⁶ <https://biomassmagazine.com/articles/10146/dte-energys-northern-california-biomass-plant-begins-operations>

³⁷ Golden State Financing Authority. “Scoping Comments on the Reissued Notice of Preparation of a Draft Environmental Impact Report for the Golden State Natural Resources Forest Resiliency Demonstration Project”. 6.30.2023. Accessed <https://www.pfpi.net/wp-content/uploads/2023/06/JointScopingCommentsonGSNRWoodPelletProject63023.pdf>

³⁸ Manteca Bulletin. Wood Pellet Plan Could Impact SJ County Air Quality. 7.4.2023. Accessed <https://www.mantecabulletin.com/news/local-news/wood-pellet-plan-could-impact-sj-county-air-quality/>

with Little Manila Rising in Stockton. “This is particularly critical due to the air pollution threats this project poses, given the already existing air pollution conditions impacting Stockton on a daily basis.”

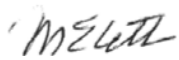
Stockton resident Mary Elizabeth, conservation chair of the Delta-Sierra Group of the Sierra Club, indicated “Increased fire risks associated with stockpiled pellets directly puts Stockton residents at risk,” Elizabeth also said the proposed project will erase the Port’s positive actions and further degrade air with increased pollutant emissions from more truck, rail and marine trips.

“Port communities like Richmond and Stockton are already overburdened with severe health risks from toxic air pollution,” said Janet Scoll Johnson, co-coordinator at Sunflower Alliance. “That’s why Richmond said ‘no’ to wood pellet handling and storage at our port. We need sustainable economic development that will preserve the quality of the environment for future generations, not a dirty wood pellet scheme.”

Rebuffing GSNR’s claims about the project’s climate benefits, the groups note that “[w]ood pellets are a highly carbon-intensive, polluting, expensive, and inefficient energy source that have no place in a clean energy future.” Biomass power plants emit more CO₂ than coal plants per megawatt hour.

Without carbon sequestration or localized carbon reduction efforts in addition to “book and claim” credits, converting natural gas (methane) into hydrogen gas will not be the cleaner energy as is possible. We request that the Port of Stockton provide emergency response information regarding hazards at the Port of Stockton and flood evacuation and responses in the affected community. A full environmental impact analysis of the BayoTech Hydrogen Production/Dispensing proposed project is necessary to comply with the California Environmental Quality Act.

Sincerely,



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² California Code of Regulations, Title 14 National Resources, Division 6 Resources Agency, Chapter 3 Guidelines for Implementation of the California Environmental Quality Act, Article 6 Negative Declaration Process § 15073.5. Recirculation of a Negative Declaration Prior to Adoption. [California Code of Regulations \(westlaw.com\)](#) accessed 4.20.2024.

We will provide substantial evidence as fact and fact-based reasonable assumptions or expert opinion³ that the March 2024 Recirculated BayoTech Initial Study/Mitigated Negative Declaration (Recirculated IS/MND), including responses to comments referenced therein, failed to adequately describe and mitigate harms related to construction and operation of the proposed Project. These comments will include a brief project description, discussion of the response to comments submitted July 2024, and the negative effects on the environment that are not fully mitigated or avoided. The following significant negative environmental impacts and potential significant impacts that may remain for the proposed Project include these three broad topics: hazards, cumulative impacts and global warming potential.

Project Description: Location

The property is bounded by Forrestal Village Road on the north, west, and south and by Navy Drive on the east; train tracks also encircle the property and during a recent site visit had railcars lined up on all train tracks accessible to the public. The site is currently vacant and encompasses approximately 5 acres of undeveloped, graded land as shown (below).

The City of Stockton describes the parcel as having building permit applications associated with three addresses for San Joaquin County APN 14502018:

- 3028 Navy Drive (Pelican Renewal)
- 3030 Navy Drive (AirGas)
- 3034 Navy Drive (BayoTech).



The 4.20.2024 record status for the City of Stockton Building Permit Record BP24-00832 at 3034 Navy Drive for the BayoTech Project is “Resubmittal Required”. The BP24-00832 submitted by BayoTech, Inc., 8601 Paseo Alameda NE, Ste C, Albuquerque, NM 87113 on 2.13.2023 included payment of the \$25,369.71 plan review fee for Project construction valued at \$5,000,000. The BP24-00832 records reference that 2022 Building Codes are required for compliance, not the 2019 Building Code referenced in the Recirculated IS/MND. The actual address on building permit documents was never referenced in the Recirculated IS/MND. Instead the address of record for the parcel with San Joaquin County was reported as 3028 Navy Drive (above).

³ Introduction to CEQA. <http://www2.courtinfo.ca.gov/protem/courses/ceqa/07-01.htm> accessed 4.20.2024

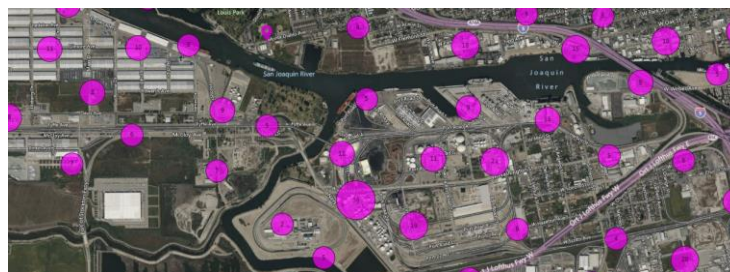
San Joaquin County has assigned an APN of 14502018 for the 95-acre parcel shown below (left below). The CalEPA Regulated Site Portal has three references for the proposed BayoTech site as shown (right below).⁴



The smaller parcel north of the site adjacent to the San Joaquin River and Navy Drive 14502019 has an address as 3040 Navy Drive and is owned by the City of Stockton and used as the City of Stockton Police Firing Range. According to CalEPA Regulated Site Portal in 2023, the Police facility stores between 25,000 and 49,999 pounds of ammunition.⁵

The two properties owned by the Port of Stockton, AirGas LCO2 at 3030 Navy Drive and Pelican Renewable at 3028 Navy Drive, have various levels of compliance according to the CalEPA Regulated Site Portal. As no mention of AirGas was included in the Recirculated IS/MND and the only building permit finalized by the City of Stockton in 2019 was for a non-illuminated sign and the construction permit expired, we assume that the AirGas LCO2 project did not obtain a Port of Stockton lease. Pelican Renewable with hazardous waste and above ground storage tanks reportedly has 21 open compliance violations since 2022.⁶

The location of the proposed project in relation to the many hazardous materials handling operations was not adequately disclosed in the Recirculated IS/MND as shown below:



The Recirculated IS/MND included the following characterization of the hazardous materials locations in the vicinity of the proposed BayoTech Project:

“Directly south of the project site, the Port leases property to Pelican Renewables, LLC, which produces renewable transportation fuels at its facility. The Pelican Renewables parcel is characterized by the presence of storage tanks, silos, large storage facilities, railroad facilities, and factory components. Other parcels in the vicinity are used for various industrial uses, with similar characteristics to the Pelican Renewables parcel in addition to maritime terminals and stockpiles of various commodities.”

⁴ <https://siteportal.calepa.ca.gov/nsite/map>

⁵ CalEPA Regulated Site Portal for 3040 Navy Drive: <https://siteportal.calepa.ca.gov/nsite/map/help/summary/347717> accessed 4.20.2024.

⁶ CalEPA Regulated Site Portal for 3028 Navy Drive: <https://siteportal.calepa.ca.gov/nsite/map/help/detail/398903/compliance> accessed 4.20.2024.

“Surrounding sites potentially containing hazardous materials were identified through a search of the California Department of Toxic Substances Control EnviroStor (DTSC 2022) and State Water Resources Control Board GeoTracker (SWRCB 2022) databases. None of these sites occur within 1,000 feet of the proposed facility.”

The two facilities adjacent to the proposed BayoTech project are both listed in CalEPA Regulated Site Portal as facilities that store hazardous chemicals and are regulated by the San Joaquin County Environmental Health Department (CUPA). The Stockton Police Training Facility (AKA Firing Range) located at 3040 Navy Drive Stockton CA 95206 is a facility that stores hazardous chemicals with oversight by San Joaquin County Environmental Health and has been cited for failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material, or to document and maintain training records for a minimum of three years. The materials onsite were previously noted. Pelican Renewable is also a facility that stores hazardous chemicals including sodium hydroxide and sodium bisulfite, both DOT hazard class 8 corrosives and with oversight by San Joaquin County Environmental Health. Neither of these sites containing hazardous materials were identified in the Recirculated IS/MND.

Additional hazards not characterized in the Recirculated IS/MND relate to nearby locations with shallow groundwater gasoline and diesel contamination. The nearest shallow groundwater contaminated plume is located west of the property, 3003 Navy Drive, whose responsible party is the Stockton Terminal Technical Committee under the regulatory oversight of the Central Valley Regional Water Control Board. The 2023 annual report⁷ shows the plume, documents contaminant levels, and very shallow groundwater levels. Surrounding the proposed BayoTech location are drainage facilities which are below the street level grade, open and unlined. Whether migrating plumes are hydrologically connected during storm events to these below grade drainage facilities is unknown and not mentioned as a possible hazard in the Recirculated IS/MND. A full environmental impact analysis is necessary to characterize this potential hazard.

Another hazard not described or characterized is the practice of allowing railcars containing hazardous materials to be temporarily stored on railroad tracks owned by the Port or leaseholder. Three working days is considered as “free time” and allowed. If tenants of the Port of Stockton desire to continue storing railcars on Port tracks, a storage fee will accrue at a rate of \$166.39 per car per day, Saturdays, Sundays, holidays included.⁸ The proposed site is surrounded by rail tracks and on 4.20.2024 there were observed railcars surrounding the property on both sides of the accessible public road. Whether or not these railcars contain dangerous and hazardous materials is unknown. No characterization of this storage practice was described in the Recirculated IS/MND. The cumulative hazards associated with these nearby facilities, should a methane or hydrogen gas release occur, must be evaluated for the safety of the community.

Project Description: Project Need and Objectives

The purpose of the project to produce hydrogen gas for sale in support of achieving climate goals is not supported by the referenced documents. Forming hydrogen gas from methane is energy inefficient, continues the release of carbon dioxide when methane is combusted, involves methane releases during lifecycle transport from subsurface to combustion site, and creates another greenhouse gas, albeit indirect as described in the previously submitted 7.10.2023 comment letter.

The purpose of an initial study is to provide documentation of the **factual basis** for the finding in a negative declaration that a project will not have a significant effect on the environment.⁹ Hydrogen produced by fossil fuels, like that proposed by BayoTech, will not contribute to decarbonization but

⁷ https://documents.geotracker.waterboards.ca.gov/esl/uploads/geo_report/8331547439/SL0607737442.PDF

⁸ 2023-2024 Port General Tariff: <https://www.portofstockton.com/wp-content/uploads/2023/06/General-Tariff-No.-1-2023-2024.pdf>

⁹ 2024 CEQA Statutes and Guidelines; https://www.califaep.org/docs/2024_CEQA_Statute_and_Guidelines_Handbook.pdf

instead will contribute to increased greenhouse gas emissions. Renewably produced hydrogen gas is not synonymous with fossil fuel produced hydrogen gas. Misleading the community to think that the type of hydrogen that BayoTech proposes will move California towards necessary greenhouse gas emission reductions does not provide a factual basis.

From the Recirculated IS/MND:

As part of its broader strategy to decarbonize the energy sector, California views hydrogen as a key to decarbonizing hard-to-abate sectors such as transportation, ports and goods movement, and energy storage and resilience (CGOBED 2024).”

“With its hydrogen production plant, BayoTech would produce hydrogen for customers and contribute to energy security in the region. Expansion of hydrogen as a transportation fuel has also been supported by the CARB’s most recent Advanced Clean Cars program and the Low Carbon Fuel Standard (LCFS).”

From the Governor’s Office of Business and Economic Development hydrogen webpage where the referenced document (CGOBED 2024) is linked: ¹⁰

“**Renewable hydrogen** will play a pivotal role in achieving California’s climate goals by cutting emissions in difficult to decarbonize sectors.”

Not just any hydrogen is viewed as a key to **decarbonizing** hard-to-abate sectors, but renewable hydrogen.

From the California Hydrogen Market Development Strategy Objectives & Public Engagement (the document link provided in the Recirculated IS/MND and used as a reference, CGOBED 2024):¹¹

“California has an unprecedented opportunity to accelerate the production, distribution, and use of **clean, renewable hydrogen**, which can play a critical role in meeting California’s climate and air quality goals while also creating jobs and stimulating the economy. The California Air Resources Board’s 2022 Scoping Plan Update calls for scaling the production and use of clean, renewable hydrogen to fully decarbonize our economy by 2045. This carbon-free energy carrier complements electrification efforts by helping the state to fully address difficult-to-decarbonize sectors of our state economy, including, but not limited to transportation, power generation and storage, shipping, ports, aviation, fertilizer production, and heavy industry.”

Objective 11 Production:

“Support in-state clean, renewable hydrogen production from biogenic feedstocks and electrolysis using renewable and zero-carbon produced electricity.

- a. Enable low, zero and negative carbon biogenic and electrolytic hydrogen production by sending clear policy signals and addressing barriers.
- b. Plan for increased electric load from clean, renewable hydrogen production and incorporate the growth in this sector into statewide clean energy resource planning and procurement and electric distribution and transmission infrastructure planning and development.
- c. Encourage electrolytic hydrogen production facilities to serve as ‘good electric grid citizens’ by operating as flexible loads that maximize the utilization of renewable and zero-carbon produced electricity and minimize or avoid grid electricity consumption during peak and net-peak electric demand and grid reliability events while reducing grid and operating costs.

d. Track hydrogen production to monitor the transition away from hydrogen produced from fossil fuels as we scale clean, renewable hydrogen production.

The referenced CGOBED 2024 statement in the Recirculated IS/MND was significantly truncated to eliminate the term renewable when describing the type of hydrogen that BayoTech plans on producing, which is hydrogen produced from fossil fuels namely methane supplied by Pacific Gas and

¹⁰ [Hydrogen - California Governor’s Office of Business and Economic Development](#)

¹¹ California Governor’s Office of Business and Economic Development California Hydrogen Market Development Strategy Objectives & Public Engagement: <https://business.ca.gov/wp-content/uploads/2023/12/H2-Strategy-Framing-Doc-12-26-23.pdf> accessed 4.20.2024.

Electric. The type of hydrogen that BayoTech plans on producing is exactly the kind for which efforts are underway to eliminate.

The Low Carbon Fuel Standard (LCFS) is near the final stages of rulemaking and a recent workshop held on 4.10.2024 further emphasizes the need for rulemaking to increase the stringency of the program to displace fossil fuels and incentivize more production of clean fuels such as low-carbon hydrogen, not hydrogen produced using fossil fuels like methane.¹²

No meaningful mitigation has been proposed to offset the impacts related to increasing the methane usage in San Joaquin County. The Recirculated IS/MND included a corrected reference for 2022 methane use in San Joaquin as 96,820,000 therms and the proposed project would generate a maximum demand of 1,630,610 therms annually accounting for a 1.68% increase in methane combustion. This increase in fossil fuel usage is not insignificant and the full lifecycle supply chain impacts should be accounted for and **fully mitigated**. Recently, 4.15.2024, the Port Commissioners considered policy and mission statements. One such mission core values included:¹³

" Sustainability – We operate in a manner that protects the environment and reduces the Port’s environmental impact.”

As so well stated in the Restore the Delta comments dated 4.16.2024 submitted to the Port of Stockton regarding the BayoTech proposed project:¹⁴

“The Port of Stockton can prioritize clean, economically viable, community-centered alternatives for hydrogen production. Grey hydrogen (methane steam reformation) is not a profitable enterprise for our economy or environment.”

Project needs were not substantiated with evidence within the Recirculated IS/MTD. We are aware of some potential users of hydrogen in the Stockton area, but these were not included in the CEQA document. The statement that having hydrogen produced locally will prevent long distance transport of hydrogen is not supported with evidence. The objective is clear that BayoTech desires to produce hydrogen for ongoing profitability without ongoing mitigation of the proposed increased methane usage and potential hydrogen leakage.

Response to Comments

The Port of Stockton identified 44 comments in our 7.10.2023 correspondence that required response in the Recirculated IS/MND. The Port referenced CEQA guidelines with which the project proponent agrees to mitigation measures/project modifications that would avoid significant environmental effects to a point where clearly no significant effect on the environment would occur, resulting in a lead agency not needing to prepare an environmental impact report.

The response to comments that the Port confers regularly with responsible and trustee agencies and that there were no trustee agencies identified for the project is erroneous. CEQAnet included comments from the California Department of Fish and Wildlife dated June 29, 2023, a trustee agency and responsible agency.¹⁵ These comments were not acknowledged or addressed in the Recirculated IS/MND. We request that when the Port responds to comments on the Recirculated IS/MND that the Department of Fish and Wildlife (and others) be afforded 30 days to review the Port’s responses before being considered for certification by the Port Commissioners. The mitigation measures

¹² April 10, 2024 LCFS Workshop: <https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard/lcfs-meetings-and-workshops>

¹³ 4.15.2024 <https://www.portofstockton.com/wp-content/uploads/2024/04/AgendaItem7.pdf>

¹⁴ RTD 4.16.2024 BayoTech MND comments to Port: https://docs.google.com/document/d/1ssKRp-1P1iTuFTbpsyiaeU-HH_6aeHY/edit?usp=sharing&ouid=102095836591427095615&rtpof=true&sd=true

¹⁵ CDFW June 28, 2023 comments. https://files.ceqanet.opr.ca.gov/288240-2/attachment/e0aiUSwF_edhZuX2bjfvMcalqsgAbsYUQ9FmP0-JhXYKpbkKuebrnsVbqSTRzsufirEbus55hA2AjQ1a0

proposed in the Recirculated IS/MND did not address the very important facts discussed by the Department of Fish and Wildlife (DFW). The project is located next to the San Joaquin River and across the river there is relatively undeveloped land that wildlife may utilize. The effects of artificial lighting on wildlife were discussed by DFW and referenced in their June 2023 comment letter. Specific recommendations were included to minimize significant impacts related to the proposed artificial lighting, in addition to those already included in the Recirculated IS/MND.

The proposed BayoTech production and dispensing facility will produce 2000 kg/day of hydrogen gas which correlates to 700,000 kg yearly, if operating 350 days as indicated. This level of production reportedly will result in the production of 12,333 metric tons of carbon dioxide equivalent per year or 12,333,000 kilograms of carbon dioxide equivalent. The BayoTech Initial Study/Mitigated Negative Declaration and the Recirculated IS/MND only proposes to mitigate 2,333 metric tons of carbon dioxide equivalence to under a 2008 level of significance, ignoring that the baseline for the proposed site has zero carbon dioxide emissions. Continuing business as usual – every project approval – allowing 10,000 metric tons of carbon dioxide equivalent, will continue the growth of carbon emissions responsible for climate change effects that are affecting our community and beyond. People are suffering from the effects of increased carbon dioxide and other greenhouse gas emissions in the atmosphere.

The proposal that all the carbon dioxide produced does not require mitigation ignores the efforts made at local levels through personal sacrifice and public funds to reduce carbon dioxide emission. The unmitigated greenhouse gas emissions impose a societal burden that will involve more public funds to mitigate BayoTech's full emissions from the proposed Project, in order to achieve California's climate change goals.

The reliance on the 2008 South Coast Air Quality Management District guidance that allows 10,000 metric tons (MT) of CO₂e per year fails to consider where we are now in terms of continued increases in greenhouse gases and warming effect. The reference in the Recirculated IS/MND to the California Natural Resources Agency December 2018 clarifications for the method for determining GHG impacts in CEQA documents, as summarized by the Governor's Office of Planning and Research, includes statements not included in the Recirculated IS/MND but which are directly related to arguments presented by commenters including:¹⁶

- The impacts analysis of greenhouse gas emissions is global in nature and thus should be considered in a broader context. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. (See CEQA Guidelines, § 15064.4, subd. (b).)
- Lead agencies should consider a timeframe for the analysis that is appropriate for the project. (See CEQA Guidelines, § 15064.4, subd. (b).)
- A lead agency's analysis must reasonably reflect evolving scientific knowledge and state regulatory schemes. (See CEQA Guidelines, § 15064.4, subd. (b).)

The regulatory schemes and atmospheric greenhouse gas concentrations have changed significantly since 2008. No analysis was included in the Recirculated IS/MND to demonstrate that the use of the 2008 recommendation reasonably reflects current regulatory schemes or evolving scientific knowledge. The GHG emissions were calculated on a 100 year basis instead of 20 year basis.

If every industrial project is allowed to emit 10,000 metric tons of CO₂ equivalent, we will not achieve the CARB regulatory targets established by the State of California. Carbon dioxide and other

¹⁶OPR, 2023. CEQA & Climate Change. Accessed 4.20.2024. Available at: <https://opr.ca.gov/ceqa/ceqa-climate-change.html>.

greenhouse gases are having global impacts experienced by all and including those less able to develop and fund adaptive measures to counteract the effects of global warming and climate change.

Carbon dioxide levels continue to increase resulting in temperatures that continue to increase as shown (right).¹⁷

As indicated, the reliance on 2008 guidance by the Port of Stockton for the analysis used during the preparation of the Recirculated IS/MND is inadequate. A full and thorough environmental impact analysis of the proposed project's significant impacts, and mitigation measures necessary to reduce impacts to less than significant, is warranted.

The response to the comment regarding the use of greenhouse warming potential stated that as lead agency, the Port chose to use GWPs which are consistent with CARBs inventories for 2021 and because CARB has not yet requested facilities report the GHG emissions with the AR5 GWP. The USEPA is currently using the AR5 GWP to calculate most emissions that are reported.¹⁸ Because the proposed BayoTech Project will produce less than 25,000 MT of CO₂e, the project will not be required to report to USEPA GHG emissions pursuant to Title 40 regulations (as of 4.18.2024).¹⁹

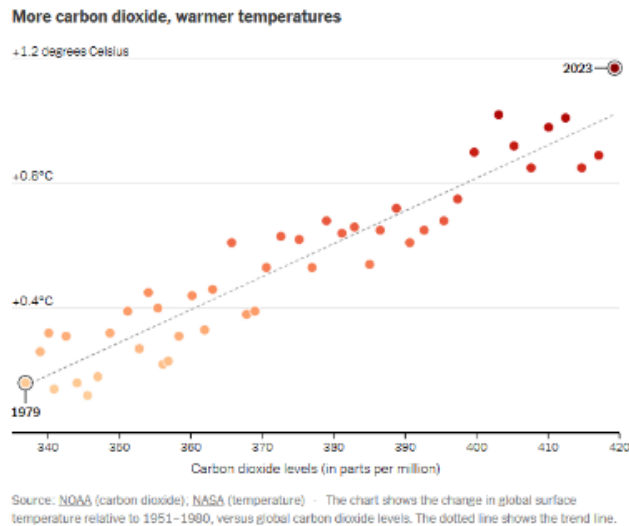
No greenhouse gas emission inventory of Port of Stockton operations or Port tenant were included to evaluate cumulative effects. The total Port greenhouse gas emissions estimated in the 2020 Clean Air Plan included scopes 1, 2, and 3 for the following sources: ocean-going vessels, harbor craft, cargo handling equipment, locomotives, on-road vehicles (heavy-duty trucks and Port-owned vehicles), and Port-owned stationary source (Greenhouse Gas (GHG) was 22,361 tonnes (metric ton or 23,361,000 kg).²⁰ We appreciate that the Port is estimating their emissions but these estimates do not come close to the emissions that the Port has allowed through their lease terms.

The largest emitter of pollutants and greenhouse gases within the Port of Stockton area includes the DTW biomass energy conversion plant.²¹ Burning biomass for “renewable energy” is very polluting and contributes to global warming as well as being the number one source of stationary air pollutants in Stockton, CA. While the Port of Stockton has made efforts to characterize onsite air pollutant emissions and to take advantage of incentive opportunities to increase use of electric equipment, high carbon emitting projects exist under lease and are proposed for future leases.

The Recirculated IS/MND stated that the hydrogen produced would be LCFS eligible and certified:

“The proposed project produces **LCFS-eligible fuel** and therefore is consistent with state goals to de-carbonize fuel.”

“While the proposed project produces **LCFS certified fuel** and therefore is consistent with state goals to de-carbonize fuel, the project would not incorporate carbon capture and sequestration.”



¹⁷ Bhatia, A. [Carbon Dioxide Levels Have Passed a New Milestone](#). New York Times. April 20, 2024.

¹⁸ Greenhouse Gases Equivalencies <https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references>

¹⁹ Title 40 — Protection of Environment, Chapter I — Environmental Protection Agency. Subchapter C — Air Programs, Part 98 — Mandatory Greenhouse Gas Reporting. <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-98/subpart-A?toc=1>

²⁰ <https://www.portofstockton.com/wp-content/uploads/2023/02/2020-Emissions-Inventory.pdf>

²¹ SJVAPCD, AB617. <https://community.valleyair.org/media/h50dve3x/appendix-c.pdf>

Since 2018, CARB included third-party verification requirements to the LCFS to ensure data completeness, accuracy, and conformance with the regulation – consistent with the verification programs under California’s Cap-and-Trade Program and international best practices.²²

No expert third-party verification was referenced to provide factual evidence that the proposed hydrogen production is **LCFS-eligible** or **LCFS certified**. No energy conversion is 100% efficient. Energy is used and lost during the steam methane reformer process converting methane to hydrogen gas. The LCFS data indicate that the conversion is 72% efficient.²³ Low carbon fuel does not represent greenhouse gas reductions, only a lessening of the greenhouse gases emitted and their subsequent effect on climate change.

We continue to assert that immediate and significant reductions in greenhouse gas emissions is necessary and reasonable to lessen the effects of climate change as outlined in our July 2023 comment letter. Rapid reduction in greenhouse gas emissions is critical to avoid several tipping points which would further contribute to warming impacts.²⁴ The Recirculated IS/MND responded that CEQA does not require that all GHG emissions be mitigated. A lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers (Port Commissioners) to intelligently take into account a project’s incremental contribution to climate change and referenced CEQA Guidelines 15064.4(c). Yes, CEQA Guidelines provide that lead agencies have discretion. What was not cited were the sentences that follow:

(c) A lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project’s incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.²⁵

No factual rationale was provided for using a 2008 guidance in 2024 when the effects of climate change are increasingly more disastrous. Furthermore, increasing evidence exists that progress towards California’s goal is lagging and will require increasing emissions reduction rates.²⁶

Again, misinformation is presented in the Recirculated IS/MND and, in response to comments submitted, with the following statement taken out of context:

“CARB’s 2022 Scoping Plan calls for accelerating the transition from combustion of fossil fuels to hydrogen.”

CARB’s 2022 Scoping Plan regarding refinery-based steam methane reformation with carbon capture and sequestration (CCS), not proposed for the BayoTech Project, includes the following statements:²⁷

“This Scoping Plan also calls for accelerating the transition from combustion of fossil fuels to hydrogen. Hydrogen can be produced through electrolysis with renewable electricity or through steam methane reformation of biomethane. There is a high degree of uncertainty around the availability of solar to support both electrification of existing sectors and the production of hydrogen through electrolysis. Producing hydrogen required under the Scoping Plan Scenario with electrolysis would require about 10 gigawatts (GW) of additional solar capacity. If steam methane reformation is paired

²² CARB LCFS Verification <https://ww2.arb.ca.gov/lcfs-verification>. Accessed 4.21.2024

²³ CA-GREET3.0 Lookup Table Pathways – Technical Support Documentation. Pg 38. Accessed 4.20.2024. <https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/ca-greet/lut-doc.pdf>

²⁴ Cho, R. “How Close are We to Climate Tipping Points”, Columbia Climate School State of the Planet From the Field IPCC Report AR6. 2021 Accessed <https://news.climate.columbia.edu/2021/11/11/how-close-are-we-to-climate-tipping-points/>

²⁵ 2024 CEQA Guidelines. https://www.califaep.org/docs/2024_CEQA_Statute_and_Guidelines_Handbook.pdf. Accessed 4.21.2024.

²⁶ Lazo, A. *California isn’t on track to meet its climate change mandates — and a new analysis says it’s not even close*. CalMatters. 3.14.2024. <https://calmatters.org/environment/climate-change/2024/03/california-climate-change-mandate-analysis/>.

²⁷ CARB 2022 Scoping Plan for Achieving Carbon Neutrality dated 11.16.2022. https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp_1.pdf

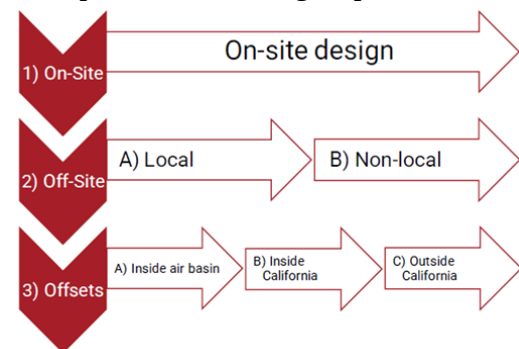
with CCS, the hydrogen produced could potentially be low carbon. Additionally, the biomethane used to generate hydrogen could be sourced from gasification of forest or agricultural waste resulting from forest management and other NWL management practices, which could also lead to net negative carbon outcomes. **Steam methane reformation paired with CCS** can thus ensure a rapid transition to hydrogen and increase hydrogen availability until such time as electrolysis with renewables can meet the ongoing need, assuming there is also sufficient water supply.”

The reference statement is misleading because the BayoTech Project did not provide evidence that the hydrogen gas produced would 1) be used solely for transportation and 2) is LCFS certified. Partial mitigation using the “book and claim” acquisition of renewable natural gas to reduce the “net carbon emissions of fuel stock used in hydrogen production” was not referenced in the 2022 Scoping Plan.

The 2022 Scoping Plan clarifies what type of hydrogen is being referred to, but this Recirculated IS/MND states that the type of hydrogen produced and the mitigation proposed is supported by the 2022 Scoping Plan. The only steam methane reformation to produce hydrogen included in the 2022 Scoping plan is using biomethane and biomass gasification with carbon capture and storage, not fossil methane with partial offset and no carbon capture and sequestration.

Given that California is not achieving the greenhouse gas emission reductions anticipated, and unintended consequences exist related to crop based renewable fuel sources used in the “book and claim” process, CARB’s LCFS is under revision. CARB is developing crop sustainability criteria which will disincentivize biofuels from deforestation or food crops, and increasing step-downs of carbon intensities which qualify for “book and claim” credits.²⁸

The source of these renewable fuel offsets have not been identified nor was a selection hierarchy provided. As a general rule, offsets purchased in the general area of a project are preferred if onsite mitigations are insufficient, as shown in the CARB Scoping Plan GHG Reduction and Mitigation Hierarchy shown on the right.²⁹



Additionally, the Recirculated IS/MND includes these statements:

“To meet the requirements of this mitigation measure, RNG can be acquired directly or acquired utilizing a certified book and claim accounting methodology in order to meet project demand.”

“The hydrogen produced using RNG purchased as a GHG mitigation measure does not qualify for sale under the LCFS, as the environmental attributes of the RNG will have been retired already as part of the CEQA mitigation.”

While we acknowledge that possibly sometime in the future that more RNG may be used, there is no requirement to do so in the Recirculated IS/MND. The amount of RNG acquired is calculated to reduce the GHG levels to less than significant according to a 2008 guidance. The proposed location at the Port could be developed to utilize City of Stockton wastewater treatment plant derived biomethane, but that is not the project under review for certification and lease approval.

The current LCFS is not fully aligned with the 2022 Scoping Plan and, as stated previously, is under review and modifications are being considered. No analysis of more defined and feasible mitigation

²⁸ CARB 4.10.2024 LCFS Rulemaking Workshop. <https://ww2.arb.ca.gov/sites/default/files/2024-04/LCFS%20April%20Workshop%20Slides.pdf>

²⁹ Office of Planning and Research. CEQA 202 Series: Greenhouse Gas Emissions. 4.18.2023. Accessed https://opr.ca.gov/ceqa/docs/20230517-CEQA_202_GHGAnalysis_Slides.pdf

measures was provided to substantially show that the mitigation selected was adequate to mitigate the significant increased energy use and greenhouse gas emissions that have global warming potential. Nor were these “offsets” shown to be additional.

The ability to claim credits from processes outside of the state for biogas has created uncertainty that the credit is claimed only once and has contributed to increased electricity costs. Where dairy methane digesters were used for producing onsite electricity, there is market pressure to sell the biogas for a higher price for environmental attributes. In order for those environmental attributes to be achieved, there can be no losses along the supply chain during production, transport, refinishing or ultimate site of usage. These biogases use the same methane infrastructure that are known to have underestimated leakage rates and when leaked will have the same global warming potential as fossil methane.^{30 31}

Increasing the distance increases the likelihood that a leak will occur. High school chemistry students viewing NASAs 2022 Year in Review commented on the methane spikes shown using satellite imagery coming from California.³² Requiring that biologically contemporary produced methane be sourced locally can reduce uncertainties about source and reduce the regulatory burden necessary to enforce complicated chain of custody and accounting practices.

The Recirculated IS/MND failed to provide any additional information to indicate that the increased methane conveyance through PG&E pipelines through the East Complex would not pose a hazard, other than to state:

“Natural gas would be provided from local providers (i.e., PG&E) connecting to existing pipelines and infrastructure within the Port. PG&E existing infrastructures would not require any modification or new infrastructure outside the facility. There is no indication that PG&E’s infra structure is compromised or not sound. Natural gas pipelines are overseen by both federal and state agencies that mandate regular safety checks and testing. The natural gas used by the proposed project would be conveyed to the site by existing permitted pipeline infrastructure.”

The condition of the Port of Stockton gas infrastructure pipelines for conveying methane from Pacific Gas and Electric supply pipelines to the facility was not discussed. Leaking pipelines are hazardous to the community and climate. Pipeline leaks regularly occur.³³ The CPUC estimates emissions based on infrastructure leakage and transmission line leaks account for 7% of all emissions.³⁴ The project will have 1.68 % of all of San Joaquin’s County methane use flowing through the existing Port infrastructure. Pipeline failures and leaky methane wells are needed to be eliminated and efforts are underway at a national level to address these methane emission sources.³⁵ The Port of Stockton as the property owner failed to obtain information from PG&E about testing of the pipeline and failed to provide the community that has expressed safety concerns with needed safety assurances. The

³⁰ Weller, Z, et al. *A National Estimate of Methane Leakage from Pipeline Mains in Natural Gas Local Distribution Systems*. *Environ. Sci. Technol.* 2020, 54, 14, 8958–8967. <https://pubs.acs.org/doi/10.1021/acs.est.0c00437>.

³¹ USEPA Estimates of Methane Emissions by Segment in the United States. <https://www.epa.gov/natural-gas-star-program/estimates-methane-emissions-segment-united-states>

³² NASA. A Look Back: 2022’S Temperature Record. <https://www.youtube.com/watch?v=GxXmIgcFn4>.

³³ Deehan, L. *Report: Damaging methane gas pipeline leaks happen every 40 hours in the U.S.* Environment California Research and Policy Center. <https://environmentamerica.org/california/center/media-center/report-damaging-methane-gas-pipeline-leaks-happen-every-40-hours-us/>

³⁴ CPUC. *Analysis of the Gas Companies’ June 15, 2023, Natural Gas Leak and Emission Reports*. <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/safety-policy-division/reports/2023-ngla-joint-report.pdf>.

³⁵ <https://www.whitehouse.gov/wp-content/uploads/2022/11/US-Methane-Emissions-Reduction-Action-Plan-Update.pdf>

BayoTech Initial Study/Mitigated Negative Declaration failed to characterize the condition of existing methane infrastructure that would convey 1.68% of all the methane used in San Joaquin County.

The Recirculated IS/MND included additional text to clarify the process for communicating with emergency responders but did not include how the community is to be notified in the case of an emergency. The local emergency response plan should be readily available to the public including a point of contact information, muster location for employees and visitors considered safe, and what local actions would be taken during different events.

Please consider working with other nearby Port leaseholders to evaluate how the extreme flammability of hydrogen produced could affect other nearby hazardous sites and possible near and far neighborhood impacts. We have repeatedly asked the Port of Stockton representatives to have annual meetings regarding emergency response relating to hazardous materials and flooding. Please describe the uninterruptible power supply located in the Albuquerque, New Mexico Control Room and located locally at the Stockton facility site.

Hydrogen gas (H₂) is highly flammable with lower ignition energies than gasoline or methane. Special engineering controls are needed to monitor including leak detection along with special flame detectors, because hydrogen burns with a nearly invisible flame.³⁶ Hydrogen is a nontoxic and lighter-than-air gas, which negates most risk from inhalation or pooling.³⁷ However, the U.S. Department of Energy strictly regulates the production, storage, and delivery of hydrogen at high pressure due to its flammability. Hydrogen gas transportation and storage requires specialized infrastructure to prevent embrittlement of metals, as hydrogen is the smallest molecule and can leak through metal or polymer materials as well as through tiny cracks.

Hydrogen gas has been identified as an indirect greenhouse gas that causes increases in methane, ozone, and stratospheric water vapor in the atmosphere.³⁸ Most of hydrogen's warming impacts occur during the first few decades after its emission. Currently, there are no commercially available leak detection systems for hydrogen that can detect smaller leaks that would have climate warming effects. Larger leaks can be detected by the sound produced when escaping pressurized vessels.³⁹

The Recirculated IS/MND included several systems to monitor and control leaks at the facility, including the following:

- Use of pressure sensors, which detect pressure loss in production equipment, compression systems, ground storage pods, and filling facilities.
- Use of gas and flame detection, which involves using thermal and optical sensors to detect natural gas or hydrogen leaks and flames.
- Automated control and shutdown systems that isolate the affected system.
- Valve testing to the Canadian Standards Association (CSA)/American National Standards Institute (ANSI) Fuel System Components for Hydrogen Vehicles Hot Gas Valve (HGV) 3.1 standards (2015). CSA/ANSI HGV 3.1 sets requirements for newly produced compressed hydrogen gas fuel system components and a maximum leak rate of 10 normal cubic centimeters per hour (N cc/hr) of hydrogen.

Further information regarding the sensitivity and device modes of function is needed and we suggest reaching out to further educate the community about the safety systems proposed.

³⁶ Department of Energy. Safe Use of Hydrogen. Accessed <https://www.energy.gov/eere/fuelcells/safe-use-hydrogen>.

³⁷ American Institute of Chemical Engineer. https://www.aiche.org/sites/default/files/docs/pages/the_elemental_hydrogen_flammability.pdf

³⁸ Ocko, I.B and Hamburg, S.P., "Climate consequences of hydrogen emissions" Atmos. Chem. Phys., 2022. Accessed <https://doi.org/10.5194/acp-22-9349-2022>.

³⁹ Mine Safety Appliances (MSA). Working Safely with Hydrogen Understanding Layered Gas Detection and Fire Prevention Technologies. <https://msa.webdamdb.com/download.php?ti=133037581&tok=1h6uoGWbeBVYxOHuiirNXQRR>

Parts of Stockton south and central, including the Port are within a designated area for additional community air protections being led by the AB617 Steering Committee facilitated by CARB and the San Joaquin Air Pollution Control District. The communities in South and Central Stockton in closest proximity to the Port are disadvantaged, affected by heavy pollutant loads and, unfortunately, Stockton has been deemed the most vulnerable port community on the west coast according to *The Impacts of Developing a Port Network for Floating Offshore Wind Energy on the West Coast of the United States*.⁴⁰ The authors found that the population around the Port of Stockton is more vulnerable than other populations around any other port on the West Coast of the United States, as shown (right).

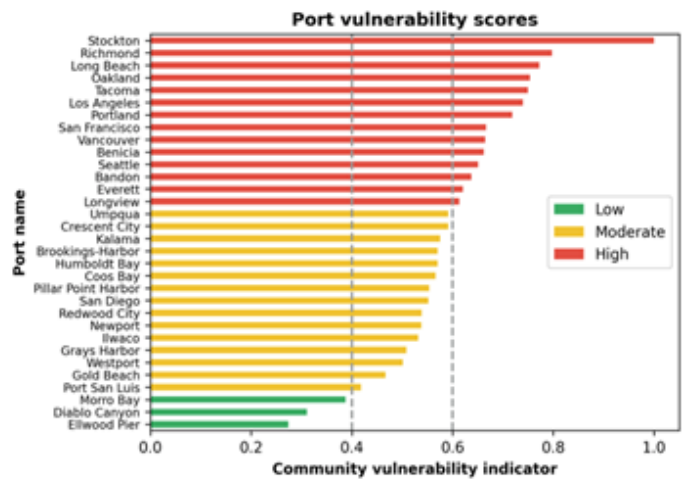


Figure E3. Distribution of community vulnerability indicators across all ports considered in this study (32 total)

The intent of the Port to be an active member of the Stockton AB617 is admirable, and the Port has made some adjustments to business as usual and is considering other actions that may lessen the impact of pollutants originating from Port operations, including tenant operations. Air quality monitoring within the Port is very important to residents because the Port has been identified as having the highest air pollution emissions in the Stockton area, primarily related to marine, rail, and truck emissions. The Port has allowed an air monitor to be placed on Port property leased by the Edible Schoolyard, formerly Boggs Tract Farm and has been actively engaged with bringing grant funds to update Port equipment to zero emission equipment.

We appreciate that BayoTech has entered into a commercial agreement to procure and operate zero-emission trucks. These trucks would be utilized for BayoTech-contracted hydrogen deliveries and transportation needs. However, third-party pickup and transport would also occur. BayoTech trucks and trailers would be parked on site overnight when not in use. An estimate of the fraction of truck trips that would be performed by BayoTech vs third-party pickup was not provided nor were the anticipated markets disclosed.

The Port of Stockton has indicated that Community Benefit Agreements entered into with community-based organizations will be part of enforceable lease conditions. The Recirculated IS/MND included statements that the Community Benefit Agreement with BayoTech would be independent of the CEQA process.

The Department of Energy has developed a Community Benefit Agreement Toolkit and includes the following description:⁴¹

A Community Benefit Agreement is an agreement signed by community benefit groups and a developer, identifying the community benefits a developer agrees to deliver, in return for community support of the project. Community benefit groups are coalitions comprised of neighborhood associations, faith-based organizations, unions, environmental groups and other stakeholders. **They represent the interests of residents who will be impacted by proposed developments.** CBAs can ensure that measurable, local benefits will be given to a community.

⁴⁰ National Renewable Energy Laboratory <https://www.nrel.gov/docs/fy23osti/86864.pdf>

⁴¹ U.S. Department of Energy Office of Minority Business & Economic Development. <https://www.energy.gov/justice/articles/community-benefit-agreement-cba-resource-guide>.

They are enforceable, legally binding contracts for all parties that stipulate community benefits and are the direct result of substantial community input.

As leases with Port tenants are not public documents, we request to meet with Port staff who are involved with lease enforcements so that transparency can be developed with documentation. The scope of the possible community benefit projects under discussion are very limited and have not represented an ongoing commitment. BayoTech staff have been very invested and have prepared a draft agreement, although discussions have just begun. Following the requested meetings with the Port we will be better informed and will continue to discuss benefits that could be agreeable to all parties.

We request that the Port of Stockton seek out economic development opportunities in line with putting their community's health first. A full environmental impact analysis of the proposed BayoTech Hydrogen Production/Dispensing Project is necessary to determine whether a significant impact may exist in compliance with the California Environmental Quality Act, and so that lease agreements do not result in harms for our community.

Sincerely,

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SIERRA CLUB
DELTA-SIERRA GROUP
MOTHER LODGE CHAPTER



July 15, 2024

Via E-Mail and U.S. Mail

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RE: Comments on Final Initial Study/Mitigated Negative Declaration, BayoTech Hydrogen Production and Filling Facility Project

We submit this letter on behalf of the Center for Biological Diversity, Sierra Club, and Little Manila Rising to comment on the Port of Stockton's issuance of a Final Initial Study/Mitigated Negative Declaration ("Final IS-MND") for the BayoTech Hydrogen Production and Filling Facility Project (the "Project").¹

The Center for Biological Diversity as well as a coalition of community organizations, which includes the Sierra Club and Little Manila Rising, submitted comments on the Draft IS-MND and the Recirculated IS-MND. We have attached these letters to this submission as **Exhibits A, B, C, D, and E** and are incorporating their contents and appendices by reference into these comments. While we acknowledge the Port's response to prior comments, all the issues identified in these prior letters remain areas of concern in the Final IS-MND except where noted.

As demonstrated throughout our comments, the Final IS-MND fails to comply with the requirements of the California Environmental Quality Act, Public Resources Code 21000 et seq.

¹ We refer throughout these comments to the Recirculated IS-MND, Final IS-MND, and associated appendices located here: <https://www.portofstockton.com/ceqa-documents/>; <https://www.portofstockton.com/wp-content/uploads/2024/06/Final-Initial-Study-Mitigated-Negative-Declaration-for-the-Port-of-Stockton-BayoTech-Hydrogen-Production-and-Filling-Facility-Project-20240606-1.pdf> (Final IS-MND); <https://www.portofstockton.com/wp-content/uploads/2024/03/Recirculated-Draft-Initial-Study—Mitigate-Negative-Declaration.pdf> (Recirculated IS-MND).

(“CEQA”), and the CEQA Guidelines, California Code of Regulations, title 14, 15000 et seq. (“CEQA Guidelines”) on several fronts. Numerous inadequacies and omissions in the Final IS-MND render it insufficient as an environmental review document. As prior comments made clear, the Recirculated IS-MND fails to disclose, analyze, and propose adequate mitigation for significant environmental impacts related to air quality, greenhouse gas emissions, biological resources, environmental justice, and cumulative impacts among others. The Final IS-MND does not address these errors and refuses to adequately respond to public comments apprising the Port of these errors. At the same time, available evidence demonstrates that a fair argument exists that the Project may have significant environmental impacts. In light of this evidence, the Port must complete an Environmental Impact Report (“EIR”) to comply with CEQA.

I. The Board may not approve the Project without first preparing an EIR.

CEQA is designed to ensure that “the long-term protection of the environment shall be the guiding criterion in public decisions.”² Thus, the statute requires an agency evaluating a project to develop an EIR whenever “substantial evidence supports a fair argument that a proposed project ‘may have a significant effect on the environment.’”³

The fair argument standard establishes a “low threshold” for requiring a lead agency to prepare an EIR.⁴ Courts “owe no deference to the lead agency’s determination,” and judicial review must show “*a preference for resolving doubts in favor of environmental review.*”⁵ Furthermore, where the agency fails to study an entire area of environmental impacts, deficiencies in the record “enlarge the scope of fair argument by lending a logical plausibility to a wider range of inferences.”⁶

Substantial evidence supporting a fair argument may consist of personal observations of local residents on nontechnical subjects, as well as expert opinion supported by facts—even if that opinion is not based on a specific analysis of the project at issue.⁷ In marginal cases, where it is not clear whether there is substantial evidence that a project may have a significant impact and

² *Friends of College of San Mateo Gardens v. San Mateo County Community College District* (2017) 11 Cal.App.5th 596, 604.

³ *Committee for Re-Evaluation of T-Line Loop v. San Francisco Municipal Transportation Agency* (2016) 6 Cal.App.5th 1237, 1245-46 (quoting *Laurel Heights Improvement Assn. v. Regents of University of California* (1993) 6 Cal.4th 1112, 1123).

⁴ *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 928

⁵ *Id.* (italics in original).

⁶ *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 311.

⁷ *Oro Fino Gold Mining Corp. v. Cty. Of El Dorado* (1990) 225 Cal.App.3d 872, 882; *Protect Niles v. City of Fremont* (2018) 25 Cal.App.5th 1129, 1152; *Pocket Protectors*, 124 Cal.App.4th at 928.

there is a disagreement among experts over the significance of the effect on the environment, the agency “must treat the effect as significant” and prepare an EIR.⁸

As explained throughout these comments, ample evidence supports a “fair argument” that the Project may result in significant environmental impacts that were not studied in either the Recirculated IS-MND or the Final IS-MND. These impacts would include, but are not limited to: air quality, greenhouse gas emissions, biological resources, environmental justice, and cumulative impacts. Because the Project has the potential to result in significant impacts, the Port is required to prepare an EIR before it may approve the Project.

II. The descriptions of the Project and environmental setting continue to be inadequate.

A. The Project description and need sections are incomplete and inaccurate.

The Final IS-MND does not ameliorate inadequacies identified by prior comments and continues to inadequately describe essential components of the project and misrepresent the need for the Project.

“An accurate, stable, and finite project description is the *sine qua non* of an informative and legally sufficient EIR.”⁹ As a result, courts have found that even if an environmental document is adequate in all other respects, the use of a “truncated project concept” violates CEQA and mandates the conclusion that the lead agency did not proceed in the manner required by law.¹⁰ Furthermore, CEQA aims to foster greater transparency to ensure that decision-makers and stakeholders are informed of potentially harmful environmental consequences of proposed projects. This level of transparency requires a complete understanding of the project. “Only through an accurate view of the project may outsiders and public decision-makers balance the proposal’s benefits against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal . . . and weigh other alternatives in the balance.”¹¹ Thus, an inaccurate or incomplete project description renders the analysis of significant environmental impacts inherently unreliable.

Here, the Final IS-MND does not achieve the level of transparency required by CEQA because of an inappropriately narrow project description, and this flaw undermines the Final IS-MND’s conclusion that the Project will not have a significant effect on the environment.¹² Critically, the Project Description fails to describe the end-use for the hydrogen produced at the facility once the Project is operable, and producing hydrogen. In fact, the Final IS-MND

⁸ CEQA Guidelines § 15064(g); *City of Carmel-By-The-Sea v. Board of Supervisors* (1986) 183 Cal.App.3d 229, 245.

⁹ *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 730.

¹⁰ *Id.* at 729-30.

¹¹ *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 192.

¹² *See Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 141 Cal.App.4th 1170, 1180.

continues to improperly assume, without evidence, that the Project will be used to benefit decarbonization of the transportation sector through hydrogen production, despite insufficient description and no evaluation of the Project’s produced hydrogen use. As commenters have previously noted, fossil-gas-generated hydrogen—like that which would be produced by the Project—is primarily used for petroleum refining.¹³ The Final IS-MND response to this comment unsatisfactorily claims that it fully discloses all potential uses of hydrogen because it will be distributed to “customers throughout the region.”¹⁴ This is not a complete disclosure. The end-use of the hydrogen produced by this Project remains unclear.

Additionally, all forms of hydrogen production use massive amounts of water—much more than solar and wind per unit of energy produced—which will put extra stress on water supplies in areas already suffering from climate crisis-charged drought. Prior comments noted that the Recirculated IS-MND did not include this component of the Project in its Project Description.¹⁵ The Final IS-MND does not cure this error and further fails to discuss this integral component of the Project.¹⁶ In fact, while the Recirculated IS-MND discloses that the groundwater basin where the Project is located is in overdraft,¹⁷ it does not discuss water supply needs in any detail. A full EIR is necessary to disclose this component of the Project and evaluate these substantial impacts.

Moreover, the Project Need section must “articulate the stated objectives and specify the underlying purpose” of the proposed project in order “to evaluate the project’s impacts on the environment.”¹⁸ Here, the Final IS-MND continues to erroneously premise the “project need” on the flawed assertion that the hydrogen produced by the Project will reduce greenhouse gas emissions state-wide. The Final IS-MND continues to fundamentally misunderstand the realities of fossil-gas-generated hydrogen. The implication that the hydrogen produced by the project is “clean energy” is promoted by industry to encourage more methane gas use. As prior comments

¹³ Exhibit D, Center for Biological Diversity, Comments on Recirculated Initial Study / Mitigated Negative Declaration, BayoTech Hydrogen Production and Dispensing Facility Comments (April 25, 2024) (hereinafter “CBD April 2024 Comments”) at 3; See U.S. Dep’t of Energy Hydrogen and Fuel Cell Tech. Off., *Fact of the Month May 2018: 10 Million Metric Tons of Hydrogen Produced Annually in the United States* (May 2018), <https://www.energy.gov/eere/fuelcells/fact-month-may-2018-10-million-metric-tons-hydrogen-produced-annually-united-states>.

¹⁴ Final IS-MND, Appendix A at 34, 36.

¹⁵ Exhibit A, Center for Biological Diversity, Comments Draft Initial Study / Mitigated Negative Declaration, BayoTech Hydrogen Production and Dispensing Facility Comments (June 29, 2023) (hereinafter “CBD June 2023 Comments”) at 3; DiFelice, M. et al., *Exposing a New Threat to Our Water: Hydrogen Power*, Food & Water Watch, (Feb. 7, 2023), <https://www.foodandwaterwatch.org/2023/02/07/hydrogen-water-use/>.

¹⁶ *Accord Save Our Capitol! v. Dep’t of General Services* (2023) 87 Cal.App.5th 655, 683 (“A project description that omits integral components of the project may result in an EIR that does not adequately disclose all the project’s impacts.”).

¹⁷ Recirculated IS-MND at 82.

¹⁸ *L.A. Conservancy v. City of L.A.*, 2017 Cal. Super. LEXIS 8625, *41; see also 14 Cal. Code Regs. § 15124.

noted, the Recirculated IS-MND states that the Project would generate hydrogen “through a process that extracts hydrogen from natural gas using steam.”¹⁹ However, the Final IS-MND does not address the Recirculated IS-MND’s failure to disclose up-front either in the Project Description or Project Need section that this steam-methane reforming process is incredibly energy-intensive and emits carbon and health-harming pollution.²⁰

The Port must prepare an EIR that provides a full Project Description and accurately describes the need for this Project.

B. The Final IS-MND’s description of the environmental setting is inadequate.

The Final IS-MND also fails to describe the Project setting as required by CEQA and the CEQA Guidelines. An environmental document “must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time of the notice of preparation is published, or if a notice of preparation is not published, at the time environmental analysis is commenced, from both a local and regional perspective.”²¹ This description of the environmental setting constitutes the baseline physical conditions by which a lead agency determines the significance of environmental impacts.²² “Knowledge of regional setting is critical to the assessment of environmental impacts.”²³ Without such an understanding, any impacts analysis or proposed mitigation becomes meaningless.

The environmental setting section of the Recirculated IS-MND, which is not altered by the Final IS-MND, consists of 3 paragraphs and two maps describing adjacent land uses, roadways, and the parcel site itself. The bare description of land uses falls far short of the description of physical environmental conditions in the vicinity of the Project that is required. For example, the environmental setting entirely lacks a description of existing regional air quality issues and concerns. Nor does the setting provide a description of adjacent frontline communities who will bear the burden of any of the Project’s environmental externalities. As discussed further in Section III.E., the Project site is located adjacent to an environmental justice community with a history of polluted air. This omission makes it difficult to assess whether the Project will have a substantial impact on regional air quality and nearby communities.

Both the Recirculated and Final IS-MND further fail to show the location of sensitive receptors near the Project site. The Port surely possesses information on the location of schools

¹⁹ Recirculated IS-MND at 15.

²⁰ See Sun, P. et al., *Criteria Air Pollutants and Greenhouse Gas Emissions from Hydrogen Production in U.S. Steam Methane Reforming Facilities*, Environ. Sci. Technol (2019) <https://doi.org/10.1021/acs.est.8b06197>; see also Saadat, S. et al., *Reclaiming Hydrogen for a Renewable Future* (Aug. 2021) at 10-11, https://earthjustice.org/wp-content/uploads/hydrogen_earthjustice_2021.pdf (describing the emissions impacts of steam methane reformation).

²¹ CEQA Guidelines § 15125(a).

²² *Id.*

²³ CEQA Guidelines § 15125(c).

in Stockton (as well as the locations of retirement homes, convalescent homes, hospitals, medical clinics, and drug and alcohol rehabilitation centers, which are relevant to the air quality analysis under CEQA). It should be a simple matter to include a map showing the locations of these sensitive receptors in relation to the Project site and the areas that may be impacted by truck traffic to and from the Project-site—or, absent a map, a description of the actual numbers of these types of facilities located within a certain distance of the Project. Only with such information can the public and decisionmakers determine whether the Project would have a significant impact on these facilities and whether the Final IS-MND has required sufficient mitigation to reduce those significant impacts.

Confusingly, the Project setting also entirely omits mention of the DTE energy biomass plant located less than a mile from the Project site.²⁴ The biomass plant affects the Port’s consideration of cumulative impacts for this Project, as discussed in Section V below and should thus be included in a complete description of the Project setting.

Finally, the Final IS-MND does not disclose current conditions of the Port of Stockton gas infrastructure pipelines for conveying methane from Pacific Gas and Electric supply pipeline to the Project. Despite comments alerting the Port to this deficiency and concerns over pipeline integrity,²⁵ the Final IS-MND continues to omit a characterization of existing infrastructure that would be used, or if new infrastructure would be needed.

The Final IS-MND’s incomplete description of the Project and its environmental setting frustrates the core goals of CEQA: to provide a vehicle for intelligent public participation and to provide an adequate environmental impact analysis.²⁶

III. Environmental impacts are not adequately disclosed or mitigated, and there is a fair argument that the Project may have significant environmental impacts.

Evaluation of a proposed project’s environmental impacts is the core purpose of environmental review.²⁷ Specifically, an initial study must provide the factual and analytic basis for an agency’s determination that no significant impact will result from the Project.²⁸ Here, the Final IS-MND fails to satisfy these CEQA requirements. The document fails at a fundamental level to support the determination that no significant environmental impacts will result from the Project.

²⁴ DTE Energy, *DTE Energy’s Northern California biomass plant begins operations* (Mar. 13, 2014), https://dtevantage.com/wp-content/uploads/2015/03/06-DTE-Energy-Services-Northern-California-biomass-plant-begins-operations-March-13-2014_Stockton.pdf.

²⁵ Exhibit B, Sierra Club, et al., Comments on Port of Stockton BayoTech Hydrogen Production and Dispensing Facility Project; Initial Study / Mitigated Negative Declaration (July 10, 2023) (hereinafter “Sierra Club July 2023 Comments”) at 5-6.

²⁶ See *County of Inyo*, 71 Cal.App.3d at 197.

²⁷ CEQA Guidelines § 15126.2(a).

²⁸ CEQA Guidelines § 15063(d)(3).

Moreover, as discussed above, CEQA provides that a lead agency may issue a negative declaration and avoid preparing an EIR *only* if “[t]here is no substantial evidence, in light of the whole record before the lead agency, that the Project may have a significant effect on the environment.”²⁹ The Final IS-MND has not met this burden. Consequently, an IS-MND is insufficient and a full EIR must be prepared prior to any Project approvals.

A. Air Quality Impacts

CEQA requires that environmental impacts be adequately described and mitigated.³⁰ This is because use of an MND presumes any environmental impacts are mitigated in support of the negative declaration.³¹ If there is a fair argument that the proposed project may result in environmental impacts, the agency must prepare an EIR.³² Yet, the Final IS-MND fails to adequately disclose and mitigate air emissions impacts.

First, the San Joaquin Valley is classified as non-attainment for state particulate matter and ozone (PM₁₀, PM_{2.5} and O₃) standards, and for federal O₃ and PM_{2.5} standards. Thus, any additional air emissions will be significant and will undermine regional efforts to make air quality safer for residents. The California Court of Appeal has found that small sources of impacts that do not individually meet a threshold of significance can take on “threatening dimensions only when considered in light of the other sources with which they interact. Perhaps the best example is air pollution, where thousands of relatively small sources of pollution cause a serious environmental health problem.”³³ As explained above and as the Final IS-MND acknowledges, the production of hydrogen through steam methane reformation emits health-harming pollution.³⁴ The Final IS-MND argues the project should proceed since emissions would fall below purported thresholds set by the San Joaquin Valley Air Pollution Control District (“SJVAPCD”). However, for the reasons above, the emission of any criteria pollutants currently in non-attainment, namely PM₁₀, PM_{2.5} and O₃, is significant and must be mitigated.

Second, with respect to mobile source pollution, the Final IS-MND’s PM₁₀ estimate of 0.76 tons per year (“tpy”) lacks support, and there remains doubt about adherence to, and impacts on, emissions thresholds. The Center for Biological Diversity’s (“Center”) June 2023

²⁹ CEQA § 21080(c)(1).

³⁰ CEQA Guidelines § 15071 (requiring “[m]itigation measures . . . to avoid potentially significant effects”); *id.* § 15126.2 (“[d]irect and indirect significant effects of the project on the environment shall be clearly identified and described”).

³¹ *Grendare Historical Soc’y v. City of Glendale & Glendale*, 2022 Cal. Super. LEXIS 86349, *13 (“CEQA requires a governmental agency to prepare an environmental impact report where the proposed project ‘may have a significant effect on the environment.’”) (emphasis added by court) (quoting Cal. Pub. Res. Code § 21100(a)).

³² *Stanislaus Audubon Society Inc. v. County of Stanislaus* 33 Cal. App. 4th 144, 150-151 (1995) (“The ‘fair argument’ standard is a ‘low threshold’ test, ‘and reflects a preference for resolving doubts in favor of environmental review.’”) (citations omitted); *see also* Cal. Pub. Res. Code § 21151.

³³ *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 720.

³⁴ *See* Sun, P. et al., *supra*; Recirculated IS-MND at 37.

comments on the Draft IS-MND³⁵ noted how operational PM₁₀ emissions from non-permitted sources were very close to the 15 tpy threshold set by the SJVAPCD, and how just slight uncertainty in project assumptions could push PM₁₀ beyond the threshold. At that time, operational PM₁₀ emissions were reported as 12.20 tpy, or 81% of the threshold.³⁶ In response, in the Recirculated IS-MND, the Port adjusted that estimate downward to 0.76 tpy, 5% of the threshold of significance, and it justified this change based on BayoTech's stated intention to purchase an unspecified number of hydrogen fuel cell vehicles.³⁷ In subsequent comments, the Center asserted that there was no basis for the 0.76 tpy estimate, given the uncertainty around the future number of zero-emissions trucks.³⁸ And in the Final IS-MND, even though the Port stated that it was once again using a "conservative" 100% diesel assumption, it adopted the .76 tpy estimate of PM₁₀ from the Recirculated IS-MND.³⁹ Not only is this low estimate unsupported, confusing, and inconsistent with the Draft IS-MND, it also represents a fundamental failure of the Final IS-MND to analyze and disclose the emissions impacts from the proposed Project, which will have real impacts on the lives of people who live near and work in the Port. This failure is particularly concerning given the toxic and carcinogenic impacts of diesel PM and the fact that the project is located in a community already overburdened by air pollution, as detailed in Section III.E.⁴⁰

Finally, the Final IS-MND fails to adequately evaluate air quality impacts of the use of the Project's produced hydrogen. CEQA requires evaluation of "reasonably foreseeable indirect physical changes in the environment which may be caused by the project."⁴¹ According to the Final IS-MND, the hydrogen produced at the BayoTech facility will be directed to a wide range of end uses, including transportation and power applications for the electric grid and commercial and industrial customers.⁴² The Final IS-MND fails to analyze the air quality impacts of these uses. When hydrogen is combusted or blended with methane and combusted, it can emit NOx.⁴³ Such emissions can occur at levels even higher than unblended methane combustion.⁴⁴

³⁵ Exhibit A, CBD June 2023 Comments.

³⁶ Draft IS-MND at 35.

³⁷ Recirculated IS-MND, Appendix A at 18 ("Hydrogen transport would be made in part using hydrogen powered fuel cell electric vehicles (HFCEV) trucks—not solely diesel trucks as reported in the Draft IS-MND. Therefore, emissions associated with the number of truck trips would be less than reported. The Recirculated Draft IS-MND has been updated to incorporate this change.")

³⁸ Exhibit D, CBD April 2024 Comments.

³⁹ Final IS-MND, Appendix A at pdf page 50.

⁴⁰ California Office of Environmental Health Hazard Assessment, et al., *Health Effect of Diesel Exhaust*, <https://oehha.ca.gov/media/downloads/calenviroscreen/indicators/diesel4-02.pdf>.

⁴¹ CEQA Guidelines § 15064(d).

⁴² Recirculated IS-MND at 7; see also Final IS-MND, Appendix A at 33.

⁴³ National Energy Technology Laboratory, *A Literature Review Hydrogen and Natural Gas Turbines: Current State of the Art with Regard to Performance of NOx Control* (Aug. 12, 2022) <https://netl.doe.gov/sites/default/files/publication/A-Literature-Review-of-Hydrogen-and-Natural-Gas-Turbines-081222.pdf>.

⁴⁴ *Id.*

While the Final IS-MND states that its hydrogen will be directed to fuel cells, which do not emit NO_x, it does not claim that all its hydrogen will go to zero-emitting end uses. The Final IS-MND fails to respond to public comments on NO_x emissions from end uses.⁴⁵ Further, roughly 60% of all hydrogen produced in the U.S. goes to oil refining, which emits a wide range of pollutants.⁴⁶ It is thus reasonably foreseeable that the hydrogen produced by the project will go to combustion end uses and lead to increased NO_x emissions and potentially other harmful emissions associated with the use of project hydrogen in industrial and commercial operations. Because CEQA requires evaluation of both direct physical changes to the environment and reasonably foreseeable indirect impacts,⁴⁷ there is a fair argument that the Final IS-MND should have evaluated these impacts from the use of the project's hydrogen.

B. Greenhouse Gas Impacts

The Final IS-MND's greenhouse gas ("GHG") analysis is inadequate, and there is a fair argument that the Project will have significant GHG impacts such that an EIR is required.

1. *The Final IS-MND does not adequately disclose and evaluate GHG impacts.*

a. The Final IS-MND fails to evaluate the GHG impacts of hydrogen leakage during transportation and use of the Project's hydrogen and to explain the basis for its hydrogen leakage estimate.

Hydrogen is an indirect GHG because it leads to a chain of chemical reactions in the atmosphere that increase the amounts of other potent short-lived GHGs such as methane and ground level ozone, among others.⁴⁸ It is estimated to have a 20-year global warming potential roughly 30 times greater than that of carbon dioxide.⁴⁹ Hydrogen is also highly prone to leakage.⁵⁰ Therefore, any evaluation of the project's GHG impacts must take into account emissions of hydrogen from the Project's production and transport of hydrogen.

The Final IS-MND fails to account for all direct and indirect Project hydrogen leakage. Although the Recirculated IS-MND provides GHG estimates attributable to leakage from eight hydrogen storage pods at the facility, it does not evaluate leakage during truck transport or

⁴⁵ Final IS-MND, Appendix A at pdf page 63 (response to RTD-7 fails to address NO_x concern)

⁴⁶ Saadat, S., et al., *Reclaiming Hydrogen for a Renewable Future*, *supra* at 10 (citing sources).

⁴⁷ CEQA Guidelines § 15064(d).

⁴⁸ Sand, M., et al., *A multi-model assessment of the Global Warming Potential of hydrogen* (June 7, 2023) <https://www.nature.com/articles/s43247-023-00857-8>,

⁴⁹ Ocko, I, et al., *Climate consequences of hydrogen emissions*, 22 *Atmospheric Chemistry and Physics* 9349, Figure 3 (2022), <https://acp.copernicus.org/articles/22/9349/2022/>. This 20-year time horizon more accurately represents hydrogen's effects while it is impacting the atmosphere, compared to a 100-year time horizon. *Id.* at 2.

⁵⁰ Warwick, N., et al., *Atmospheric implications of increased Hydrogen use* (April 2022), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/106714/4/atmospheric-implications-of-increased-hydrogen-use.pdf.

leakage that may occur from end uses of the hydrogen. In the Final IS-MND, the Port fails to explain why it omits these sources of leakage and their associated GHG impacts.

The Port also fails to disclose the methods applied for its “systems test,” the results of which were used to estimate the storage pod leakage estimates.⁵¹ CEQA requires the lead agency to support its selection of a model or methodology with substantial evidence and to explain the limitations of the particular model or methodology selected for use.⁵² The Final IS-MND fails to provide such substantial evidence here.

b. The Final IS-MND’s truck technology assumptions are inconsistent and unclear.

As explained in the above Section A on air quality and PM emissions from project truck use, it is unclear what the Final IS-MND assumptions are for truck technology (i.e. diesel, gasoline, electric, hydrogen fuel cell). As a result, it is impossible to evaluate whether the Final IS-MND properly evaluates the GHG emissions estimates from mobile sources. The Final IS-MND mobile source GHG emissions estimates are therefore not supported, and there is a fair argument that additional evaluation is needed.

c. The MND fails to evaluate emissions from mitigation measures.

CEQA requires the evaluation of the effects of mitigation measures.⁵³ The Final IS-MND fails to evaluate the impact of its proposed use of renewable natural gas (“RNG”) as GHG mitigation. RNG sources such as large dairies can impose a myriad of adverse air and water quality impacts on local communities, including communities located in areas in non-attainment under the Clean Air Act and communities designated as disadvantaged under CalEnviroScreen.⁵⁴ The Final IS-MND does not disclose or assess these impacts, contrary to CEQA.

2. *The Final IS-MND fails to explain how purchase of book-and-claim RNG will mitigate GHG emissions.*

California courts have held that offset credits used in CEQA mitigation need to be “real, permanent, quantifiable, verifiable, enforceable, and additional to any GHG emission reduction otherwise required by law or regulation, and any other GHG emission reduction that otherwise

⁵¹ Recirculated IS-MND at 73-74.

⁵² CEQA Guidelines § 15064.4(c)

⁵³ CEQA Guidelines § 15126.4(a)(1)(d).

⁵⁴ See Saadat, S., et al., *Rhetoric vs. Reality: The Myth of “Renewable Natural Gas” for Building Decarbonization* (2020), https://earthjustice.org/wp-content/uploads/report_building-decarbonization-2020.pdf; Grubert, E., *At scale, renewable natural gas systems could be climate intensive: the influence of methane feedstock and leakage rates*, 15 *Envtl. Research Letters* 8 (2020), <https://iopscience.iop.org/article/10.1088/1748-9326/ab9335>; Lazenby, R., *Considering the Role of Anaerobic Digesters in Mitigating Emissions from California’s Dairies* (January 2024), https://law.ucla.edu/sites/default/files/PDFs/Publications/Emmett%20Institute/UCLA_Emmett_CA_Dairies_1%2018%2024.pdf.

would occur.”⁵⁵ The Final IS-MND fails to explain how BayoTech’s purchase of book-and-claim RNG credits meets these criteria. The Final IS-MND’s modification of GHG mitigation measure GHG-MM-1 to include a potential future assessment of direct RNG purchase does not cure these defects.

a. The Final IS-MND does not explain how reliance on CARB’s Low Carbon Fuel Standard methodology for determining the carbon intensity of RNG will result in additional, verifiable GHG reductions.

As set forth in the report by Cheryl Laskowski, PhD, former branch chief of the Low Carbon Fuel Standard (“LCFS”) Program at the California Air Resources Board (“CARB”), attached hereto as **Exhibit F**, the Final IS-MND does not adequately explain how the GHGs of the Project will be mitigated by the purchase of book-and-claim RNG credits.⁵⁶ For numerous reasons, the Port’s reliance on such RNG credits and on LCFS carbon intensity (“CI”) scoring does not ensure real, additional, verifiable, or enforceable GHG reductions.

First, as Dr. Laskowski explains, the LCFS is not a CEQA offset program or an open marketplace.⁵⁷ LCFS credits are issued to LCFS-registered participants and are only applicable in the context of LCFS compliance. Moreover, LCFS crediting is only applicable to transportation fuels.⁵⁸ Here, the Final IS-MND does not explain whether BayoTech is registered by CARB as regulated by the LCFS Program. Indeed, the document suggests the opposite when it states that “BayoTech is not producing fuel under the LCFS.”⁵⁹ The Final IS-MND also states that the Project will produce hydrogen for non-transportation end uses. It does not explain how LCFS CI scoring, which only applies to transportation fuels, could be appropriately applied to assess the CI of the Project’s hydrogen. The Final IS-MND’s assertion that its purchase of RNG credits can mitigate the emissions from the production of such hydrogen is thus unsupported.

Second, the CI scores assigned in the LCFS do not reflect additional GHG reductions, which are required for mitigation of GHG impacts under CEQA. As described by Dr. Laskowski, CARB has expressly disavowed any additionality requirement in the LCFS, stating “... fuels eligible to receive LCFS credit and associated carbon-intensity reduction strategies are not required to demonstrate that the fuel production would have happened or not happen without the existence of the LCFS.”⁶⁰ Therefore, negative LCFS CI scores do not necessarily reflect GHG reductions above a business-as-usual baseline. For example, an RNG producer that established its RNG capture facility *before the LCFS even existed* can receive a negative carbon intensity

⁵⁵ See *Golden Door Props., LLC v. County of San Diego*, 50 Cal. App. 5th 467 (2020).

⁵⁶ Exhibit F, Letter of Dr. Laskowski (July 11, 2024).

⁵⁷ *Id.* at 1-2.

⁵⁸ Exhibit F, Letter of Dr. Laskowski (July 11, 2024) at 3.

⁵⁹ Final IS-MND, Appendix A at 52.

⁶⁰ California Air Resources Board, *Amendments to the Low Carbon Fuel Standard, Final Statement of Reasons* (Nov. 2018) at 185, <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2018/lcfs18/fsorlcfs.pdf> (emphasis added).

score under the LCFS.⁶¹ Several investigations into LCFS have highlighted the fact that the LCFS does not ensure additional emissions reductions.⁶² Given this lack of any “additionality” requirement in the program, the LCFS CI scores cannot be used to infer or claim GHG offsets or GHG mitigation under CEQA. The Final IS-MND’s purported use of book-and-claim RNG for this purpose is unsupported.

Third, to the extent the Project will acquire RNG credit in a separate marketplace, there is no assurance that these credits will actually mitigate GHG emissions as CEQA requires. As Dr. Laskowski explains, CARB does not verify any RNG credits outside the LCFS, and the Final IS-MND does not explain what, if any, verifier will be used for the book-and-claim RNG credits it acquires.⁶³

Fourth, even with verification of RNG credits from the LCFS or other sources, there is still a high risk of double counting because there is not a centralized database that is broadly used by programs such as the LCFS for tracking book-and-claim RNG credits and their environmental attributes.⁶⁴ This deficiency stands in sharp contrast to the credit market for renewable electricity, which does have a centralized credit registry that is widely used across programs and jurisdictions.⁶⁵ Given this major shortcoming, RNG’s environmental attributes can be claimed in multiple programs and by multiple actors without a robust mechanism for tracking and

⁶¹ Saadat, S., et al., *Comments on the November 9, 2022 LCFS Workshop* (Dec. 2, 2022), Appendix A, <https://www.arb.ca.gov/lists/com-attach/155-lcfs-wkshp-nov22-ws-UTQCZQFyWX4LZQlj.pdf> (table showing negative CI scores assigned by LCFS to RNG from dairy digester with construction dates before 2007 when LCFS was established.).

⁶² McKenna, P., *Is California Overstating the Climate Benefit of Dairy Manure Methane Digesters?*, Inside Climate News (Dec. 30, 2023), <https://insideclimatenews.org/news/30122023/milking-it-california-overstating-climate-benefit-dairy-manure-methane-digesters/>; Fu, J., *Is California giving its methane digesters too much credit?*, Grist (May 19, 2022), <https://grist.org/accountability/california-methane-digesters-low-carbon-fuel-standard/>; Petek G., California Legislative Analyst’s Office, *Assessing California’s Climate Policies-Agriculture* (Dec. 15, 2021), <https://lao.ca.gov/Publications/Report/4483> (finding that multiple state programs including the LCFS take credit for the same GHG emissions reductions); Martin, J., *Something Stinks: California Must End Manure Biomethane Accounting Gimmicks in its Low Carbon Fuel Standard* (Feb. 15, 2024), <https://blog.ucsusa.org/jeremy-martin/something-stinks-california-must-end-manure-biomethane-accounting-gimmicks-in-its-low-carbon-fuel-standard/>.

⁶³ Exhibit F, Letter of Dr. Laskowski (July 11, 2024) at 3-4.

⁶⁴ *Id.* at 4.

⁶⁵ See Western Renewable Energy Generation Information System, <https://www.wecc.org/WREGIS/Pages/Default.aspx> (“WREGIS is an independent, web-based tracking system for renewable energy certificates (REC) that covers the Western Interconnection territory”); see also, Roundtable on Sustainable Business, *RSB Book & Claim Manual V 2.0*, <https://rsb.org/wp-content/uploads/2021/12/21-12-02-RSB-Book-and-Claim-Manual-2.0.pdf> (describing features of a recognized “Book & Claim Registry” which “shall include a system for the storage of electronic data which...enables the registration, issuance, holding, transfer, and retirement of credits...”).

eliminating such double-counting.⁶⁶ RNG environmental attributes that are double-counted do not meet the requirement for CEQA mitigation, as they are neither real nor additional. Because the proposed mitigation lacks any assurance of real GHG reductions, there is substantial evidence supporting a fair argument that the Project will cause significant GHG emissions such that an EIR is warranted.

b. The Final IS-MND fails to demonstrate CARB approval for the use of RNG for CEQA mitigation.

The Final IS-MND states that “discussions were held with CARB to confirm the validity of book and claim.”⁶⁷ This reference is incomplete at best and misleading at worst. The Final IS-MND provides no written documentation of the content of those conversations. While it is the case that CARB currently allows book-and-claim accounting for RNG within the LCFS, this allowance does not mean that CARB has evaluated or condoned the use of book-and-claim RNG for purposes of CEQA GHG mitigation. The Final IS-MND provides no CARB materials that indicate such assent. In fact, as explained below, CARB has articulated a prioritization of local mitigation in the 2022 Scoping Plan.⁶⁸

c. The Final IS-MND fails to describe how it will prioritize on-site and local GHG mitigation.

In the 2022 Scoping Plan CARB states “[t]he State recommends prioritizing GHG mitigation actions according to a geographic hierarchy as follows: on-site opportunities; local, off-site GHG mitigation; and GHG offsets that meet CEQA’s requirements.”⁶⁹ This prioritization is also exemplified in Senate Bill 7, which expressly mandates local GHG mitigation for certain projects.⁷⁰

The Final IS-MND fails to explain how it is implementing this hierarchy. The Final IS-MND’s exclusive reliance of book-and-claim RNG, which offers no on-site or local benefits and dubious off-site benefits, is directly contrary to the stated state policy to prioritize local

⁶⁶ McKenna, P., *Is California Overstating the Climate Benefit of Dairy Manure Methane Digesters?*, (Dec. 30, 2023), <https://insideclimatenews.org/news/30122023/milking-it-california-overstating-climate-benefit-dairy-manure-methane-digesters/>; Fu, Jessica, *Is California giving its methane digesters too much credit?* (May 19, 2022), <https://grist.org/accountability/california-methane-digesters-low-carbon-fuel-standard/>.

⁶⁷ Final IS-MND, Appendix A at 35.

⁶⁸ CARB, *2022 Scoping Plan*, Appendix D at 29, <https://ww2.arb.ca.gov/sites/default/files/2022-11/2022-sp-appendix-d-local-actions.pdf>

⁶⁹ *Id.*

⁷⁰ Senate Bill 7 (Atkins 2021) Chapter 19, Statutes of 2021 (“Environmental quality: Jobs and Economic Improvement Through Environmental Leadership Act of 2021”) (prioritizing on-site and local, off-site mitigation measures and prioritization of offset credits “that originate within the same air pollution control district or air quality management district in which the project is located,” and as a last resort, offsets that “originate from sources that provide a specific, quantifiable, and direct environmental and public health benefit to the region in which the project is located.”).

mitigation.⁷¹ This conflict violates CEQA Guidelines 15183.5(b) and 15064.4(b)(3) which call for consistency with state climate goals and strategies and consideration of those policies when determining GHG significance.⁷²

d. The Final IS-MND does not explain how future assessment of “locally available” RNG will mitigate GHGs.

The added provision to GHG-MM-1 provides that:

“In addition, within 6 months of the effective date of the lease, BayoTech shall prepare an assessment of locally (defined as within a 200-mile radius) available RNG and methods of acquisition (trucked deliveries and/or pipeline). Based on the results of the assessment, the Port reserves the right to require BayoTech to purchase and use direct RNG if it is available within the local market at levels required by this mitigation measure, the cost to acquire is within 10% of existing costs to acquire RNG through book and claim, and total emissions are not increased through delivery and/or usage.”

For at least three reasons, this addition does not cure the already identified deficiencies with the Project’s proposed GHG mitigation. First, the added provision merely reserves the right for the Port to impose such a requirement; it does not commit the Port to doing so, even if the stated conditions are met. Second, any future requirement to use “locally available” RNG is contingent on pricing and availability. It is entirely possible future pricing of local RNG will exceed the measure’s 10% price differential cap. Third, even if the Port were to acquire “locally available” RNG in the future, there is no method for ensuring that this RNG provides real, additional, verifiable, and enforceable GHG reductions as required for GHG mitigation under CEQA.⁷³ The Final IS-MND does not explain how it will calculate the GHG impacts of this “locally available” RNG. As indicated above, the LCFS does not provide the appropriate methodology, and the lack of a broadly used centralized database or tracking system for RNG’s environmental attributes means that the risk of double counting of environmental attributes is high, even for locally sourced RNG. Therefore, even with this additional provision, the Final IS-MND’s GHG mitigation is insufficient and there is a fair argument that GHG impacts will be significant.

⁷¹ BayoTech continues to represent on its website that it will use actual RNG to produce hydrogen even though the Final IS-MND states that direct RNG is not available to it. *Compare* Bayotech Webinar Q&A, <https://bayotech.us/port-of-stockton-webinar/> (“The Port of Stockton hub will be producing hydrogen through steam methane reforming from a blend of natural gas and renewable natural gas.”) *with* Final IS-MND, Appendix A at 62 (“It is the Port’s understanding that direct RNG is not available in the project area and if it were, it would need to be trucked in and would not be provided through existing PG&E pipeline infrastructure.”).

⁷² CEQA Guidelines §§ 15183.5(b) and 15064.4(b)(3).

⁷³ *See Golden Door Props., LLC v. County of San Diego* (2020) 50 Cal. App. 5th 467.

3. *The Project will increase GHGs in California, and the Final-IS MND does not explain how the project will contribute to attainment of state climate goals.*

The California Legislature has required attainment of net-zero GHG emissions in California by 2045 and recognized that to achieve this goal, an “almost complete transition away from fossil fuels” will be necessary.⁷⁴ Consistent with this mandate, the 2022 Scoping Plan sets a path for achievement of net zero GHG emissions in California by 2045.⁷⁵ Further, statewide GHG reduction targets have been set by Executive Order out to 2050, along with interim targets.⁷⁶

The Final IS-MND fails to conform to these state directives. The Port does not analyze whether or how the Project will contribute to a phase-out of reliance on fossil fuels and support attainment of net-zero GHG emissions by 2045. It also fails to adequately evaluate whether the Project is consistent with California’s GHG reduction targets. In fact, there is substantial evidence that the Project will thwart achievement of these climate mandates and goals. Because Bayotech’s steam methane reforming technology is dependent on methane as an input, the Project perpetuates state reliance on fossil fuels and heightens the risk of stranded fossil fuel assets in the future. The Final IS-MND points to its “eligibility” for the LCFS as evidence of its consistent with California goals to decarbonize fuel.⁷⁷ But as discussed above, the Final IS-MND has not provided any evidence to support the claim that the Project is “LCFS-eligible.”

What is more, the Final IS-MND commits only to mitigating the GHG impact of the Project to *just below* the stated threshold of significance, as noted in prior comments;⁷⁸ it does not commit to mitigation of GHG impacts to net-zero emissions or any other state GHG reduction target.⁷⁹ As a result, the Project will always be GHG positive and out of alignment with State GHG reduction goals. The Final IS-MND does not explain how this contribution to increased GHG emissions, which will last the life of the Project, is consistent with California’s GHG reduction targets or other climate goals. In light of these deficiencies, substantial evidence supports a fair argument that the Port must evaluate in an EIR alternatives to achieve net-zero

⁷⁴ Assembly Bill 1279 (Muratsuchi 2022), §§ 1–2 (adding the California Climate Crisis Act to the California Health and Safety Code); see also Executive Order B-55-18.

⁷⁵ CARB, 2022 Scoping Plan at 45, <https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf>.

⁷⁶ See Executive Order (EO) S-3-05 (June 1, 2006) (setting target of 80% GHG reductions below 1990 levels by 2050). Executive Order B-30-15 (setting interim target of 40 percent below 1990 levels by 2030).

⁷⁷ Recirculated IS-MND at 76.

⁷⁸ Exhibit A, CBD June 2023 Comments at 9-10.

⁷⁹ Bayotech has walked back its commitment to net-zero emissions. In Bayotech’s Port of Stockton Informational Webinar, a Bayotech representative stated that it will “use enough RNG to get to a zero CI score” and “get to negative” where possible. See Video of Port of Stockton Information Webinar, (Oct. 3, 2023), available at <https://bayotech.us/port-of-stockton-webinar/>. This commitment is not included in the Final IS-MND, which as explained only commits the Project to mitigating GHGs to just below the significance threshold.

GHG emissions, consistency with California’s GHG reduction targets and, alignment with all other state climate goals.⁸⁰

C. Energy Impacts

Under CEQA, “[i]f [the lead agency’s] analysis of the project’s energy use reveals that the project *may* result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources, the EIR *shall* mitigate that energy use.”⁸¹ Here, the Final IS-MND for the proposed project does not meet the basic requirements for evaluating and mitigating energy use or utilities impacts.

CEQA requires that the lead agency analyze “the project’s energy use for all project phases and components, including transportation-related energy, during construction and operation.”⁸² However, the Final IS-MND ignores potentially significant energy-use-related environmental impacts in order to avoid the statutory mandate to mitigate that energy use, including an evaluation of alternative renewable energy sources or other effective mitigation measures.

For example, the Final IS-MND adopts the Recirculated IS-MND’s impact determinations and explanation that the proposed Project will include construction of hydrogen production, dispensing, and compression facilities, an accompanying storage warehouse with a storage office, an automatic safety gate for entry with cameras, and site lighting for security.⁸³ However, it later asserts, without analysis or supporting evidence, that energy use impacts from “[c]onstructing and operating” the new facilities will be less than significant because “the proposed project would use equipment that consumes fossil fuels but would not require any unusual or excessive equipment or practices compared to projects of similar type and size.”⁸⁴

Stating that the proposed project is not outside the norm is not equivalent to rigorously evaluating whether the proposed project could have significant environmental effects or could more efficiently utilize energy resources, as CEQA requires. Nor does comparing the proposed project to a business-as-usual scenario satisfy CEQA’s mandate to mitigate any concomitant energy use impacts. It is also inapposite that “[t]he proposed project would represent a fraction of the County’s total use of electricity and natural gas.”⁸⁵ Implying that the proposed project’s energy use is small when compared to the entire county serves only to distract from the failure of the Final IS-MND to substantively evaluate whether the proposed project’s energy use is

⁸⁰ CEQA Guidelines §§ 15183.5(b) and 15064.4(b)(3) (requiring consistency with state climate goals and strategies and consideration of those policies when determining GHG significance); *see also* CARB 2022 Scoping Plan at 45-53 (listing relevant climate legislation enacted since the 2017 Scoping Plan).

⁸¹ CEQA Guidelines § 15126.2 (emphases added).

⁸² *Id.*

⁸³ Final IS-MND at 3, 6; *see also* Recirculated IS-MND at 7, 10-11.

⁸⁴ Recirculated IS-MND at 56.

⁸⁵ Recirculated IS-MND at 56.

“wasteful, inefficient, or unnecessary.” Indeed, as commenters have noted, increasing the entire county’s methane use by 1-2%, as is proposed, could be significant such that there is a fair argument that the impacts of this methane use increase should be evaluated.⁸⁶ Yet the Final IS-MND does not do so.

Similarly irrelevant is the Final IS-MND’s claim (adopted without alteration from the Recirculated IS-MND) that the proposed Project “is anticipated” to one day use purportedly cleaner fuels: “Over time, the proposed project is also anticipated to transition to a mixture of natural gas and RNG, a purified form of biogas generated by the decomposition of waste. This would reduce the fossil fuel demand of the hydrogen production units relative to the fraction of natural gas replaced by RNG.”⁸⁷ First, these claims that the project will someday use cleaner fuels are merely “anticipated” and not confirmed—a far cry from a meaningful commitment—which serve again, only to distract from the lack of substantive consideration of the project’s energy use impacts. Second, the Final IS-MND does not explain why the Project does not *now* attempt to utilize those alternative fuel sources with purportedly fewer climate-forcing emissions and energy use impacts. An analysis of alternative fuel sources is precisely the kind of evaluation the lead agency should undertake in its consideration of mitigating environmental impacts from a project’s energy use.

Finally, even the feeble claim that the proposed Project could one day “transition” to fuels that would “reduce the fossil fuel demand of the hydrogen production units” names as the replacement “renewable natural gas”—a greenwashed and fundamentally unproven technology that would not reduce adverse environmental impacts of producing hydrogen with fossil fuel inputs. The Final IS-MND also lacks criteria to even assess whether RNG would reduce fossil fuel demand. As explained in Section B above, this technology consistently over-inflates emission reduction potential and has many environmentally devastating consequences.

The Final IS-MND also incorporates the Recirculated Draft IS-MND’s conclusion that “[b]ecause the proposed project would be designed and constructed to comply with CALGreen and would comply with other state and local plans and policies, the energy consumption from the proposed project would not be wasteful, inefficient, or unnecessary and thus would be less than significant.”⁸⁸ However, an environmental review document should not rely solely on compliance with Title 24 standards to mitigate operational and construction energy impacts.⁸⁹

⁸⁶ Exhibit B, Sierra Club July 2023 Comments at 7.

⁸⁷ Recirculated IS-MND at 56.

⁸⁸ Recirculated IS-MND at 57.

⁸⁹ *California Clean Energy Comm. v. City of Woodland*, 225 Cal. App. 4th (2014) 173, 211 (“Although the [California Building Standards Code (Cal. Code Regs., tit. 24, pt. 6)] addresses energy savings for components of new commercial construction, it does not address many of the considerations required under appendix F of the CEQA Guidelines. These considerations include whether a building should be constructed at all, how large it should be, where it should be located, whether it should incorporate

The Final IS-MND fails to assess any of these factors, including the size of the facilities or whether they can be powered by renewable energy.

Furthermore, while the Recirculated Draft IS-MND notes it “updated” three energy use mitigation measures from the previous draft, the descriptions of several of the measures that could be utilized to reduce energy demand are still inadequately vague and do not make any specific or binding commitments.⁹⁰ The Final IS-MND fails to address this failure. While updates to ENG-MM-1 attempt to make truck idling measure more definite, it does not include discrete enforcement mechanisms for queuing vehicles. It is especially problematic that the state idling mitigation lacks enforceability because there are *already* challenges enforcing existing anti-idling requirements at the Port of Stockton.⁹¹ This mitigation measure for truck idling should also be expanded to require infrastructure to reduce idling, like electric plug-ins.⁹² In updates to ENG-MM-2 on the use of clean trucks, the Recirculated Draft IS-MND states that the company will “encourage its customers to use zero-emission trucks to transport hydrogen fuel.”⁹³ Zero-emission trucks are readily available in the open market⁹⁴ and the Port should make zero emission trucks a requirement for the Project to reduce toxic diesel emissions, including NO_x and PM. The Final IS-MND fails to do so. Third, ENG-MM3 regarding the “energy/waste

renewable energy resources, or anything else external to the building’s envelope. Here, a requirement that [the project] comply with the Building Code does not, by itself, constitute an adequate assessment of mitigation measures that can be taken to address the energy impacts during construction and operation of the project.”); *Ukiah Citizens for Safety First v. City of Ukiah* (2016) 248 Cal. App. 4th 256, 264.

⁹⁰ Recirculated IS-MND at 57-58.

⁹¹ See San Joaquin Valley Air Pollution Control Dist., Community Emissions Reduction Program Stockton (2021) at 85 (hereinafter “CERP”), <http://community.valleyair.org/media/2487/final-stockton-cerp-no-appendix-with-cover.pdf> (describing the Heavy Duty Truck Replacement Program, which provides incentives for the replacement of existing heavy-duty diesel trucks with new, zero or near-zero-emission technology).

⁹² *Id.* at 87-88 (describing strategies to develop heavy-duty electric vehicle charging infrastructure and truck idling plug-ins); U.S. Dep’t of Energy, *Idle Reduction Equipment for Heavy-Duty Trucks*, https://afdc.energy.gov/conservation/idle_reduction_equipment.html (last visited June 23, 2023).

⁹³ Recirculated IS-MND at 57.

⁹⁴ See, e.g., Slovick, M., *The Age of Zero-Emissions Heavy-Duty Trucks Begins*, Electronic Design, Feb. 12, 2021, <https://www.electronicdesign.com/markets/automotive/article/21155025/electronic-design-the-age-of-zeroemissions-heavyduty-trucks-begins> (discussing the significant increase in zero-emissions freight vehicles being produced by various companies); Global Commercial Vehicle Drive To Zero, *Biggest Zero-Emission Trucks Hit Market At Accelerating Rate, Boast Impressive Ranges* (May 18, 2021), <https://globaldrivetozero.org/2021/05/18/biggest-zero-emission-trucks-hit-market-at-accelerating-rate-boast-impressive-ranges-5-18-21/> (describing how the “number of available and announced models of new ZE heavy- duty trucks is expected to grow from 40 to 71 in the United States, Canada, China and Europe between 2020 and 2023 – a nearly 80 percent increase over just three years.”); Coalition for A Safe Env’t, *Zero Emissions Technology Survey* (April 3, 2024) <https://shipitzero.org/wp-content/uploads/2022/01/CFASE-Commercial-Status-Availability-of-Zero-Emissions-Transportation-Vehicles-CHE-Construction-Equipment-1-20-2022-Final.pdf>; see also, CERP, *supra* at 85 (describing the Heavy Duty Truck Replacement Program, which provides incentives for the replacement of existing heavy-duty diesel trucks with new, zero or near-zero-emission technology).

audit” still lacks criteria for what constitutes “less-efficient” lighting that will be replaced and no criteria for how waste from single-use products will be reduced.⁹⁵ There is also no explanation in the Final IS-MND as to why an energy audit is necessary; the Project should be as efficient as possible from the start.

For all these reasons, the Final IS-MND cannot assume that the Project’s energy use will be less-than-significant; it does not provide sufficient evidence or analysis to support that assessment. Moreover, the mitigation measures described to reduce energy use cannot be relied upon to assert that project impacts are less-than-significant in other impact areas like greenhouse gas emissions, as discussed in Section B above.

D. Biological Resource Impacts

Protecting biological resources is a fundamental tenet of CEQA. Under Public Resources Code section 21001(c), it is the policy of the state to “[p]revent the elimination of fish or wildlife species due to man’s activities, insure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities.” Thus, CEQA allows the use of a MND only where potentially significant effects on the environment are identified and mitigated.⁹⁶

Here, the Recirculated IS-MND does not adequately disclose or mitigate potential adverse impacts to biological resources, such as the San Joaquin River, historic wetlands, and special status wildlife and plant species located within and near the project area. The Final IS-MND does not correct this error. Nor does it adequately address comments submitted by the California Department of Fish and Wildlife (“CDFW”)—the designated trustee agency for California’s fish and wildlife resources and a responsible agency under CEQA—concerning effects on biological resources and the environment.⁹⁷ CDFW raised concerns with the proposed project’s impacts to numerous biological resources, and provided evidence that many of those impacts would be significant *despite* proposed mitigation measures. The lead agency did not respond to comments from CDFW in the Recirculated IS-MND, leaving no opportunity for the public to comment on the adequacy of the Final IS-MND’s changes to the mitigation measures for biological resources. As discussed below, the Final IS-MND continues to inadequately evaluate significant impacts to biological resources such as migratory birds and does not provide adequate mitigation of identified potential adverse impacts, warranting the preparation of a full EIR for the project.

⁹⁵ Recirculated IS-MND at 57.

⁹⁶ Cal. Pub. Res. Code § 21064; *see also Grendare*, 2022 Cal. Super. LEXIS 86349, *14.

⁹⁷ *See generally* Final IS-MND at Appendix A at PDF page 33-36 (CDFW-1 to CDFW-5).

a. Artificial Light Impacts

The Recirculated IS-MND states that “[s]ite security lighting would [] be installed at the project site,”⁹⁸ and that “hydrogen production and filling station would be operational throughout the night,”⁹⁹ resulting in “potentially significant impacts.”¹⁰⁰ Only one mitigation measure is proposed to address these impacts, the use of “full cut-off light shields and/or anti-glare lighting,” which the lead agency claims would result in “less-than-significant impact.”¹⁰¹ The lead agency did not respond to comments from CDFW in the Recirculated IS-MND, which stated its expert opinion that there was “insufficient” analysis “to conclude that Project impacts from artificial light would be reduced to a level less-than-significant and requires additional evaluation and mitigation.”¹⁰²

CDFW expressed numerous serious concerns about artificial light impacts to biological resources, and that such impacts from the project “would be significant.”¹⁰³ For example, CDFW notes that artificial light can disrupt species’ circadian rhythms, photoperiod cues for communication, foraging and thermoregulation behaviors, and migration; disturb feeding patterns; disrupt diel shifts for Delta and longfin smelt; and make some species more vulnerable to predators, among other impacts.¹⁰⁴ Yet, the Final IS-MND does not substantively respond to CDFW’s comments on this issue. And by failing to respond to CDFW’s concerns in its Recirculated IS-MND, neither the interested public nor the expert agency CDFW has had the opportunity to evaluate whether the additional “design elements” added to the mitigation measure in the Final IS-MND would adequately mitigate these significant artificial light impacts.

Furthermore, both the Recirculated and Final IS-MND utterly fail to address comments submitted by Center for Biological Diversity on potentially significant adverse impacts on migratory birds from the proposed project plan to run artificial lighting 24 hours a day, 7 days a week, 365 days per year.¹⁰⁵ Despite noting:

- the project site includes surrounding habitat that “may be marginally suitable for some transitory species,” including burrowing owl (*Athene cunicularia*; state species of special concern) and select Migratory Bird Treaty Act-protected bird species”;¹⁰⁶

⁹⁸ Recirculated IS-MND at 12.

⁹⁹ *Id.* at 28.

¹⁰⁰ *Id.*

¹⁰¹ *Id.* at 29.

¹⁰² California Department of Fish and Wildlife, Comments on BayoTech Hydrogen Production and Dispensing Facility Project (June 29, 2023) (hereinafter “CDFW Comments”) at 3.

¹⁰³ *Id.* at 3.

¹⁰⁴ *Id.* at 3-4.

¹⁰⁵ Recirculated IS-MND, App’x A at CBD-30.

¹⁰⁶ *Id.* at 45.

- “[h]abitat adjacent to the project along the San Joaquin River could provide nesting opportunities for some migratory bird species”¹⁰⁷; and
- “the project area is along the Pacific Flyway, an established air route of waterfowl and other birds migrating between wintering grounds in Central and South America and nesting grounds in Pacific Coast states and provinces of North America,”¹⁰⁸

the Recirculated IS-MND uncritically concludes that “[t]he proposed project would have no impact on the movement of native wildlife.”¹⁰⁹ Commenters additionally noted that “[a]rtificial lighting, like that used at the site, *attracts* migratory birds.”¹¹⁰ This fact directly undermines the Recirculated IS-MND’s assumption that “the developed nature of the surrounding area and barren nature of the project area likely to preclude migratory bird species from using the project site as a stopover during their migration.”¹¹¹ Despite these serious concerns, the Final IS-MND adopts this conclusion from the Recirculated IS-MND wholesale without discussion.

The following migratory birds, which are protected under the Migratory Bird Treaty Act, may be affected by activities in the Project area: Belding’s Savannah Sparrow; Bullock’s Oriole; California Gull; Clark’s Grebe; Common Yellowthroat; Lawrence’s Goldfinch; Northern Harrier; Nuttall’s Woodpecker; Oak Titmouse; Olive-sided Flycatcher; Santa Barbara Song Sparrow; Tricolored Blackbird; Western Grebe; Western Screech-owl; Wrentit; and Yellow-billed Magpie. All are considered by the U.S. Fish and Wildlife Service as Birds of Conservation Concern.¹¹² A full analysis of the project’s potential impacts to migratory birds, from artificial lighting and otherwise, is thus warranted in an EIR.

b. Swainson’s Hawk (*Buteo swainsoni*) and Giant Garter Snake (*Thamnophis gigas*)

The CDFW raised its concerns and provided evidence that the proposed project would significantly impact both Swainson’s hawk and giant garter snake, both state-listed threatened species, and recommended mitigation measures necessary to address those significant impacts.¹¹³ Remarkably, the Recirculated IS-MND not only does not respond to the expert agency’s comments, but it fails to not mention these species *at all*. While the Final IS-MND does acknowledge that there is a “minor potential for these species to use the site,”¹¹⁴ it does not

¹⁰⁷ Recirculated IS-MND at 45.

¹⁰⁸ *Id.* at 48

¹⁰⁹ *Id.*

¹¹⁰ *Id.*, Appendix A at CBD-30 (emphasis added).

¹¹¹ *Id.* at 48.

¹¹² U.S. Fish & Wildlife Service, list of resources managed or regulated by the U.S. Fish & Wildlife services in IPAC, San Joaquin County, California *available at* <https://ipac.ecosphere.fws.gov/location/EGV35X4UQNARZIGDGWEQQPCXRY/resources#migratory-birds> (last visited on July 11, 2024).

¹¹³ CDFW comments at 4-8.

¹¹⁴ Final IS-MND at 8.

substantively evaluate the evidence presented by CDFW that the project would likely significantly impact these protected species.

CDFW notes that the mitigation measures proposed (namely, BIO-MM-3) may not be adequate to avoid potentially significant “take” or adverse impacts to Swainson’s hawk or giant garter snake, particularly if the lead agency fails to obtain coverage under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (“SJMSCP”) or, alternatively, conduct nesting bird surveys.¹¹⁵ The Recirculated IS-MND notes that the “SJMSCP is a voluntary program,” that the development of any incidental take minimization measures (“ITMM”) is dependent upon whether “the proposed project is approved for coverage,” and that potential ITMMs will only be required if appropriate.¹¹⁶ Further, the BIO-MM-3 mitigation measure’s reliance on the future development of as-yet-to-be-determined ITMMs renders the Final IS-MND inadequate. Mitigation measures must be specific and include details so that all parties (including the project developer, workers, and local regulators) are aware of their obligations and limitations. This sole mitigation measure addressing impacts to protected species is so vague and speculative as to practically provide no mitigation at all.

The CDFW comments that this “vague” mitigation measure “may not be sufficient to avoid potentially significant impacts to Swainson’s hawk, a state threatened species.”¹¹⁷ The agency then provides specific recommendations to minimize impacts and avoid “take” regardless of whether the proposed project is accepted for coverage by the SJMSCP, including undertaking Swainson’s hawk protocol surveys if project work occurs during the breeding season for nesting birds; requiring mandatory nest buffers if active nests are found during surveys; and prohibiting “take” of listed species without a California Endangered Species Act (“CESA”) incidental permit; and avoidance of all disturbance of active nests during nesting season.¹¹⁸ The Recirculated IS-MND fails to respond at all to these detailed mitigation measures recommended by the expert agency. The sole mitigation measure addressing these concerns in the Final IS-MND suffers similarly.¹¹⁹ The Final IS-MND incorporates CDFW recommendations *only* if the project is unable to obtain coverage under the SJMSCP.¹²⁰ Thus, the first order of mitigation presented in the Final IS-MND’s BIO-MM-3 still relies on vague and speculative mitigation, i.e., the development of as-yet-to-be-determined ITMMs.

CDFW likewise comments that BIO-MM-3 will not mitigate potentially significant impacts to giant garter snake if the project does not participate in the SJMSCP (presumably because the alternative course of action if it cannot obtain coverage under the SJMSCP is to

¹¹⁵ CDFW comments at 4 (discussing BIO-MM-3, Recirculated IS-MND at 47).

¹¹⁶ Final IS-MND at 12-13; *see also* Recirculated IS-MND at 47.

¹¹⁷ CDFW comments at 4-5.

¹¹⁸ *Id.*

¹¹⁹ Final IS-MND at 12-13.

¹²⁰ *Id.* at 13.

“conduct nesting bird surveys.”¹²¹ CDFW recommended specific, actionable, nonspeculative mitigation measures that would “avoid ‘take’ or adverse impacts to GGS [giant garter snake],” regardless of whether the proposed project is accepted for coverage by the SJMSCP. These measures include: undertaking a habitat assessment; requiring 50-foot no-disturbance buffer for burrows and crevices where giant garter snake could be present; requiring 200 foot buffer for any identified aquatic habitat in or within 20 feet of the project; prohibiting “take” of listed species without a CESA incidental permit; requiring stop work orders whenever a snake species of any kind is observed within the project site until the snake species is identified by a qualified biologist; and prohibiting all erosion control materials potentially harmful to GGS.¹²² However, the Final IS-MND incorporates CDFW recommendations *only* if the project is unable to obtain coverage under the SJMSCP.¹²³ Like for the Swainson’s hawk, the first order of mitigation presented in the Final IS-MND’s BIO-MM-3 for the significant impacts to giant garter snake identified by CDFW continue to inappropriately rely on vague and speculative mitigation measures (namely, the development of as-yet-to-be-determined ITMMs).

The CDFW’s comments make clear that because the proposed Project may affect CESA-listed species, such as the Swainson’s hawk and giant garter snake, consultation with the CDFW *is required*.¹²⁴ In addition to review under CEQA, when a project has the potential to significantly impact a species listed under the California Endangered Species Act, consultation with wildlife agencies and an Incidental Take Permit are required.¹²⁵ CDFW explains that “early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA Permit” for incidental take of listed species.¹²⁶ The CDFW also pointed out that the Project must “require compensatory mitigation for impacts to threatened and endangered species and their habitats and include a mitigation proposal.”¹²⁷

Alarming, there is no evidence in the Recirculated IS-MND, Final IS-MND or otherwise that the Port has consulted on potential impacts to CESA-protected species or habitat from the proposed project. This is not only unlawful but undermines the Final IS-MND and further counsels in favor of preparing a full EIR for this proposed Project.

E. Environmental Justice Impacts

The Final IS-MND makes no attempt to correct the Recirculated IS-MND’s failure to disclose and address the significant environmental justice concerns this Project raises for

¹²¹ Recirculated IS-MND at 47; CDFW comments at 7.

¹²² CDFW comments at 7-8.

¹²³ *Id.* at 13.

¹²⁴ *Id.* at 4.

¹²⁵ Cal. Fish and Game Code § 2081; Endangered Species Act § 10.

¹²⁶ CDFW comments at 4.

¹²⁷ *Id.* at 8.

residents in the neighboring community. This failure is unacceptable given the Project setting and renders the Final IS-MND defective as an informational document.

CEQA requires that lead agencies “consider how the environmental and public health burdens of a project might specially [sic] affect certain communities.”¹²⁸ Part of the discussion should include an evaluation of the location of the project because the significance of an impact on people and the environment may change based on the project’s setting.¹²⁹ Furthermore, California Government Code section 11135 prohibits discrimination by any agency receiving state funding. The DEIR should therefore include an environmental justice analysis that fully considers Project impacts to the region and mitigates those impacts, particularly in the AB 617 community of Stockton.

Stockton is a racially diverse city¹³⁰ with a history of air pollution that has detrimentally impacted its communities of color.¹³¹ CalEnviroScreen, the California Environmental Protection Agency’s health screening tool, calculates a cumulative environmental quality score for communities across California which is instructive in capturing the totality of the health risks that communities like Stockton face. As noted by the CalEnviroScreen Report, “people are simultaneously exposed to multiple contaminants from multiple sources and also have multiple stressors based on their health status as well as living conditions.”¹³² To achieve this holistic approach, CalEnviroScreen community score calculations are driven by two components: (1) pollution burden and (2) population characteristics, which are defined by sensitivity of populations in terms of health status and age as well as socioeconomic factors. As the Center for Biological Diversity noted in their June 29, 2023 comments, the Stockton census tract where the

¹²⁸ Office of the Cal. Attorney General, *Environmental Justice at the Local and Regional Level* (2012) at 3, https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/ej_fact_sheet.pdf (hereinafter “OAG Report”); *Golden Door Properties, LLC v. County of San Diego* (2020) 50 Cal.App.5th 467, 555.

¹²⁹ OAG Report at 3 (“For example, a proposed project’s particulate emissions might not be significant if the project will be located far from populated areas, but may be significant if the project will be located in the air shed of a community whose residents may be particularly sensitive to this type of pollution, or already are experiencing higher-than average asthma rates.”).

¹³⁰ U.S. Census Bureau, Stockton Race and Ethnicity, 2020 Decennial Census, https://data.census.gov/profile/Stockton_city_California?g=160XX00US0675000#race-and-ethnicity.

¹³¹ Galvin, G., *America’s Most Diverse City is Still Scarred by Its Past*, U.S. News (Jan. 22, 2020), <https://www.usnews.com/news/cities/articles/2020-01-22/stockton-california-americas-most-diverse-city-is-still-scarred-by-its-past>; Sharp, A., *Stockton, Sacramento rank as nationwide ‘asthma capitals’ thanks to bad air quality*, CBS News (January 8, 2024), <https://www.cbsnews.com/sacramento/news/stockton-sacramento-rank-as-nationwide-asthma-capitals-thanks-to-bad-air-quality/>; BioMonitoring California, *Stockton Air Pollution Exposure Project*, <https://biomonitoring.ca.gov/projects/stockton-air-pollution-exposure-project-sapep>; CERP, *supra*, Appendix G: Health Impacts of Local Air Pollution, https://community.valleyair.org/media/ytylh1bu/stockton-appeng_health.pdf.

¹³² Zeise, L., et al., *CalEnviroScreen 4.0* (October 2021) at 9, <https://oehha.ca.gov/media/downloads/calenviroscreen/report/calenviroscreen40reportf2021.pdf>.

Project will be located in has a pollution burden in the 99th percentile for the entire state and a CalEnviroScreen score in the 99th percentile.¹³³

Despite Stockton’s evident air quality crisis, the Final IS-MND disappointingly contains no environmental justice analysis. Environmental justice is not even considered in the Final IS-MND as an environmental impact area. As a result, the Final IS-MND’s evaluation of the significance of project impacts, as evidenced in the flawed health risk assessment, is inadequate. Additionally, the Final IS-MND continues to omit inconsistencies between the proposed project and the applicable AB 617 Community Emissions Reduction Program (“CERP”) plan.¹³⁴

1. *The health risk assessment is inadequate and flawed.*

CEQA requires that the Final IS-MND make “a reasonable effort to discuss relevant specifics regarding the connection between . . . the general health effects associated with a particular pollutant and the estimated amount of that pollutant the project will likely produce.”¹³⁵ Only then can the public “make an informed decision [about the project], as CEQA requires.”¹³⁶ Yet the Final IS-MND discusses health impacts from the Project via a faulty and incomplete health risk assessment that fails to adequately analyze and mitigate the Project’s potential health risks, or connect those risks to either the Stockton community’s characteristics and existing environmental burdens or the public health crisis in the region.

The Port’s Health Risk Assessment (“HRA”), included as part of the Air Quality, Greenhouse Gas, and Health Risk Assessment Report attached as Appendix C to the Recirculated IS-MND, fails to adequately examine either construction or operational impacts of the Project—instead relying on a minimal, generic, and largely conclusory analysis. For example, in the executive summary the HRA concludes that Project construction and operation “would produce Diesel Particulate Matter due to combustion equipment and haul truck trips” as well as “toxic air contaminant emissions from operation of hydrogen production and fueling facility, truck trips, and truck idling,” respectively.¹³⁷ Yet the analysis fails to specifically quantify Diesel Particulate Matter emissions or the specific emissions for various toxic air contaminants (“TAC”).

Notably, the Project’s ammonia and NO_x emissions specifically remain vague and unspecified. Appendix C of the Recirculated IS-MND estimates operational health risks using emissions factors for expected TACs.¹³⁸ Among these TACs is ammonia. Ammonia is unique because, in addition to being a product of natural gas combustion like other TACs, it is also introduced for the process of selective catalytic reduction to reduce NO_x emissions from the project. Therefore, ammonia is a potential TAC that is brought on-site and stored where it can

¹³³ Exhibit A, CBD June 2023 Comments at 13.

¹³⁴ CERP, *supra*.

¹³⁵ *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 521.

¹³⁶ *Id.*

¹³⁷ Recirculated IS-MND, Appendix C at V.

¹³⁸ *Id.*, Appendix C at 8.

potentially leak both during storage and following its use in the H2-1000 hydrogen generation systems.

According to Appendix C of the Recirculated MND, “[t]he [Selective Catalytic Reduction] device will emit up to 10 ppm of ammonia from the de-aerator vent based on an expected permit limit of 10 ppm ammonia slip exhaust concentration. The concentration of ammonia in the stacks of both H2-1000 units will be measured by source test after construction.”¹³⁹ Essentially, the SCR device will purportedly only emit up to 10 ppm ammonia because that is the max amount that is permitted. Indeed, elsewhere in Appendix C, “emission is assumed to generate up to 9.1 lbs/mmcf,” or 9.1 ppm. However, this is indeed an assumption given that the exhaust concentration can only be confirmed by measurement following construction. A mistake in this assumption could lead to ammonia exhaust in excess of 10 ppm, which could result in ammonia plume formation and human health hazard,¹⁴⁰ especially when combined with the potential for ammonia leakage during transport and storage. Ultimately, this faulty analysis leaves the public in the dark about the Project’s specific pollution burdens and likely health impacts to the community.

The HRA also does not connect any emissions it calculated to human health in Stockton. Nor does the HRA or IS-MND put these impacts in the context of existing public health problems in the region to examine “the potential for unequally distributed impacts” or “impacts on populations with poor health.”¹⁴¹

The failure to adequately analyze health risks is especially egregious in light of the fact that existing tools are available to fully estimate Project emissions. Additionally, available studies already demonstrate the potential health risks from fossil-gas-generated hydrogen facilities and seemingly contradict the conclusory statements made in the Final IS-MND. Indeed, the production of hydrogen through steam methane reforming produces emissions that are known to be harmful, including NOx, particulate matter, carbon monoxide, and volatile organic compounds.¹⁴² NOx can cause serious health effects, including asthma and increased chance of respiratory infections; NOx is also a precursor to particulate matter and ozone, which harm the

¹³⁹ Recirculated IS-MND, Appendix C, Emissions Calculations and CalEEMod Model Output Files.

¹⁴⁰ U.S. EPA, Air Pollution Control Technology Fact Sheet (Accessed July 7, 2024), <https://www3.epa.gov/ttnecat1/dir1/fscr.pdf>

¹⁴¹ Human Impact Partners, *Minimum Elements and Practice Standards for Health Impact Assessment* (Sept. 2014) at 3, 5, <https://humanimpact.org/wp-content/uploads/2014/09/HIA-Practice-Standards-September-2014.pdf> (“HIA provides a profile of existing conditions for the populations affected by the proposal, including their health outcomes, health determinants, and vulnerable sub-groups within the population, relevant to the health issues examined in the HIA.”).

¹⁴² Sun, P. et al., *supra*.

respiratory system.¹⁴³ While there are methods of controlling NOx emissions at facilities, those technologies are only effective at controlling NOx at a blend of 30 percent hydrogen or less.¹⁴⁴

The failure to fully analyze health impacts to the already overburdened Stockton community demands a full environmental review conducted through an EIR.¹⁴⁵ In fact, the existence of data suggesting foreseeable impacts from similar hydrogen production facilities demonstrates that there is a fair argument the Project would result in environmental justice and public health impacts.¹⁴⁶

2. The Final IS-MND fails to address inconsistencies with applicable Community Emissions Reduction Program policies.

AB 617 initiated a state-wide effort to monitor and reduce air pollution and improve public health in communities that experience disproportionate burdens from exposure to air pollutants through community-focused and community-driven actions.¹⁴⁷ The community of Stockton was prioritized by the SJVAPCD and selected by the California Air Resources Board to receive clean air resources newly available under AB 617. Stockton's AB 617 CERP sets forth goals relating to the community's demands to decrease air pollution, lower toxic emissions, reduce vehicle traffic, and limit industrial development.

As the Center for Biological Diversity noted in prior comments, there is a specific emphasis within the CERP on reducing heavy truck pollution, with resources dedicated to studying alternate routes for trucks, incentives to replace trucks with zero and near-zero technology, development of heavy-duty electric vehicle charging infrastructure, incentivizing truck idling plug-ins, and increased enforcement of anti-idling regulation.¹⁴⁸ In fact, a primary concern identified by the AB 617 Steering Committee was heavy duty truck exhaust "specifically attributable to truck traffic and idling at the Port of Stockton" which "result in increased exposure to emissions for residents that live near these heavy duty trucking corridors."¹⁴⁹ Despite these CERP measures, and despite requests from community members, the

¹⁴³ U.S. Environmental Protection Agency, *Nitrogen Oxide Pollution*, <https://www.epa.gov/no2-pollution/basic-information-about-no2#Effects>.

¹⁴⁴ Clean Energy Group, *Five Reasons to be Concerned About Green Hydrogen*, <https://www.cleangroup.org/wp-content/uploads/Five-Reasons-to-be-Concerned-About-Green-Hydrogen.pdf>

¹⁴⁵ See, e.g., *Pocket Protectors*, 124 Cal.App.4th at 928 (concluding that judicial review must show "a preference for resolving doubts in favor of environmental review.").

¹⁴⁶ CEQA Guidelines § 15064(g); *City of Carmel-By-The-Sea v. Board of Supervisors* (1986) 183 Cal.App.3d 229, 245 (finding that when there is a disagreement about the significance of an effect on the environment, agency must treat the effect as significant).

¹⁴⁷ Office of Environmental Health Hazard Assessment, *AB 617 Biomonitoring Update* (July 16, 2021), <https://biomonitoring.ca.gov/sites/default/files/downloads/AB617Update071621.pdf>.

¹⁴⁸ CERP, *supra* at 84-89.

¹⁴⁹ CERP, *supra* at 79.

Final IS-MND does not sufficiently incorporate the strategies identified in the CERP to “reduce exposure to mobile source emissions resulting from land use decisions.”¹⁵⁰

The Final IS-MND asserts that CERP measures related to clean trucks, vegetative buffers, and zero-emission trucks have been included as mitigation measures,¹⁵¹ but this is misleading. Regarding vegetative buffers, the Final IS-MND elsewhere concludes that because “the site is not immediately adjacent to any residential receptors . . . [vegetative barriers] are not required.”¹⁵² Similarly, the Final IS-MND has not sufficiently disclosed the quantity of zero-emissions trucks it will utilize to avail itself of the CERP’s clean truck policies.

Transparency and disclosure are the heart of CEQA.¹⁵³ This document is ineffective if it cannot even accomplish this goal. As a result, the CEQA analysis is flawed and must be conducted afresh through an EIR.

IV. Final IS-MND is inconsistent with applicable land use plans.

The Final IS-MND fails to adequately analyze the Project’s consistency with several applicable land use plans. Appendix G to the CEQA Guidelines clarifies that environmental review should consider whether a project conflicts “with an applicable land use plan . . . *adopted for the purpose of avoiding or mitigating an environmental effect.*”¹⁵⁴ The Final IS-MND fails to analyze this question vis-à-vis a host of land use policies and strategies in several relevant land use plans and it must be revised to include proper analysis.

A. Stockton General Plan

“An action, program, or project is consistent with the general plan, if considering all its aspects, it will further the objectives and policies of the general plan and not obstruct their attainment.”¹⁵⁵ “It is enough that the proposed project will be compatible with the objectives, policies, general land uses and programs specified in the applicable plan.”¹⁵⁶ Stockton incorporated environmental justice policies into various elements through its general plan, in accordance with Senate Bill 1000.¹⁵⁷ While the Final IS-MND and Recirculated IS-MND incorporate the Stockton General Plan by reference and attempt to analyze consistency with certain policies, the IS-MND omits critical policies and implementation actions from its analysis and does not justify inconsistency with these General Plan policies.

¹⁵⁰ CERP, *supra* at 79.

¹⁵¹ Final IS-MND, Appendix A at 24.

¹⁵² Final IS-MND at 7.

¹⁵³ *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal. 3d 553, 564; *Berkeley Keep Jets Over the Bay v. Bd. of Port Comm’rs* (2001) 91 Cal.App.4th 1344, 1354.

¹⁵⁴ CEQA Guidelines, Appendix G, § X(b); *see also Pocket Protectors*, 124 Cal.App.4th at 929.

¹⁵⁵ *Pfeiffer v. City of Sunnyvale City Council* (2011) 200 Cal.App.4th 1552, 1562-63.

¹⁵⁶ *Sierra Club v. County of Napa* (2004) 121 Cal.App.4th 1490, 1511.

¹⁵⁷ *See* Gov. Code § 65302, subd. (h)(1).

Of relevance, Policy SAF-4.1 identifies “reduc[tion] [of] air impacts from mobile and stationary sources of air pollution” as a city-wide goal to improve regional air quality.¹⁵⁸ To implement this policy, the General Plan “require[s] the construction and operation of new development to implement the best practices that reduce air pollutant emissions” which include “entering into Voluntary Emissions Reduction Agreements with the San Joaquin Valley Air Pollution Control District.”¹⁵⁹ Additionally, the General Plan “require[s] the use of electric-powered construction and landscaping equipment as conditions of project approval” as well as “land use buffer zones around new sources of toxic air pollutants that pose substantial health risks.”

Neither the Recirculated IS-MND nor the Final IS-MND analyzes consistency with this general plan policy. Nor could either document, as the Project is inconsistent with Policy SAF-4.1 and its implementing actions. As an initial matter, this Project and its introduction of fossil-generated hydrogen conflicts with the General Plan’s air quality and climate goals. As explained above, fossil-gas-generated hydrogen is a false solution that harms the environment and would exacerbate air quality concerns already present in Stockton. Furthermore, the Recirculated IS-MND identifies that “constructing and operating the proposed project would use equipment that consumes fossil fuels” including “diesel fuel (primary fuel) and gasoline, as well as limited use of electricity,”¹⁶⁰ despite General Plan policies that require and encourage the use of battery electric technology for new construction.¹⁶¹ The Final IS-MND erroneously fails to justify this inconsistency.

Additionally, General Plan Policy CH-2.3 seeks to “focus on reducing the unique and compounded environmental impacts and risks in disadvantaged communities” by, among other things, “build[ing] ties with disadvantaged communities to ensure that local residents can make significant contributions to planning decisions.”¹⁶² The IS-MND is inconsistent with this mandate. While the IS-MND refers to a Community Benefits Agreement process, this has largely been ineffective, as commenters have alerted the Board at the June 17, 2024 Commission Meeting.¹⁶³ Community groups attempted to negotiate with BayoTech to offset impacts from the Project through the creation of a community benefits offset fund that could attempt to mitigate Project impacts. Yet, BayoTech refuses to incorporate this fund into an agreement and has continued to ignore community perspectives and requests for adequate mitigation. As a result,

¹⁵⁸ City of Stockton, *Envision Stockton 2040 General Plan* (December 2018) (hereinafter “General Plan”) at 5-24, https://cms3.revize.com/revize/stockton/Documents/Business/Planning%20&%20Engineering/General%20Plan/Adopted_Plan.pdf.

¹⁵⁹ *Id.*

¹⁶⁰ Recirculated IS-MND at 56.

¹⁶¹ General Plan at 5-24.

¹⁶² *Id.* at 6-7.

¹⁶³ Port of Stockton Commission Meeting, June 17, 2024, Comments from Barbara Barragan-Parrilla, <https://www.youtube.com/live/uU6PFEWv6y4>.

negotiating community groups have withdrawn from any further communications with BayoTech. Absent both a Community Benefits Agreement and adequate mitigation measures to address environmental justice and air quality impacts to Stockton residents, the Final IS-MND fails at a basic level to engage with community members and ensure local resident contributions to planning decisions.

B. Stockton Climate Action Plan

The IS-MND acknowledges that the General Plan Policy CH-5.1 and Action CH-5.1B requires implementation of the City's Climate Action Plan.¹⁶⁴ The Climate Action Plan seeks to identify and reduce community greenhouse gas emissions through feasible measures.¹⁶⁵ The Climate Action Plan relies on numerous voluntary measures for both existing and new development, but also includes a number of mandatory measures where required by other state or local existing mandates and other City initiatives.¹⁶⁶ Among these policies, the Climate Action Plan sets forth goals relating to the community's demands to decrease air pollution, lower toxic emissions, reduce vehicle traffic, and reduce inefficient energy consumption. There is a specific emphasis in the Climate Action Plan on electrifying on- and off-road equipment with a commitment to expand resources to electrify construction equipment and reduce truck idling times. This dedication of funding demonstrates a commitment to reducing air pollution and fossil fuel consumption, yet the Project does not consider or implement any of these measures nor does it acknowledge its blatant inconsistencies with these measures.

As discussed throughout these comments, fossil-gas-generated hydrogen will not achieve either the State and City's 2030 greenhouse gas emissions reduction targets. Fossil-generated hydrogen like this Project proposes prolongs the use of fossil fuels and diverts attention and resources from clean renewable energy. The IS-MND must explain the Project's inconsistency with the Climate Action Plan in a full EIR.

C. Community Emissions Reduction Program

The CERP also constitutes a "land use plan . . . *adopted for the purpose of avoiding or mitigating an environmental effect.*"¹⁶⁷ Accordingly, inconsistency with this plan is yet another CEQA violation. As discussed above in Section III.E., the Final IS-MND fails to include

¹⁶⁴ Recirculated IS-MND at 69.

¹⁶⁵ City of Stockton, Climate Action Plan (August 2014), https://cms3.revize.com/revize/stockton/Documents/Government/City%20Manager/Sustainability/Climate_Action_Plan_August_2014.pdf at 3-39.

¹⁶⁶ Climate Action Plan at ES-1.

¹⁶⁷ CEQA Guidelines, Appendix G, § X(b); *see also Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 929.

applicable policies from the CERP, but the document also fails to justify its inconsistency with the CERP.

V. The Final IS-MND continues to omit a cumulative impacts analysis.

The Final IS-MND fails to disclose and evaluate the cumulative impacts of the Project, despite repeated requests for such an analysis by prior comments. CEQA requires lead agencies to disclose and analyze a project's "cumulative impacts," defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."¹⁶⁸ Cumulative impacts may result from a number of separate projects, and occur when "results from the incremental impact of the project [are] added to other closely related, past, present, and reasonably foreseeable future projects," even if each project contributes only "individually minor" environmental effects.¹⁶⁹ A lead agency must prepare an EIR if a project's possible impacts, though "individually limited," prove "cumulatively considerable."¹⁷⁰

Case authority highlights the importance of a thorough cumulative impacts analysis in negative declarations such as this one. In *San Bernardino Valley Audubon Society v. Metropolitan Water Dist. of Southern Cal.*, for example, the court invalidated a negative declaration and required an EIR be prepared for the adoption of a habitat conservation plan and natural community conservation plan. The court specifically held that the negative declaration's "summary discussion of cumulative impacts is inadequate," and that "it is at least potentially possible that there will be incremental impacts. . . that will have a cumulative effect."¹⁷¹

In contravention of the above authorities, the Final IS-MND provides no discussion or analysis whatsoever of the Project's cumulative impacts. This omission is egregious given the existence of "closely related past, present, and reasonably foreseeable" related projects.¹⁷² For example, the Final IS-MND does not identify and evaluate impacts from existing projects such as the adjacently sited Pelican Renewable, LLC site.¹⁷³ As the Port is aware,¹⁷⁴ the Pelican Renewables site includes a proposed carbon capture and sequestration ("CCS") project with carbon from a corn-based ethanol biofuel production plant, transportation of supercritical carbon dioxide by barge and then injection into two Class VI wells.¹⁷⁵ The Pelican Renewables CCS

¹⁶⁸ CEQA Guidelines § 15355.

¹⁶⁹ CEQA Guidelines §§ 15355(a)-(b).

¹⁷⁰ Pub. Res. Code § 21083(b); CEQA Guidelines § 15064(i).

¹⁷¹ (1999) 71 Cal.App.4th 382, 386, 399; *see also Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d at 728-729 (EIR's treatment of cumulative impacts on water resources was inadequate where the document contained "no list of the projects considered, no information regarding their expected impacts on groundwater resources and no analysis of the cumulative impacts").

¹⁷² CEQA Guidelines § 15355(b); *see also id.* § 15130; *League to Save Lake Tahoe v. County of Placer* (2022) 75 Cal.App.5th 63, 147-150 (discussing cumulative impacts analysis generally).

¹⁷³ *See* Recirculated IS-MND at 7.

¹⁷⁴ Recirculated IS-MND at 8 (Project Setting describes location of Pelican Renewables, LLC site).

¹⁷⁵ *See* Pelican Renewables, *About*, <https://pelicanrenewables.com/about/> (last visited July 11, 2024).

project clearly qualifies as “closely related” to this Project because of their close proximity, similarities in foreseeable environmental impacts, and potential to jointly exacerbate air pollution. Thus, taken together these projects are “probable and sufficiently certain to allow for meaningful cumulative impacts analysis.”¹⁷⁶

The same could be said for the nearby DTE Energy biomass plant, located less than a mile from the Project site.¹⁷⁷ According to SJVAPCD, the DTE biomass plant relies on both biomass and natural gas for its operations. The facility alone is responsible for 9 percent and 8 percent of the community’s NOx and PM2.5 emissions, respectively.¹⁷⁸ Yet, both the Recirculated IS-MND and Final IS-MND omit the biomass plant from any cumulative impacts analysis. An analysis must be conducted to determine the cumulative impact of this Project’s emissions with those of the DTE biomass plant, which alone produces 103 tpy of NOx.¹⁷⁹

Moreover, the Final IS-MND does not include an analysis of the cumulative impacts of the Project alongside existing Port operations. Such an analysis would require the disclosure of an accurate inventory of greenhouse gas emissions operations by the Port and its tenants, as comments previously suggested.¹⁸⁰ The Final IS-MND’s response to comments entirely dodges the issue.¹⁸¹ This Project is inherently tied to Port operations and the Final IS-MND cannot accurately analyze and mitigate its impacts if it ignores the reality of emissions from hydrogen production in tandem with emissions from existing use of heavy duty trucks and cargo handling equipment at the Port—including potential greater TAC and GHG emissions.

By failing to disclose and evaluate the additive effect of the Project in the context of other Projects, the Final IS-MND is inadequate and unlawful under CEQA. Cumulative impacts of the Project must be analyzed in an EIR.

VI. Conclusion

As set forth above, the Final IS-MND does not come close to satisfying CEQA’s requirements. The Final IS-MND fails to describe the Project and its setting and fails to provide a complete analysis of Project impacts, cumulative impacts, and feasible mitigation measures. Additionally, the Project itself is inconsistent with various local land use plans. At the same time,

¹⁷⁶ *City of Maywood v. L.A. Unified School Dist.* (2012) 208 Cal. App.4th 362, 399.

¹⁷⁷ DTE Energy, *DTE Energy’s Northern California biomass plant begins operations* (Mar. 13, 2014), https://dtevantage.com/wp-content/uploads/2015/03/06-DTE-Energy-Services-Northern-California-biomass-plant-begins-operations-March-13-2014_Stockton.pdf.

¹⁷⁸ San Joaquin Valley Air Pollution Control District, *Update on Biomass Source within Community Boundary* (February 2, 2023), <https://community.valleyair.org/media/bkhh5cyl/stockton-ab617-biomass-facility-update-february-2023.pdf>.

¹⁷⁹ *Id.*; see also CERP, *supra*, Appendix C: Stockton Source Apportionment at C-11, <https://community.valleyair.org/media/h50dve3x/appendix-c.pdf>.

¹⁸⁰ Exhibit B, Sierra Club July 2023 Comments at 17; Exhibit E, Sierra Club, et al., Comments on March 2024 Recirculated Draft Initial Study/Mitigated Negative Declaration for Port of Stockton BayoTech Hydrogen Production and Dispensing Facility Project 8.

¹⁸¹ Final IS-MND, Appendix A at 52 (merely stating that its cumulative impacts analysis “followed standard GHG reporting protocols”).

ample evidence demonstrates that a fair argument exists that the Project may have significant environmental impacts. In light of this evidence, CEQA requires that an EIR be prepared. For these reasons, the Port's Board of Commissioners should deny all Project approvals and reject the Final IS-MND.

Sincerely,

Katrina Tomas
Associate Attorney
Nina Robertson
Senior Attorney
Earthjustice

John Fleming, PhD
Senior Scientist, Climate Law Institute
Maggie Coulter
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Delta-Sierra Group Conservation Chair
Sierra Club, Delta-Sierra Group

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Exhibit A



June 29, 2023

Jason Cashman

Environmental and Regulatory Affairs Manager Port of Stockton
2201 West Washington Street
Stockton, California 95203
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Submitted Via Email and U.S. Postal Service

Re: Comments on Draft Initial Study / Mitigated Negative Declaration, BayoTech Hydrogen Production and Dispensing Facility Project

To Mr. Cashman:

The Center for Biological Diversity submits comments on the Draft Initial Study and Mitigated Negative Declaration for the BayoTech Hydrogen Production and Dispensing Facility Project (IS-MND).¹ The proposed project would utilize fossil gas to produce up to 700,000 kilograms (kg) of hydrogen per year, then dispense that hydrogen into trailers up to 16 hours a day for distribution to undisclosed locations for uncertain applications.

We disagree with the premise that fossil-gas-generated hydrogen projects should play any role in achieving our state's goal of reaching near-zero emissions by midcentury in order to limit global warming to 1.5°C. Fossil-gas-generated hydrogen is a false solution that harms the climate and environment, prolongs the use of fossil fuels, and diverts attention and resources from clean renewable energy. Instead of promoting fossil hydrogen, the Port of Stockton (Port) should promote renewable energy projects that phase out fossil fuel use to prevent catastrophic climate change and environmental injustice.

If the Port continues to consider the proposed BayoTech project, as explained in detail below, it must adequately define the project and analyze the potential impacts to the environment. Without more information about where the hydrogen in this project will be transported, its end use, or how mitigation measures will be implemented, the community and Port decisionmakers will not be able to assess all of the environmental impacts. Much more detail on potential air emissions, energy use, greenhouse gas emissions, biological resources,

¹ Port of Stockton, Draft Initial Study/ Mitigated Negative Declaration (hereinafter "IS-MND"), BayoTech Hydrogen Production and Dispensing Facility Project (May 2023), https://www.portofstockton.com/wp-content/uploads/2023/05/Port-of-Stockton_Bayotech_ISMND_05012023.pdf. All sources with weblinks in this comment letter as well as all document attachments are included in the administrative record. We are sharing a folder with copies of attachments at <https://diversity.box.com/s/8wi5oq9dav4o1cz3t72hpwfsnbh5wmwz>, and we are mailing a USB flash drive with attachments by U.S. Postal Service. See *Consolidated Irrigation Dist. v. Superior Court*, 205 Cal. App. 4th 697, 724-25 (2012) (citation to a specific Web page containing a document is sufficient to make the document properly part of the record under Public Resources Code section 21167.6(e)(7)).

environmental justice, and cumulative impacts is required in an Environmental Impact Report (EIR), where these widespread and varied environmental impacts can be fully and appropriately considered.

I. The Project Description and Need Sections Are Inadequate and Flawed

The IS-MND for the proposed BayoTech project does not adequately describe essential components of the project and misrepresents the need for the project. CEQA requires that the project description be “accurate, stable, and finite.”² Furthermore, the project description cannot be “artificially narrow.”³ The project need section must “articulate the stated objectives and specify the underlying purpose” of the proposed project in order “to evaluate the project’s impacts on the environment.”⁴ The flaws in the initial study (discussed in this section) undermine the IS-MND’s conclusion that the proposed project will not have a significant effect on the environment.⁵

The IS-MND premises the “project need” on the assertion that “[h]ydrogen can play an important role in increasing energy security and reducing GHG emissions in California.” IS-MND at 10. However, the IS-MND does not critically evaluate the fuel source for the proposed BayoTech project: fossil gas (methane), also called “natural” gas.⁶ *Id.* at 25. The IS-MND fails to grapple with the fact that utilizing fossil fuel inputs for hydrogen generation entrenches and prolongs dependence on fossil fuels. Investment in fossil hydrogen production locks in existing dirty fossil fuel production and infrastructure, harming the communities of color and low-wealth communities where such fossil fuel infrastructure is disproportionately sited. Investment in fossil hydrogen projects also serves to delay investment in efficiency and electrification solutions—mature energy sources that are more efficient, lower cost, and lower in greenhouse gas emissions than hydrogen.

Similarly, the IS-MND deceptively touts that hydrogen generated by the proposed project could be used to fuel “zero-emission [transportation] fleets” even though the project would generate hydrogen solely from fossil fuel inputs. IS-MND at 10. The implication that the hydrogen produced by the proposed project is “clean energy” is promoted by industry to encourage more methane gas use. This is reinforced by the project proponent’s citation to modeling and studies which state only that hydrogen “*could*” play a role in decarbonizing certain sectors. *Id.* (emphasis added). And while the California Air Resources Board’s (CARB) most recent Advanced Clean Cars program and the Low Carbon Fuel Standard do envision hydrogen as a path for decarbonization, *id.* at 10, the IS-MND fails to acknowledge that hydrogen generation from renewable energy inputs—not the fossil fuel inputs utilized by the proposed project—is necessary to realize those decarbonization gains.⁷ Merely citing CARB’s decarbonization goals does not adequately substantiate the “need” for this project.

² *County of Inyo v. City of Los Angeles*, 71 Cal. App. 3d 185, 199 (1977).

³ *In re Bay-Delta*, 43 Cal. 4th 1143, 1166 (2008).

⁴ *L.A. Conservancy v. City of L.A.*, 2017 Cal. Super. LEXIS 8625, *41; *see also* 14 Cal. Code Regs. § 15124.

⁵ *See Lighthouse Field Beach Rescue v. City of Santa Cruz*, 131 Cal. App. 4th 1170, 1180 (2005).

⁶ *See* Hydrogen Science Coalition, *Principles*, <https://h2sciencecoalition.com/principles/#green-hydrogen> (last accessed June 16, 2023). Hydrogen generation which utilizes fossil gas as the energy input (such as the proposed BayoTech project, here) is often called “gray hydrogen.”

⁷ “[W]e cannot assume hydrogen made from fossil fuels . . . will by default be low emissions.” *Id.*

Furthermore, hydrogen itself is a potent, indirect greenhouse gas with 100 times the warming power of CO₂ over a 10-year period, and 33 times over 20 years.⁸ As a small molecule, hydrogen is also more leakage-prone than methane, posing climate risks across the production and supply chains.⁹ The IS-MND does not identify these risks, all of which warrant evaluation in a full EIR.

The IS-MND states that proposed BayoTech project would generate hydrogen “through a process that extracts hydrogen from natural gas using steam.” IS-MND at 15. However, it does not disclose up-front in the “Project Need” section that this steam-methane reforming process is incredibly energy-intensive and emits carbon and health-harming pollution.¹⁰ Additionally, all forms of hydrogen production use massive amounts of water—much more than solar and wind per unit of energy produced—which will put extra stress on water supplies in areas already suffering from climate crisis-charged drought.¹¹ Thus, the project description omits discussion of an integral component of the project, rendering the project description and need sections inadequate and flawed.¹²

Finally, while the IS-MND asserts that “small and local hydrogen production” like the proposed project “reduc[es] transportation costs and emissions associated with importing hydrogen from larger, more distant providers,” the IS-MND’s estimation of the proposed project’s operational emissions from mobile sources is flawed because it does not adequately describe or consider where the hydrogen generated by the project will go. *See infra*, Section II. The IS-MND improperly assumes, without evidence, that the proposed project will create benefits by acting as distributed hydrogen generation within the state’s energy mix, despite insufficient description and no evaluation of the project’s produced hydrogen use. *Id.* Currently, so-called “gray hydrogen”—like that which would be generated by the proposed BayoTech project—is primarily used for petroleum refining.¹³ Despite this reality, the project documents imply that hydrogen generated by the proposed project could be used to benefit decarbonization of the transportation sector. This questionable underlying assumption renders the project description and need sections inadequate and flawed.

⁸ See Ocko, Ilissa & Steven Hamburg, Climate consequences of hydrogen emissions, 22 Atmospheric Chemistry & Physics 14, 9349–9368 (2022), <https://doi.org/10.5194/acp-22-9349-2022>.

⁹ *Id.*

¹⁰ See Sun, Pingping et al., Criteria Air Pollutants and Greenhouse Gas Emissions from Hydrogen Production in U.S. Steam Methane Reforming Facilities, 53 (12) Environ. Sci. Technol. 7103 (2019) <https://doi.org/10.1021/acs.est.8b06197>.

¹¹ DiFelice, Mia & Ben Murray, *Exposing a New Threat to Our Water: Hydrogen Power*, Food & Water Watch, (Feb. 7, 2023), <https://www.foodandwaterwatch.org/2023/02/07/hydrogen-water-use/>. The IS-MND discloses that the groundwater basin where the Project is located is in overdraft, IS-MND at 82, but does not discuss water supply needs in any detail. A full EIR is necessary to evaluate these substantial impacts.

¹² *Accord Save Our Capitol! v. Dep’t of General Services*, 87 Cal. App. 5th 655, 683 (Cal. App. 2023) (“A project description that omits integral components of the project may result in an EIR that does not adequately disclose all the project’s impacts.”).

¹³ In 2018, “[n]early 70%” of hydrogen produced by steam methane reforming in the United States “[wa]s used in the petroleum refining industry and 20% [went] into fertilizer production.” See U.S. Dep’t of Energy Hydrogen and Fuel Cell Tech. Off., *Fact of the Month May 2018: 10 Million Metric Tons of Hydrogen Produced Annually in the United States* (May 2018), <https://www.energy.gov/eere/fuelcells/fact-month-may-2018-10-million-metric-tons-hydrogen-produced-annually-united-states>.

II. Air Emissions Impacts Are Not Adequately Disclosed or Mitigated

CEQA requires that environmental impacts be adequately described and mitigated.¹⁴ This is because use of an MND presumes any environmental impacts are mitigated in support of the negative declaration.¹⁵ If there is a fair argument that the proposed project may result in environmental impacts, the agency must prepare an EIR.¹⁶ Yet, the IS-MND fails to adequately disclose and mitigate air emissions impacts.

The San Joaquin Valley is classified as non-attainment for state particulate matter and ozone (PM₁₀, PM_{2.5} and O₃) standards, and for federal O₃ and PM_{2.5} standards. Though the emissions from the proposed project fall below purported thresholds set by the San Joaquin Valley Air Pollution Control District (SJVAPCD), the emission of any criteria pollutants currently in non-attainment is irresponsible. The proposed project would allow for the emission of PM₁₀, PM_{2.5} and O₃ despite their non-attainment status.

Moreover, even if the set thresholds are assumed valid, inconsistencies in the IS-MND cast doubt on whether the project's emissions fall below them. This potential is most notable with PM₁₀ and its non-permitted sources operational emissions threshold. The SJVAPCD threshold for PM₁₀ is 15 tons per year, while the projected total non-permitted emissions are 12.20 tons per year, or 81% of the threshold. IS-MND at 35. This leaves little room for uncertainty as a small change in the project assumptions could push PM₁₀ beyond the threshold.

Yet, such uncertainty exists in the reported predictions of daily and annual vehicle traffic at the proposed facility. It is predicted that trailer/truck trips to and from the facility would be 2,100-4,900 per year, and staff vehicle trips would be 1,400-2,100 per year, supposedly corresponding to 8-10 and 2-3 vehicle trips per day, respectively. IS-MND at 18. However, if it is assumed that the proposed project's mobile trips would occur 365 days per year as noted in the IS-MND, then the annual trips per year reported correspond to approximately 6-13 trailer/truck trips and 4-6 staff vehicle trips per day. IS-MND at 34. This discrepancy results in potential daily trailer/truck trips up to 34% higher and staff vehicle trips up to 92% higher than the IS-MND reports.¹⁷ Total vehicle trips, or the sum of trailer/truck and staff vehicle trips, could be up to 48% higher than predicted in the IS-MND. Because the 12.20 tons per year non-permitted operational PM₁₀ emissions are all attributed to mobile sources, an increase in predicted trips of 48% could push PM₁₀ emissions beyond the 15 tons per year threshold, given that the predicted emissions are already 81% of the threshold without considering additional trips.

¹⁴ 14 Cal. Code Regs. § 15071 (requiring “[m]itigation measures . . . to avoid potentially significant effects”); *id.* § 15126.2 (“[d]irect and indirect significant effects of the project on the environment shall be clearly identified and described”).

¹⁵ *Grendare Historical Soc’y v. City of Glendale & Glendale*, 2022 Cal. Super. LEXIS 86349, *13 (CEQA requires a governmental agency to prepare an environmental impact report where the proposed project ‘may have a significant effect on the environment.’”) (emphasis added by court) (quoting Cal. Pub. Res. Code § 21100(a)).

¹⁶ *Stanislaus Audubon Society Inc. v. County of Stanislaus* 33 Cal. App. 4th 144, 150-151 (1995) (“The ‘fair argument’ standard is a ‘low threshold’ test, ‘and reflects a preference for resolving doubts in favor of environmental review.’”) (citations omitted); *see also* Cal. Pub. Res. Code § 21151.

¹⁷ Percentage increase estimates of daily truck trips is based on the maximum number of daily trips predicted in the IS-MND at 18 in the trailer/truck and staff vehicle categories.

Further, there is uncertainty of vehicle trip lengths, which would also influence estimates of emissions in relation to set thresholds. The IS-MND assumed vehicle trip lengths based on CalEEMod defaults with 200 miles per day for 30% of truck trips, up to 150 miles per day for 50% of truck trips, up to 50 miles per day for 20% of truck trips, and 11.89 miles for passenger vehicle trips, totaling to 4,470 vehicle miles traveled per day. IS-MND at 34. However, this breakdown of miles per day could change with information on the potential destinations for produced hydrogen. Once again considering the slim margin for exceeding the PM₁₀ threshold, a higher proportion of trips than predicted at the upper range of mileage could push emissions over emissions thresholds. Likewise, the potential for more trips overall could push emissions over allowed levels. Without an accurate accounting of both the amount and distance of trips associated with the proposed project, even the inadequate thresholds set by SJVAPCD could be exceeded, making the project untenable as described.

III. Energy Use Impacts Are Not Adequately Disclosed or Mitigated

The CEQA Guidelines recognize that wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources, may result in a significant environmental impact.¹⁸ “If analysis of the project’s energy use reveals that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources, [an] EIR shall mitigate that energy use. This analysis should include the project’s energy use for all project phases and components, including transportation-related energy, during construction and operation. In addition to building code compliance, other relevant considerations may include, among others, the project’s size, location, orientation, equipment use and any renewable energy features that could be incorporated into the project.”¹⁹ The IS-MND does not meet the basic requirements for evaluating and mitigating energy use or utilities impacts because it brushes aside possible significant energy-use-related environmental effects to avoid considering renewable energy sources or other effective mitigation measures. The IS-MND is clear that the project will involve construction of a hydrogen production and dispensing facility, a warehouse facility with a storage office, an automatic safety gate for entry with cameras, and site lighting for security. IS-MND at 12. However, the utility requirements are aggregated together in one table (Table 5), without any detailed analysis of possible measures to reduce energy use from each of the new facilities.

The IS-MND asserts that energy use impacts will be less-than-significant because “Constructing and operating the proposed project would use equipment that consumes fossil fuels but would not require any unusual or excessive equipment or practices compared to projects of similar type and size.” IS-MND at 53. However, there is no data supporting this statement. The descriptions of several of the measures that could be utilized to reduce energy demand are vague, without any specific commitments:

- The proposed truck idling mitigation measure applies only “where available,” which is completely undefined. In addition, the measure allows for *either* shut down in certain, unknown areas when waiting more than two minutes *or* implementation of

¹⁸ 14 Cal. Code Regs § 15126.2(b).

¹⁹ *Id.*

unknown programs “such as appointment systems in periods of congestion.” IS-MND at 54. It is especially problematic for idling mitigation to be so indeterminate because there are already challenges enforcing existing anti-idling requirements at the Port of Stockton.²⁰ The proposed idling mitigation also doesn’t apply to trucks in the truck rack queue, which would reduce toxic diesel pollution. This is problematic because the IS-MND indicates that “[d]ispensing the hydrogen into the trailers may take between 1 and 10 hours” IS-MND at 15. Truck idling measures must be much better defined and enforceable. They should also be expanded to apply to trucks in the queue and to require infrastructure to reduce idling, like electric plug-ins.²¹

- The proposed clean truck mitigation measure states only that “where possible” the project applicant will “encourage” the use of trucks model year 2017 or newer and that the company will “educate” customers during contract negotiations. IS-MND at 54. The IS-MND asserts without evidence that up to 10 truck trailer trips are expected per day. However, the annual truck trips are said to be up to 4,900, equivalent to 13.4 trips per day ($4,900 / 365 = 13.42$). IS-MND at 18 (Table 4). This is a large number of truck trips with emissions that can and should be mitigated. Zero-emission trucks are readily available in the open market²² and the Port should make zero emission trucks a requirement for the project to reduce toxic diesel emissions, including NOx and PM. Instead, the IS-MND makes use of 2017 models or newer completely optional—with no criteria to determine when their use is “possible.” This is inappropriate. Mitigation measures must be enforceable through conditions of approval, contracts or other means that are legally binding.²³ In addition, formulation of mitigation measures cannot be deferred to a later point in time like during future contract negotiations.²⁴

²⁰ See also, San Joaquin Valley Air Pollution Control Dist., Community Emissions Reduction Program Stockton 85 (2021), <http://community.valleyair.org/media/2487/final-stockton-cerp-no-appendix-with-cover.pdf> (describing the Heavy Duty Truck Replacement Program, which provides incentives for the replacement of existing heavy-duty diesel trucks with new, zero or near-zero-emission technology).

²¹ *Id.* at 87-88 (describing strategies to develop heavy-duty electric vehicle charging infrastructure and truck idling plug-ins); U.S. Dep’t of Energy, *Idle Reduction Equipment for Heavy-Duty Trucks*, https://afdc.energy.gov/conserve/idle_reduction_equipment.html (last visited June 23, 2023).

²² See, e.g., Slovic, Murray, *The Age of Zero-Emissions Heavy-Duty Trucks Begins*, Electronic Design, Feb. 12, 2021, <https://www.electronicdesign.com/markets/automotive/article/21155025/electronic-design-the-age-of-zeroemissions-heavyduty-trucks-begins> (discussing the significant increase in zero-emissions freight vehicles being produced by various companies); Global Commercial Vehicle Drive To Zero, *Biggest Zero-Emission Trucks Hit Market At Accelerating Rate, Boast Impressive Ranges* (May 18, 2021), <https://globaldrivetozero.org/2021/05/18/biggest-zero-emission-trucks-hit-market-at-accelerating-rate-boast-impressive-ranges-5-18-21/> (describing how the “number of available and announced models of new ZE heavy-duty trucks is expected to grow from 40 to 71 in the United States, Canada, China and Europe between 2020 and 2023 – a nearly 80 percent increase over just three years.”); Coal. for A Safe Env’t, *Zero Emission Transportation Vehicles, Cargo Handling Equipment, Construction Equipment & Ship/Boat Commercial Availability Survey* (2022), <https://shipitzero.org/wp-content/uploads/2022/01/CFASE-Commercial-Status-Availability-of-Zero-Emissions-Transportation-Vehicles-CHE-Construction-Equipment-1-20-2022-Final.pdf>. See also, San Joaquin Valley Air Pollution Control Dist., Community Emissions Reduction Program Stockton 85 (2021), <http://community.valleyair.org/media/2487/final-stockton-cerp-no-appendix-with-cover.pdf> (describing the Heavy Duty Truck Replacement Program, which provides incentives for the replacement of existing heavy-duty diesel trucks with new, zero or near-zero-emission technology).

²³ Cal. Pub. Res. Code § 21081.6(b); 14 Cal. Code Regs. § 15126.4(a)(2).

²⁴ 14 Cal. Code Regs. § 15126.4(a)(1)(B).

- The proposed energy/waste audit mitigation measure includes no criteria for what constitutes “less-efficient” lighting that will be replaced and no criteria for how waste from single-use products will be reduced. There is also no explanation as to why an energy audit is necessary as many as two years after the project is constructed to evaluate lighting efficiency. The project should be as efficient as possible from the time of new construction.
- The IS-MND states that: “Over time, the proposed project is also anticipated to transition to a mixture of natural gas and renewable natural gas (RNG), a purified form of biogas generated by the decomposition of waste. This would reduce the fossil fuel demand of the hydrogen production units relative to the fraction of natural gas replaced by RNG.” IS-MND at 54. There is no commitment to transition to RNG and no criteria to even assess whether RNG would reduce fossil fuel demand. As explained in the next section, this technology consistently over-inflates emission reduction potential and has many environmentally devastating consequences.

The IS-MND also states that “[b]ecause the proposed project would be designed and constructed to comply with CALGreen and would comply with other state and local plans and policies, the energy consumption from the proposed project would not be wasteful, inefficient, or unnecessary and thus would be less than significant.” IS-MND at 53. However, an environmental review document should not rely solely on compliance with Title 24 standards to mitigate operational and construction energy impacts.²⁵ There was no assessment here of any of these factors, including the size of the facilities or whether they can be powered by renewable energy.

Finally, the IS-MND states that the Port has a renewable portfolio standard procurement program. There are two problems with reliance on this procurement program to make energy use impacts less-than-significant. First, the procurement program does not actually commit the Port to purchasing renewable energy to power port operations. Instead, the program appears to rely entirely on the purchase of Renewable Energy Certificates (RECs).²⁶ There is no discussion of how the Port ensures that the RECs result in real, permanent, quantifiable, verifiable, enforceable, and additional emissions reductions beyond what would otherwise occur. The procurement program does not even address what the Port’s implementation plan is post-2020: “For the Compliance Period 2021-2030, the Port will continue to monitor and participate in development of the regulations until the state regulators have completed their efforts to codify

²⁵ *California Clean Energy Comm. v. City of Woodland*, 225 Cal. App. 4th (2014) 173, 211 (“Although the [California Building Standards Code (Cal. Code Regs., tit. 24, pt. 6)] addresses energy savings for components of new commercial construction, it does not address many of the considerations required under appendix F of the CEQA Guidelines. These considerations include whether a building should be constructed at all, how large it should be, where it should be located, whether it should incorporate renewable energy resources, or anything else external to the building’s envelope. Here, a requirement that [the project] comply with the Building Code does not, by itself, constitute an adequate assessment of mitigation measures that can be taken to address the energy impacts during construction and operation of the project.”); *Ukiah Citizens for Safety First v. City of Ukiah*, 248 Cal. App. 4th 256, 264 (2016).

²⁶ Port of Stockton, Renewable Portfolio Standard Procurement Plan 2016 Update (2016), <https://www.portofstockton.com/wp-content/uploads/2018/05/Board-RPS-Procurement-Plan.pdf>.

the new [Renewable Portfolio Standard] laws.”²⁷ Second, it is improper to rely on “mitigation measures adopted under the rubric of reducing greenhouse gas emissions that “would likely have the collateral effect of substantial energy-saving effects.”²⁸ “Although there is likely to be a high correlation between reducing greenhouse emissions and energy savings, [courts] cannot assume the overlap is sufficient under CEQA’s study and mitigation requirements.”²⁹

For all of these reasons, the IS-MND cannot assume that the project’s energy use will be less-than-significant. There is not sufficient information to support that assessment. Moreover, the mitigation measures described to reduce energy use cannot be relied upon to assert that project impacts are less-than-significant in other impact areas like greenhouse gas emissions, as discussed in the next section. *See* IS-MND at 70-71.

IV. Greenhouse Gas Emissions Impacts Are Not Adequately Disclosed or Mitigated

CEQA recognizes that evaluation and mitigation of greenhouse gas emissions is critical because “the accumulation of these emissions in the atmosphere over time is already causing the climate to change - with more significant changes to come.”³⁰ To analyze greenhouse gas emissions, lead agencies need to consider consistency with the State’s long-term climate goals and strategies and need to support their decision to utilize a particular methodology. In the IS-MND, the Port has inexplicably decided to apply a 10,000 MT of CO₂e / year threshold of significance from an air district in another area of the state and then preceded to minimize emissions and prematurely negate certain emissions to arrive at a conclusion that the project will have less-than-significant greenhouse gas emissions impacts. The Port’s analysis is not supported by substantial evidence. The emissions from the project are significant and should be analyzed in greater detail and mitigated.

A. The Port’s Significance Threshold Methodology is Not Supported By Substantial Evidence

Although agencies may use significance thresholds to assess greenhouse gas (GHG) emissions impacts, agencies are required to support their decision to use a threshold with evidence in the record,³¹ which the Port did not do here. Evidentiary support is particularly important where commenters raise concerns about the relevance or outdatedness of the threshold.³²

It is inappropriate to utilize the South Coast Air Quality Management District (SCAQMD) threshold because that threshold was developed with specific reference to the emissions within the South Coast district. The South Coast threshold should be used only for

²⁷ *Id.* at 2.

²⁸ *California Clean Energy Comm. v. City of Woodland*, 225 Cal. App. 4th 173, 207 n.6 (2014).

²⁹ *Id.* at 208; *Ukiah Citizens for Safety First v. City of Ukiah*, 248 Cal. App. 4th 256, 264 (2016).

³⁰ Governor’s Office of Planning and Research, *CEQA & Climate Change*, <https://opr.ca.gov/ceqa/ceqa-climate-change.html> (last visited June 22, 2023).

³¹ *See* 14 Cal. Code Regs. §§ 15064.4(b), 15064.7(c); *Ctr. for Biological Diversity v. Dep’t of Fish & Wildlife*, 62 Cal. 4th 204, 230-31 (Cal. 2015).

³² *Save Cuyama Valley v. County of Santa Barbara*, 213 Cal. App. 4th 1059, 1072 (Cal. App. 2013); *Mejia v. City of Los Angeles*, 130 Cal. App. 4th 322, 342 (Cal. App. 2005).

projects where SCAQMD is the lead agency or should at least be limited to projects within the district. SCAQMD set its threshold based on the emissions from industrial projects it anticipated considering as lead agency. Specifically, staff analyzed projects permitted in 2006-2007 to determine the 90th percentile of cumulative natural gas usage for all permitted facilities. The top 10% of facilities consumed more than 90% of the gas, which corresponds to the 10,000 metric tons (MT) of CO₂e annually emissions threshold.³³ There is no evidence that a similar breakdown of facility emissions exists within the San Joaquin Valley Air Pollution Control District (SJVAPCD).

It is also inappropriate to use a threshold adopted in 2008—fifteen years ago — when so much has changed to increase the urgency of reducing GHG emissions.³⁴ Since 2008, the California Air Resources Board has updated its Scoping Plan several times, most recently in 2022³⁵. The 2022 Scoping Plan focuses on actions necessary to “achieve targets for carbon neutrality and reduce anthropogenic greenhouse gas emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279.” Assembly Bill was not yet law in 2008. Indeed, the SCAQMD threshold is based on the Executive Order S-3-05, which set a goal of reducing GHG emissions 80% below 1990 levels or 90% below current levels by 2050. There have since been several additional Executive Orders and legislative actions since then as well (e.g., Assembly Bill 1279 and Senate Bill 32, which requires CARB to reduce greenhouse gas emissions to 40% below the 1990 levels by 2030) that demand a more stringent standard³⁶. The SCAQMD threshold should not be used until it is updated³⁷.

Finally, the CEQA Guidelines place emphasis on the process for adopting significance thresholds—agencies are encouraged to publish thresholds and thresholds adopted for general use need to be developed through a “public review process.”³⁸ The Port’s decision to randomly select the SCAQMD threshold for assessing the significance of GHG emissions completely thwarts this goal of public participation and review. Community groups commenting on a project in Stockton cannot be expected to have been able to anticipate that a process fifteen years ago in another air basin would possibly impact the analysis.

B. The Greenhouse Gas Emissions Numbers Are Not Supported, and Claims that Emissions Will Be Mitigated Are Unfounded

Even if the SCAQMD 10,000 MT/year CO₂e threshold was appropriate for assessing the significance of GHG emissions, the IS-MND underestimates the emissions so that they are below

³³ SCAQMD, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold (Attachment E) (2008) at 3-13, [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/ghgattachmente.pdf](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf).

³⁴ See, e.g., Intergovernmental Panel on Climate Change, Climate Change 2021: The Physical Science Basis, Summary for Policymakers (2021), https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf (report describing increased severity of climate change impacts and importance of reducing GHG emissions).

³⁵ California Air Resources Board, 2022 Scoping Plan for Achieving Carbon Neutrality (2022) (hereinafter “CARB, 2022 Scoping Plan”), <https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf>.

³⁶ CARB, 2022 Scoping Plan at 2.

³⁷ 14 Cal. Code Regs. § 15064.4(b) (“The agency’s analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes.”)

³⁸ 14 Cal. Code Regs. § 15064.7(c).

this threshold. It is particularly suspicious that emissions are said to be mitigated by 2,334 MT/year—from 12,333 to 9999 MT/year, which is just one less MT than the threshold. IS-MND at 70, 73.

Certain details about large categories of emissions are not explained. For example, the mobile source emissions category is said to contribute 2,328 MT CO₂e/year. IS-MND at 70. Elsewhere in the IS-MND, the Port notes that vehicle trip lengths were assumed to be “up to 200 miles per day for 30% of the truck trips, up to 150 miles per day for 50% of the truck trips, and up to 50 miles per day for 20% of the truck trips and 11.89 miles for passenger vehicle trips (CalEEMod default) for the proposed project.” IS-MND at 34. There is no basis for this breakdown and there is no explanation of what model years were assumed in this analysis. As noted above, the mitigation measure related to clean trucks is weak and compliance is voluntary. There is no recognition in the IS-MND that the trucks may be old and inefficient. Similarly, there is no analysis of the composition of the energy consumption emissions category. Emerging research indicates that hydrogen and methane leaks are an important component of emissions for hydrogen projects, but there appears to be no estimate as to how much leakage is expected from the project.³⁹

The GHG emissions analysis also depends on renewable natural gas (RNG) as a mitigation measure to reduce GHG emissions below the threshold of significance, even though the mitigation is unproven and there is no commitment to actually utilizing RNG at the project site. By incorporating RNG, the operator claims that emissions would be reduced by 2,334 MT of CO₂e per year—conveniently 1 MT below the threshold. However, the carbon intensity of RNG is likely drastically underestimated, which casts doubt on RNG as a viable mitigation measure. RNG is also responsible for many other environmental harms like volatile organic compound emissions and nitrogen runoff.⁴⁰

The proposed project intends to rely on RNG in accordance with California’s Low Carbon Fuel Standard (LCFS) methodology. But CARB’s methodology for determining the lifecycle emissions of RNG, or factory farm gas, fails to account for the leakage of farm gas during all stages of production, transport, and refining. For example, a study of methane leakage from biogas plants found that leaked methane can be as high as 14.9% of total methane production.⁴¹ Importantly, one recent study concluded that renewable natural gas from intentionally produced methane—as is the case with factory farm methane—is always a net greenhouse gas emitter unless total system leakage is zero.⁴² Furthermore, CARB’s factory farm gas calculations ignore upstream feed production and transport, enteric emissions, and

³⁹ Ocko, Ilissa & Steven Hamburg, Climate consequences of hydrogen emissions, 22 Atmos. Chem. Phys. 9349-9368 (2022), <https://acp.copernicus.org/articles/22/9349/2022/acp-22-9349-2022.pdf>.

⁴⁰ Saadat, Sasan et al, Rhetoric Vs. Reality: The Myth of “Renewable Natural Gas” for Building Decarbonization (2020), https://earthjustice.org/wp-content/uploads/report_building-decarbonization-2020.pdf.

⁴¹ Scheutz, Charlotte & Anders M. Fredenslund, Total methane emission rates and losses from 23 gas plants, 97 Waste Mgmt. 38(2019), <https://doi.org/10.1016/j.wasman.2019.07.029>.

⁴² Grubert, Emily, At scale, renewable natural gas systems could be climate intensive: the influence of methane feedstock and leakage rates, 15 Env'tl. Research Letters 8 (2020), <https://iopscience.iop.org/article/10.1088/1748-9326/ab9335>.

downstream emissions from digestate handling, use, and disposal.⁴³ In failing to consider these components of the full lifecycle of RNG, it cannot serve as an effective mitigation measure.

Moreover, though proposed as a mitigation measure, there is no commitment to using RNG at the facility. Instead, the proposal is to use the “Book and Claim” mechanism under the LCFS. With this mechanism, credits would be purchased for the use of RNG elsewhere, but the supposed emissions reductions would be claimed by the proposed facility. Thus, even if RNG were a viable mitigation measure, this would be contingent on a dubious measure akin to carbon pricing or offsets—measures which are notorious for their ineffectiveness in reducing both emissions and other environmental harms.⁴⁴

In any case, there is no commitment to use RNG at facility. This is problematic. First, the SCAQMD guidance that the IS-MND relies upon states that “[a]ny offsite mitigation measures that include purchase of offsets would require the project proponent provide offsets for the life of the project, which is defined as 30 years.”⁴⁵ There is no such 30-year commitment in the IS-MND. Second, California courts have clarified that offset credits need to be “real, permanent, quantifiable, verifiable, enforceable, and additional to any GHG emission reduction otherwise required by law or regulation, and any other GHG emission reduction that otherwise would occur.” Offsets onsite and in the surrounding County should be prioritized, and there must be mechanisms to ensure that mitigation is not improperly deferred.⁴⁶ Both RNG and the “Book and Claim” method of using it are inadequate for producing provable emissions reductions.

V. Biological Resources Impacts Are Not Adequately Disclosed or Mitigated

The CEQA Guidelines allow the use of a MND only where potentially significant effects on the environment are identified and mitigated.⁴⁷ The IS-MND does not adequately disclose or mitigate potential adverse impacts to biological resources, such as the San Joaquin River, historic wetlands, and special status wildlife and plant species located within and near the project area.

⁴³ California Air Resources Board, Compliance Offset Protocol Livestock Projects (2014) at Table 4.1, Description of all GHG Sources, GHG Sinks, and GHG Reservoirs, <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2014/capandtrade14/ctlivestockprotocol.pdf>; California Air Resources Board, Response to Animal Defense Legal Fund Comment (2021), https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/fuelpathways/comments/tier2/new_temp_carb_response.pdf (CARB arguing that “Emissions from existing CAFO operations are accounted for, but do not include emissions associated with enteric methane and animal feed use because these emissions should more appropriately be allocated to and associated with the preexisting underlying, non-fuel product stream, and are thus excluded from the system boundary in the Board approved Tier 1 Calculator.”)

⁴⁴ Climate Justice Alliance & Indigenous Environmental Network, Carbon Pricing: A Critical Perspective for Community Resistance (2017), <https://climatejusticealliance.org/6196-2/>.

⁴⁵ SCAQMD, 2008 Interim CEQA GHG Significance Threshold Board Meeting Letter (Dec. 5, 2008) at 7.

⁴⁶ See *Golden Door Props., LLC v. County of San Diego*, 50 Cal. App. 5th 467 (2020); SCAQMD, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold (Attachment A) (2008) at 1, [https://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/ghgattachmentsa_d.pdf?sfvrsn=2](https://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmentsa_d.pdf?sfvrsn=2) (mitigation order of preference in the SCAQMD guidance is 1) design features, 1) onsite reduction projects, 3) reduction projects in neighborhood, 4) reduction projects in district, then 5-6) reductions in California and out of California).

⁴⁷ Cal. Pub. Res. Code § 21064; see also *Grendare*, 2022 Cal. Super. LEXIS 86349, *14.

Despite acknowledging that the river is located “approximately 485 feet west of the project site,” the IS-MND does not critically evaluate whether the proposed BayoTech gray hydrogen project could enable drainage and runoff to the river. IS-MND at 41. The IS-MND uncritically assumes that stormwater and runoff at the site would be properly captured by drains and swales and diverted to the local stormwater system. *Id.* But the stormwater system currently allows pumping to the San Joaquin River, which is already impaired, in years where the retention Basin reaches a high level. *Id.* at 80-81. Similarly, the IS-MND does not disclose or discuss the proposed project’s increase in local truck traffic and concomitant impacts on biological resources.

The IS-MND also uncritically assumes that the proposed project would have no impact on migrating birds, *id.* at 45; however, it fails to identify or evaluate the impact of installing permanent lighting at the facility, *id.* at 10. Despite disclosing that the proposed project would include security lighting and be operational throughout the night, the IS-MND only evaluates potential impacts to aesthetics. *Id.* at 23, 26. The mitigation measures to reduce aesthetic lighting impacts are limited only to addressing “glare impacts” and do not mitigate potential impacts to wildlife, like migratory birds. Artificial lighting, like that used at the site, attracts migratory birds and can cause confusion, disorientation and exhaustion, directly impacting migration.⁴⁸ Especially since the proposed project is sited within the Pacific Flyway migratory corridor, IS-MND at 45, full analysis of the impacts to migratory birds is warranted in an EIR.

Finally, the IS-MND fails to consider at all the potential risks to biological resources (such as the San Joaquin River, wildlife, plants, etc.) or people from potential leaks or explosions at the proposed project. For example, in 2007, an explosion occurred at the Muskingum River Power Plant in Ohio during a routine delivery of hydrogen by tanker delivery truck when a hydrogen relief device failed, allowing for a leak and ignition of the hydrogen tank by an unknown source.⁴⁹ One employee was killed and an additional eight were injured by the explosion.⁵⁰ The explosion was felt nearly half a mile away.⁵¹ The IS-MND fails to identify or evaluate the potential for such risks at the proposed facility, and their adverse impacts on nearby biological resources, such as the San Joaquin River and special-status wildlife and plant species and their habitat.⁵²

VI. The IS-MND Does Not Adequately Account for the Environmental Justice Communities That Will Be Most Impacted by This Project.

The CEQA analysis for the proposed project should include any potential environmental justice impacts.⁵³ Environmental justice guarantees that all people, regardless of race, color,

⁴⁸ See Fellows, Valerie, *Dim the Lights for Birds at Night!*, U.S. Fish & Wildlife Serv. (Apr. 28, 2022), <https://www.fws.gov/story/2022-04/dim-lights-birds-night>.

⁴⁹ See Occupational Safety and Health Admin., *Accident Report Detail: 200758365* (Jan. 9, 2007), https://www.osha.gov/ords/imis/accidentsearch.accident_detail?id=200758365.

⁵⁰ *Id.*

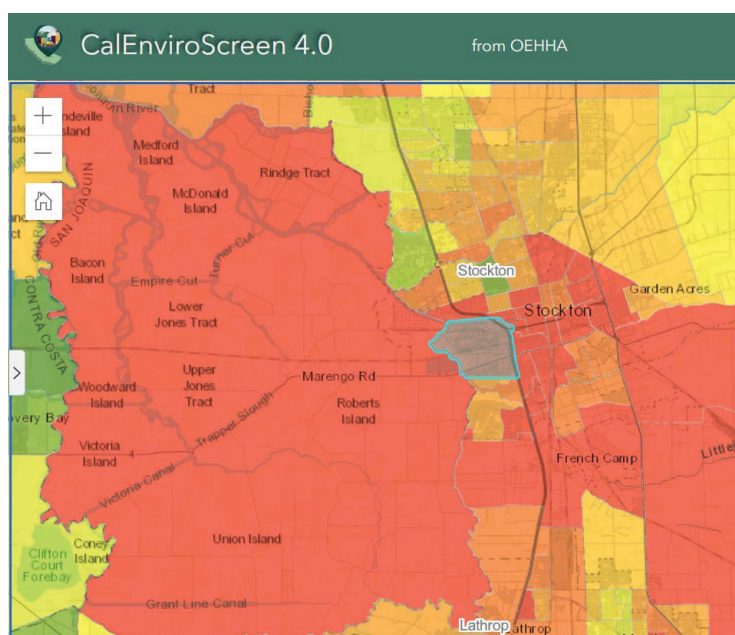
⁵¹ See Associated Press, *1 killed, 9 hurt by explosion at Ohio power plant*, NBCNews, Jan. 8, 2007, <https://www.nbcnews.com/id/wbna16530829>.

⁵² Similarly, the IS-MND also appears to discount and dismiss risks to workers at the site from possible explosion events. See IS-MND at 76 (deferring analysis to County hazard plan).

⁵³ See, e.g., *Golden Door Properties, LLC v. County of San Diego*, 50 Cal. App. 5th 467, 555 (2020).

national origin, or income, have equitable access to a clean and healthy environment.⁵⁴ Lead agencies are encouraged to complete an environmental justice analysis for projects that are likely to have a significant and disproportionate effect on vulnerable populations.⁵⁵ Further, CEQA and its Guidelines instruct lead agencies to consider how the environmental and public health burdens of a project might disproportionately impact vulnerable communities.⁵⁶

The IS-MND contains no such consideration. The project is proposed at the Port of Stockton, which is located in a predominantly Latino community that is exposed to severe episodic air pollution impacts. The census tract where the project is located is designated as a “disadvantaged” community by the California EPA because it falls within CalEnviroScreen’s highest-scoring 25 percent of census tracts—the higher the score the higher the level of pollution burden and community vulnerability factors relative to other California census tracts. Stockton consistently scores in the top CalEnviroScreen percentiles due to extreme concentration of heavy industry, with high levels of cumulative impacts to air, water, and soil contamination. The following CalEnviroScreen map shows that the total pollution burden (99th percentile), diesel particulate matter (91st percentile), groundwater threats 97th percentile), impaired waterways (99th percentile), and asthma (96th percentile) near the project site are among the highest in the state.



Census Tract: 6077000801 (Population: 7,624) - The results for each indicator range from 0-100 and represent the percentile ranking of census tract 6077000801 relative to other census tracts.

⁵⁴ U.S. EPA, *Learn About Environmental Justice*, <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice#eo12898> (last visited June 20, 2023).

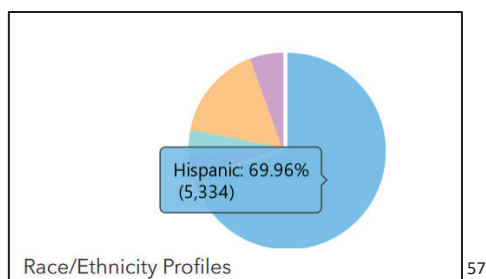
⁵⁵ See State of California, Department of Justice, *Environmental Justice at the Local and Regional Level Legal Background* (2012), https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/ej_fact_sheet_final_050712.pdf.

⁵⁶ *Id.* at 3.

Overall Percentiles	
CalEnviroScreen 4.0 Percentile	99
Pollution Burden Percentile	99
Population Characteristics Percentile	92
Exposures	
Ozone	47
Particulate Matter 2.5	58
Diesel Particulate Matter	91
Toxic Releases	83
Traffic	63
Pesticides	70
Drinking Water	42
Lead from Housing	52

Environmental Effects	
Cleanup Sites	90
Groundwater Threats	97
Hazardous Waste	77
Impaired Waters	99
Solid Waste	85
Sensitive Populations	
Asthma	96
Low Birth Weight	82
Cardiovascular Disease	89

Socioeconomic Factors	
Education	87
Linguistic Isolation	71
Poverty	84
Unemployment	53
Housing Burden	59



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The environmental justice implications of the project should have been included in the environmental analysis in three key ways. First, they should have been considered when evaluating the significance of project impacts. It is well established that “[t]he significance of an activity depends upon the setting.”⁵⁸ For example, as the State of California, Department of Justice environmental justice fact sheet notes, “a proposed project’s particulate emissions might not be significant if the project will be located in a sparsely populated area, but may be significant if the project will be located in the air shed of a community whose residents may be particularly sensitive to this type of pollution, or already are experiencing higher-than-average asthma rates. A lead agency therefore should take special care to determine whether the project will expose ‘sensitive receptors’ to pollution (see, e.g., CEQA Guidelines, App. G); if it will, the impacts of that pollution are more likely to be significant.”⁵⁹ The IS-MND should not have applied universal air pollution significance thresholds to evaluate significance given the localized impacts to neighboring communities.

Second, CEQA requires a lead agency to consider whether a project’s effects, while they might appear limited on their own, are “cumulatively considerable” and therefore significant.⁶⁰ As discussed in the next section, the IS-MND does not include an adequate cumulative impacts analysis.

Third, the IS-MND must address any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans. This includes applicable environmental justice policies to address the negative environmental impacts and health/ hazards. Yet the IS-MND fails to adequately discuss the project’s potential inconsistencies with the air district’s Community Emissions Reduction Program (CERP) for the Stockton area, which includes the site of the proposed project.⁶¹ The SJAPCD CERP sets forth goals relating to the community’s demands to decrease air pollution, lower toxic emissions, reduce vehicle traffic, and limit industrial development. There is a specific emphasis within the CERP on reducing heavy truck pollution, with resources dedicated to studying alternate routes for trucks, incentives

⁵⁷ California Office of Environmental Health Hazard Assessment, *CalEnviroScreen 4.0*, https://experience.arcgis.com/experience/11d2f52282a54cee6184203/page/CalEnviroScreen-4_0/, (last visited June 20, 2023).

⁵⁸ *Kings County Farm Bureau v. City of Hanford*, 221 Cal.App.3d 692, 718 (1990) (citing CEQA Guidelines, § 15064(b)); see also *id.* at 721.

⁵⁹ See State of California, Department of Justice, Environmental Justice at the Local and Regional Level Legal Background at 3 (2012), https://oag.ca.gov/sites/all/files/agweb/pdfs/environment/ej_fact_sheet_final_050712.pdf.

⁶⁰ *Id.*

⁶¹ San Joaquin Valley Air Pollution Control Dist., Community Emissions Reduction Program Stockton (2021), <http://community.valleyair.org/media/2487/final-stockton-cerp-no-appendix-with-cover.pdf>.

to replace trucks with zero and near-zero technology, development of heavy-duty electric vehicle charging infrastructure, incentivizing truck idling plug-ins, and increased enforcement of anti-idling regulation.⁶² This dedication of funding demonstrates that similar mitigation measures at the project level are feasible and would reduce air pollution impacts. Yet the project does not consider or implement any of these measures. Instead, the project will impede progress toward the CERP goals by creating a new source of heavy-duty truck traffic and stationary source pollution in an already-burdened community. The IS-MND should examine potential strategies to ensure the project does not have disproportionate impacts on environmental justice communities and to more closely align the project with the CERP policies to reduce air pollution.

VII. The IS-MND Fails to Evaluate Cumulative Impacts

The IS-MND fails to disclose and evaluate the cumulative impacts of the proposed project. CEQA requires an evaluation of “the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects.”⁶³ Here, however, the IS-MND fails to evaluate the cumulative impacts of the proposed BayoTech project when added to other closely related projects.

In support of its finding that the proposed project would result in “less-than-significant impacts as related to cumulative impacts,” the IS-MND states that “[t]he proposed project’s operations were specifically designed to avoid significant air quality, GHG, noise, and transportation impacts.” IS-MND at 125. However, it fails to even name any of the “closely related past, present, and reasonably foreseeable probable future projects” to which the proposed project’s impacts would be added.⁶⁴ Even if the proposed project’s impacts “are individually limited,” by failing to identify the baseline, the IS-MND cannot evaluate whether the proposed project has any “cumulatively considerable” effects. IS-MND at 124. Thus, the IS-MND ignores the fundamental purpose of evaluating cumulative impacts by failing to disclose and evaluate the additive effect of the proposed project in the context of existing “closely related past, present, and reasonably foreseeable probable future projects.”⁶⁵

For example, the IS-MND fails to identify and evaluate impacts from existing projects, such as the adjacently sited Pelican Renewables, LLC site. *See* IS-MND at 7. The Pelican Renewables site includes a proposed carbon capture and sequestration (CCS) project with carbon from a corn-based ethanol biofuel production plant, transportation of supercritical CO₂ by barge and then injection into two Class VI wells.⁶⁶ The Pelican Renewables CCS project is “closely related” to the proposed BayoTech project because it is “probable and sufficiently certain to allow for meaningful cumulative impacts analysis.”⁶⁷ Furthermore, both the close proximity of the proposed Pelican Renewables CCS project to the proposed BayoTech hydrogen project as well as the similarity of environmental impacts make analysis of cumulative effects necessary.

⁶² *Id.* at 84-89.

⁶³ 14 Cal. Code Regs. § 15355(b); *see also id.* § 15130; *League to Save Lake Tahoe v. County of Placer* (2022) 75 Cal. App.5th 63, 147–150 (discussing cumulative impacts analysis generally).

⁶⁴ 14 Cal. Code Regs. § 15355(b).

⁶⁵ *Id.*

⁶⁶ *See* Pelican Renewables, *About*, <https://pelicanrenewables.com/about/> (last visited June 28, 2023).

⁶⁷ *City of Maywood v. L.A. Unified School Dist.*, 208 Cal. App. 4th 362, 399 (2012).

CCS projects such as the Pelican Renewables proposal carry vast environmental impacts. CCS not only entrenches the fossil fuel and biomass/biofuels industries, along with their existing health and safety harms to frontline communities, but also creates new pollution and safety hazards. Additionally, the carbon injection industry has a long history of leaks and explosions from storage wells, pipelines and other facilities. Underground CO₂ plumes can stretch for miles beneath homes, schools, and oil and gas fields, endangering communities and workers. The IS-MND fails to identify or consider the cumulative impacts of the proposed project in conjunction with the environmental impacts associated with the proposed Pelican Renewables CCS project, or any other “closely related past, present, and reasonably foreseeable probable future projects.”⁶⁸

VIII. The Port Must Prepare an EIR for This Project

As explained throughout these comments, the IS-MND for this project presents an inadequate assessment of its environmental impacts. There is more than a fair argument that many of the project’s potential environmental impacts are significant.⁶⁹ Consequently, the Port of Stockton must prepare an EIR to properly evaluate the environmental impacts of this project.⁷⁰ We offer a few observations about any EIR that is prepared for this project.

A. The EIR Must Evaluate a No-Project Alternative and Should Evaluate Alternatives Consistent With the Project Goals But That Do Not Further Entrench Use of Fossil Gas.

In preparing an EIR, a lead agency must evaluate a “No Project” alternative, which reflects a scenario in which the project is not implemented.⁷¹ In addition, the EIR must include an assessment of location alternatives and a reasonable range of project alternatives that meet the Project’s goals.⁷² Here, the project’s primary goal appears to be to provide alternative transportation fuels. Achieving that goal does not require construction of a new fossil-gas powered hydrogen production facility. An EIR for this project should examine project alternatives that truly advance California’s decarbonization goals. For instance, it is unclear from the IS-MND why a hydrogen fueling project is necessary at all rather than an electric charging station that could power an expanding portion of the truck fleet servicing the Port. The IS-MND also does not give any consideration to hydrogen production methods that use renewable energy to fuel electrolysis. “Green” hydrogen production technology, using truly renewable sources like wind and solar instead of fossil fuels or gas from factory farms, has been proposed in several locations as a strategy to reduce emissions in specific sectors like shipping, aviation, high-heat industrial processes, and long-distance trucking.⁷³ In an EIR, the Port must either explain why these alternatives are not viable or fully evaluate them.

⁶⁸ 14 Cal. Code Regs. § 15355(b).

⁶⁹ 14 Cal. Code Regs. § 15064; *No Oil, Inc. v City of Los Angeles*, 13 Cal. 3d 68, 75 (1974).

⁷⁰ *Id.*; Cal. Pub. Res. Code §§ 21151, 21100(a).

⁷¹ 14 Cal. Code Regs. § 15126.6.

⁷² *Id.*

⁷³ Saadat, Sasan & Sara Gersen, *Reclaiming Hydrogen for a Renewable Energy Future* (2021), https://earthjustice.org/wp-content/uploads/hydrogen_earthjustice_2021.pdf.

B. The EIR Should Incorporate an Environmental Justice Analysis for All Impacts.

As explained above, the IS-MND fails to adequately consider the environmental justice impacts of this project on neighboring communities. An EIR must consider the potential environmental impacts of the proposed project in the context of existing environmental burdens in the region. The Port of Stockton is already one of the largest sources of pollution in the region. The communities surrounding the Port experience disproportionate exposure to pollution and severe cumulative health impacts. The welfare of these communities has historically been deprioritized. Thus, it is vital that an EIR carefully consider each of the project's impacts on neighboring communities.

IX. Conclusion

Our comments highlight the significant and far-reaching impacts of the proposed BayoTech Hydrogen Project. Rather than identify and examine these impacts, the IS-MND ignores some of them and minimizes others. That does not satisfy CEQA. The Port must prepare a comprehensive EIR that addresses this expansion and thoroughly analyzes the project's significant environmental impacts. We appreciate the opportunity to comment on this IS-MND.

Respectfully Submitted,

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Exhibit B



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7.10.2023

Re: Port of Stockton BayoTech Hydrogen Production and Dispensing Facility Project; Initial Study/Mitigated Negative Declaration

Dear Port Commissioners,

The Delta-Sierra Group of the Sierra Club and the undersigned hereby submit an argument that the proposed BayoTech Hydrogen Production and Dispensing Facility Project may have a significant environmental impact even after the proposed mitigation measures are fully implemented. An environmental impact report (EIR) must be prepared because the proposed Project may substantially degrade the quality of the environment. We appreciate the extended time for comment submittal from 6.29.2023 to 7.10.2023 considering the length of the appendices to the BayoTech Initial Study/Mitigated Negative Declaration. In addition to the reference to the 180 day lead agency processing time for negative declaration applications in the extension, California Code of Regulations, Title 14 Section 15107 states:

With private projects involving the issuance of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies, the negative declaration must be completed and approved within 180 days from the date when the lead agency accepted the application as complete. Lead agency procedures may provide that the 180-day time limit may be extended once for a period of not more than 90 days upon consent of the lead agency and the applicant.

Furthermore, The California Code of regulations states:

(a) A lead agency shall provide a notice of intent to adopt a negative declaration or mitigated negative declaration to the public, responsible agencies, trustee agencies, and the county clerk of each county within which the proposed project is located, **sufficiently prior to adoption by the lead agency of the negative declaration or mitigated negative declaration to allow the public and agencies the review period provided under Section 15105.**¹

Prior to determining whether a negative declaration or environmental impact report is required for a project, the lead agency shall consult with all responsible agencies and trustee agencies. Prior to that required consultation, the lead agency may informally contact any of those agencies. Pursuant to the Public Records Act ("Act") (Gov. Code § 7920.000, et seq.) please provide all communications with responsible agencies and trustee agencies regarding whether the BayoTech Hydrogen Production and Dispensing Project required a negative declaration or environment impact report.

The public review time is to occur once the application is accepted or after 30 day if no finding is made.² Then, the lead agency shall determine within 30 days after accepting an application as

¹ [California Code of Regulations \(westlaw.com\)](https://www.westlaw.com/california/coderegs/15105)

² [California Code of Regulations \(westlaw.com\)](https://www.westlaw.com/california/coderegs/15105)

complete whether it intends to prepare an EIR or a negative declaration or use a previously prepared EIR or negative declaration except as provided in Section 15111. The 30 day period may be extended 15 days upon the consent of the lead agency and the project applicant.³

The BayoTech Initial Study/Mitigated Negative Declaration was made available May 30, 2023 for a 30 day public comment period.⁴ The Port of Stockton has been aware of this Project for at least 60 days, likely much longer. No disclosure of the application date was provided to inform the community of the 180 day/270 day consideration period.

The Port Commissioners will decide whether the Project, as put forth in the BayoTech Initial Study/Mitigated Negative Declaration, may have a significant effect on the environment which was not mitigated or avoided and if this is the case, “the lead agency shall prepare a draft EIR and certify a final EIR prior to approving the project. It shall circulate the draft EIR for consultation and review pursuant to Sections 15086 and 15087 and advise reviewers in writing that a proposed negative declaration had previously been circulated for the Project.”⁵

We will provide substantial evidence as fact and fact-based reasonable assumptions or expert opinion⁶ that the BayoTech Initial Study/Mitigated Negative Declaration failed to consider fully the following significant negative environmental impacts and potential significant impacts that may remain for the proposed Project:

- Hydrogen Gas Hazards, Hydrogen Production Process and Dispensing Safety, Natural Gas Supplies, Hydrogen Production Emissions
- Greenhouse Gases, Global Warming Potential, Climate Change, Emissions, and Mitigation Measures
- Environmental Assessment of Odor Impacts
- Mitigation Measures Already Required by Development Code
- Cumulative Impacts from Existing and Proposed Facilities at the Port of Stockton

Project Location

The property is bounded by Forrestal Village Road on the north, west, and south and by Navy Drive on the east; train tracks also encircle the northern part of the property. The site is currently vacant and encompasses approximately 5 acres of undeveloped, graded land as shown below.



The proposed Project would involve issuance of a new lease by the Port to BayoTech with undisclosed terms and conditions, initially for 20 years, to construct a hydrogen gas production, compression, and

³ [California Code of Regulations \(westlaw.com\)](https://www.westlaw.com/calreg/doc.aspx?d=15111)

⁴ [Ceqanet](https://www.ceqa.net)

⁵ [View Document - California Code of Regulations \(westlaw.com\)](https://www.westlaw.com/calreg/doc.aspx?d=15086)

⁶ Introduction to CEQA. <http://www2.courtinfo.ca.gov/protem/courses/ceqa/07-01.htm>

storage facility on an approximately 5-acre vacant parcel. Up to 2,000 kg of hydrogen would be stored on site in fixed storage containers called storage pods. The produced hydrogen is to be used for fueling stationary and mobile fuel cell power applications within the Port (undisclosed proportion) and for fueling stationary and mobile fuel cell power applications for commercial and industrial customers located in the area and/or throughout the region (undisclosed proportion). Hydrogen produced at the facility would be distributed by hydrogen transportation trailers owned by either BayoTech and or various customers. Dispensing the hydrogen into the trailers may take between 1 and 10 hours, and each trailer can carry between 50 and 500 kg of hydrogen, according to the BayoTech Initial Study/Mitigated Negative Declaration.

Hydrogen Gas Hazards

Hydrogen gas (H₂) is highly flammable with lower ignition energies than gasoline or methane (natural gas). Special engineering controls are needed to monitor including leak detection along with special flame detectors because hydrogen burns with a nearly invisible flame.⁷ Hydrogen is a nontoxic and lighter-than-air gas, which negates most risk from inhalation or pooling. However, the U.S. Department of Energy strictly regulates the production, storage, and delivery of hydrogen at high pressure due to its flammability, according to the BayoTech Initial Study/Mitigated Negative Declaration.

Hydrogen gas transportation and storage requires specialized infrastructure to prevent embrittlement of metals, as hydrogen (H₂) is the smallest molecule and can leak through metal or polymer materials as well as through tiny cracks. Hydrogen is an attractive fuel because emissions are only heat and water when combusted. Additionally, hydrogen powered vehicles weigh less, resulting in fuel conversions that are 2 to 3 times more efficient than internal combustion engines using gasoline or diesel.⁸

However, hydrogen gas has been identified as an indirect greenhouse gas (GHG) that causes increases in methane, ozone, and stratospheric water vapor in the atmosphere.⁹ Most of hydrogen's warming impacts occur during the first few decades after its emission. Rapid reduction in greenhouse gas emissions is critical to avoid several tipping points can further contribute to warming impacts.¹⁰ Currently, there are no commercially available leak detection systems for hydrogen that can detect smaller leaks that would have climate warming effects.⁷ Larger leaks can be detected by the sound produced when escaping pressurized vessels.¹¹

Hydrogen gas can be produced using three energy sources: fossil fuels (methane or coal), biogases (renewable and municipal trash), and solar. The type of hydrogen production proposed is from natural gas which produces carbon dioxide without carbon sequestration and is called "gray hydrogen". Approximately 95% of hydrogen produced in the United States is by the reaction of natural gas (methane) with high temperature steam (700°C–1,100°C) in a process known as steam methane reforming (SMR). Generating hydrogen in this manner is carbon intensive and energy intensive relating to energy needed for compressing and cooling the hydrogen gas. Further energy would be required to

⁷ Department of Energy. Safe Use of Hydrogen. Accessed <https://www.energy.gov/eere/fuelcells/safe-use-hydrogen>.

⁸ Department of Energy. Hydrogen's Role in Transportation Accessed <https://www.energy.gov/eere/vehicles/articles/hydrogens-role-transportation>.

⁹ Ocko, I.B and Hamburg, S.P., "Climate consequences of hydrogen emissions" Atmos. Chem. Phys., 2022. Accessed <https://doi.org/10.5194/acp 22-9349-2022>.

¹⁰ Cho, R. "How Close are We to Climate Tipping Points", Columbia Climate School State of the Planet From the Field IPCC Report AR6. 2021 Accessed <https://news.climate.columbia.edu/2021/11/11/how-close-are-we-to-climate-tipping-points/>

¹¹ Mine Safety Appliances (MSA). Working Safely with Hydrogen Understanding Layered Gas Detection and Fire Prevention Technologies. Accessed <https://msa.webdamdb.com/download.php?ti=133037581&tok=1h6uoGWbeBVYxOHuiirNXQRR>

produce liquified hydrogen gas.¹² The quantification of the amount of hydrogen gas that will be stored onsite (310 gallons) suggests that perhaps the Project will include further cooling and compressing of the gas to produce a liquefied hydrogen fuel product instead of a pressured gaseous fuel.

According to the BayoTech Initial Study/Mitigated Negative Declaration H₂ on site storage tanks are described as the following:

- Each pod contains 25 cylinders.
- Pod dimensions are 9 feet wide, 12 feet long, 9 feet high.
- Each cylinder capacity is 310 gallons of H₂ fuel.

Hydrogen Production Process and Dispensing Safety

BayoTech would install two modular steam methane reformers (SMRs), hydrogen pumping equipment, and a central dispensing system, which would produce, store, and distribute gaseous hydrogen. The SMR system reacts natural gas and steam, in the presence of a catalyst, to produce synthesis gas (syngas). Downstream of the SMR, two additional small reactors use the water-gas shift reaction to convert the carbon monoxide (CO) in syngas to carbon dioxide (CO₂). The final step in the process is a purification step, which uses pressure-swing adsorption to produce 99.97% pure hydrogen at a product flow rate of up to 2,000 kg per day (approximately 70 standard cubic feet per day).

The details of the proposed hydrogen production and dispensing processes are further described in the Appendix B Air Quality Results and Assumptions which contained a separate report titled “Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Report” prepared by EnSafe and dated December 2022 (pages 148-1233).

The production process begins with the removal of sulfur-based chemicals using a desulfurization process involving some “filter” which is “assumed” to require replacement annually. Sulfur in the form of mercaptan sulfur is added by Pacific Gas and Electric to all natural gas (methane) transported as a safety measure, allowing olfactory detection if a leak occurs.¹³ Some fraction of the natural gas (methane) supplied to the proposed Project may not be desulfurized before use based on the following information:

The SMR produces syngas from natural gas and steam feedstocks and requires heat which is supplied by the combustion of natural gas and process gases.

The process gases resulting from the production process is described as desulfurized but the natural gas that would be combusted to produce heating energy may or may not be desulfurized. The required full environmental impact analysis should clarify the process so that decision makers and the public can readily understand the processes that would be occurring at the proposed Project.

The proposed facility would operate 24 hours per day, 7 days per week, and 350 days a year producing up to 700,000 kilograms of hydrogen annually using two BayoTech’s H2-1000 Generation Systems and methane (natural gas) supplied by Pacific Gas and Electric utilizing existing Port of Stockton power infrastructure. According to the BayoTech Initial Study/Mitigated Negative Declaration up to 2,000 kg of hydrogen would be stored on site in fixed storage containers called storage pods. The hydrogen gas is compressed and stored in BayoTech’s hydrogen storage pods until being dispensed to transport trailers owned by BayoTech or others. These trailers will transport the produced and compressed hydrogen gas

¹² Ochu, E.R, Braverman, S., Smith, G. and Friedmann J. Hydrogen Fact Sheet: Production of Low-Carbon Hydrogen” Columbia SIPA Center on Global Energy Policy. May 2021. Accessed 6.26.2023 at https://www.energypolicy.columbia.edu/sites/default/files/pictures/HydrogenProduction_CGEP_FactSheet_052621.pdf.

¹³ Pacific Gas and Electric https://www.pge.com/pipeline/library/doing_business/glossary/index.page

to customers in the area (customers throughout the region). The customer service range was not identified in the BayoTech Initial Study/Mitigated Negative Declaration and should have been described in accordance with the California Environmental Quality Act.

The entire hydrogen gas production facility is designed to be operated unattended and monitored remotely from the central control room in Albuquerque, New Mexico. An operator at the Port of Stockton proposed site will primarily assist the truck dispensing operations between the hours of 8:00 AM and 5:00 PM.

Elsewhere in the BayoTech Initial Study/Mitigated Negative Declaration states:

On-site dispensing operations would take place for up to 16 hours per day, between 6:00 a.m. and 10:00 p.m. based upon customer demand, during which time – at a minimum – one trained and qualified BayoTech technician would be present. Typical on-site staff are expected to include one maintenance person during normal operation and one or two truck drivers picking up and dropping off trailers. During shift changes, safety inspections, maintenance, and other normal operations, additional BayoTech or contractor personnel may also be on site.

Based on these conflicting hours needed for dispensing, it is unclear what will happen between the hours of 6:00 to 8:00 AM and 5:00 to 10:00 PM if assistance is needed with dispensing this extremely flammable material or if in fact there will be multiple shifts. Trailer inspections should occur prior to dispensing hydrogen gas, especially since other than BayoTech trailers will be used. Further analysis of the operations is needed, which should be described in the required full environmental impact report analyses.

Information about community hazard analysis was not provided in the BayoTech Initial Study/Mitigated Negative Declaration in the case of communication technology interruptions, whether the trained and qualified BayoTech dispensing operators/maintenance person will be trained to handle emergency responses, or how the remote monitoring will alert Port of Stockton and City of Stockton emergency responders.

The BayoTech Initial Study/Mitigated Negative Declaration, elsewhere described the central control room located in Albuquerque, New Mexico as:

“...production would be remotely monitored and controlled using industry standard control systems and cloud infrastructure from a purpose built, state-of-the-art control center, located at BayoTech’s operational headquarters in Albuquerque, New Mexico.”

No information was provided about the number of monitoring staff at the Albuquerque New Mexico that will be in the central control room or whether the central control room is staffed 24 hours a day. Electrical grid overloads are becoming ever more common, in addition to normal outages related to weather and accidents. How will emergency responders be notified in case of anticipated “malfunctions” if communication technologies are interrupted or there is an electrical outage? Community safety information to mitigate the hazards of hydrogen gas production and handling was not disclosed in the Initial Study/Mitigated Negative Declaration and must be further analyzed in a full environmental impact review analysis.

Natural Gas Supplies

The condition of the Port of Stockton gas infrastructure pipelines for conveying methane from Pacific Gas and Electric supply pipelines to the facility was not discussed. Leaking pipelines are hazardous to

the community and climate. The BayoTech Initial Study/Mitigated Negative Declaration failed to characterize the existing infrastructure that would be used for conveyance of methane or the new infrastructure that is needed. The BayoTech Initial Study/Mitigate Negative Declaration did not indicate that Pacific Gas and Electric will be delivering natural gas at a pressure higher than standard delivery pressure and what if any impact there would be relating to infrastructure or natural gas availability. According to Pacific Gas and Electric, “Gas will normally be delivered at PG&E’s standard delivery pressure of seven inches of water column.”¹⁴ This standard transmission pressures of 7 inches of water converts to 0.25 pounds per square inch.¹⁵

The amount of natural gas (methane) used was described in many ways making quantification more difficult as indicated below.

- 1) The total energy input, which is based on the higher heating value of the fuel to be burned, is estimated to be approximately 8,000,000 British thermal units (BTU) per hour.
- 2) Each one of the steam methane reformers require methane at 7,968 standard cubic foot per hour (between 145 pounds per square inch and 175 pounds per square inch)
- 3) Maximum hourly heat input per steam methane reformer unit (4 MMBtu/hour)

The natural gas flow rate proposed 175 pounds per square inch is significantly higher than Pacific Gas and Electric natural gas flow rates of 0.25 pounds per square inch.

Elsewhere, other and even higher natural gas flow rates are described in Table 5 (below) that can be significantly higher than 175 pounds per square inch. Flows up to 291 standard cubic feet per minute, multiplied by 60 minutes/hour yields 17,460 standard cubic feet per hour which is significantly greater than 7,968 standard cubic feet per hour described above.

Table 5
Predicted Daily and Annual Utility Requirements

Utility	Requirements
Pipeline natural gas	142 – 291 standard cubic feet per minute
Electricity (480 volts)	600 – 1,220 kWh per day
Sanitary	1,496 – 2,950 gpd
Potable water	2,993 – 6,118 gpd

The BayoTech Initial Study/Mitigated Negative Declaration failed to clearly describe the amount of natural gas (methane) that will be used to produce hydrogen gas using the steam methane reformer method in plain language so that decision makers and the public can rapidly understand the proposed Project’s impact.

The BayoTech Initial Study/Mitigated Negative Declaration disclosed how much electricity was used in San Joaquin County as follows:

In 2020, total electricity consumption in the County was estimated at 5,736.91 gigawatt hours (CEC 2020b). PG&E has a variety of renewable and non-renewable sources.

Utility-provided energy demand in San Joaquin County has steadily increased and is experiencing the fastest growing customer demand in PG&E’s Stockton Division due to new residential development and growth in the agriculture and industrial sectors (PG&E 2022).

¹⁴ Pacific, Gas, and Electric. Gas Rule No. 2, effective 1.1.2022. Accessed https://www.pge.com/tariffs/assets/pdf/tariffbook/GAS_RULES_2.pdf

¹⁵ Engineering Toolbox. Accessed https://www.engineeringtoolbox.com/pressure-units-converter-d_569.html

The (PG&E 2022) reference: PG&E, 2022. Company Profile. Accessed October 26, 2022. Available at: https://www.pge.com/en_US/about-pge/company-information/profile/profile.page did not contain any specific San Joaquin Data nor data regarding the Stockton Division.

A citation was provided for total natural gas (methane) consumption in San Joaquin County, but the actual amount was not included in the BayoTech Initial Study/Mitigated Negative Declaration:

CEC, 2020c. Gas Consumption by County. Accessed August 29, 2022. Available at: <http://www.ecdms.energy.ca.gov/gasbycounty.aspx>.

The following information was obtained from the California Energy Commission website for energy consumption in 2021 for San Joaquin County.¹⁶

San Joaquin County Energy Use	Natural Gas (Millions of Therms)	Electricity (GWh or Million KWh)
Residential	96.14	2125.38
Non-Residential	90.18	3482.68
Total	186.32	5608.06

The relationship between Therms and British Thermal Units (BTU) is 1 Therm equals 100,000 BTU.¹⁷ Eight million BTU/hour would equate to 80 Therms per hour or 1920 Therms per day or 700,800 Therms per year. The proposed BayoTech Hydrogen Production and Distribution Facility would represent approximately a one percent increase in total natural gas (methane) usage COUNTYWIDE. No evaluation was provided of the relative proportion of natural gas (methane) that will be used to the City of Stockton's use, where the proposed Project is to be located. Whether this increased use is significant or not is not discussed and analysis to determine whether the proposed Project may represent a significant increase in energy usage is required by the California Environmental Quality Act, including possible impacts on the physical environment including infrastructure associated with conveyance of the natural gas through the San Joaquin-Sacramento Delta under increased subsidence and sea level rise conditions associated with Project's analysis of climate change conditions.

Hydrogen Production Emissions

Hydrogen production emissions occur during two production processes, start-up and operations emission. The expected startup emissions for each steam methane reformer will occur 12 times per year and were quantified as such. These startup events will vent emissions of syngas formed during the steam methane reaction that contain mostly H₂ (hydrogen gas), CH₄ (methane), CO₂ (carbon dioxide), and CO (carbon monoxide).

No quantification of emissions resulting from "up-set" conditions, "shut-down", or "malfunction event" conditions was included in the BayoTech Initial Study/Mitigated Negative Declaration, except that the occasions were "rare" which was undefined.

"On rare occasions, start-up conditions and up-set conditions would result in syngas releases into a vent dedicated for the control of releases during such start-up, shut-down, and malfunction events."

Quantification of this syngas emissions over the 12 hour period when venting during startup operations is described as follows which does not include up-starts, shut-down or malfunction events.

¹⁶ California Energy Commission Energy Usage by County. Accessed 7.3.2023 at <https://ecdms.energy.ca.gov/>

¹⁷ Units and Calculators Explained, U.S. Energy Information Administration. <https://www.eia.gov/energyexplained/units-and-calculators/british-thermal-units.php>

Start-up Emissions – 12 hours of Venting per start-up per H2-1000 unit

SMR Start-up venting with two H2-1000 Units

Maximum Potential to Emit Project Start-up Venting Emissions (two H2-1000 unit)				
Syngas Component	Pounds per Day ¹	Tons per Year ²	GWP ⁽⁴⁾	Metric tons/year
Hydrogen (H ₂)	9.76	0.06		
Methane (CH ₄)	22.2	0.13	25	3.02
Carbon Dioxide (CO ₂)	250.16	1.50	1	1.36
Carbon Monoxide (CO)	5.16	0.03		4.38
Nitrogen (N ₂)	261.24	1.57		
Water vapor (H ₂ O)	1.24	0.01		

*Notes: BayoTech H2-1000
Emission Start-up Data for
two units, October 2022.*

The form of nitrogen that will be vented during startup was not disclosed in the text description of startup operations but was described in tabular form as nitrogen gas (N₂). Ancillary to the steam methane reformer unit is the selective catalytic reduction (SCR) unit which is described as a post-flue gas treatment. The selective catalytic reduction unit uses anhydrous ammonia (NH₃) as a reducing agent which is introduced into the flue gas stream to reduce NO_x emissions to nitrogen gas (N₂) when in contact with a catalyst. The startup emissions were not adequately described to determine whether NO_x will be emitted. Further description of the process is needed.

The operational emissions (flue-gas exhaust) have been estimated using BayoTech 2022 data as 59.7% nitrogen, 3.7% oxygen, 21.9% CO₂, 14.7% water, 5 ppm of NO_x (with SCR), and trace amounts of CO (at 76 ppm), PM (at 7 ppm) and volatile organic compound (VOC) (at 5 ppm) and will be further discussed below.

Greenhouse Gases, Global Warming Potential, Climate Change, Emissions, and Mitigation Measures

The BayoTech Initial Study/Mitigated Negative Declaration cited the white paper prepared by the University of California Berkeley and the California Board of Forestry and Fire Protection, entitled “*Introduction to the Hydrogen Market in California*” as the source for the statement “Previous modelling approaches have estimated that hydrogen could play an important role in decarbonization of transportation, as well as buildings and industry sectors.” This 2020 memo was a draft for public comment relating to the use of forestry products.

Atmospheric chemistry of greenhouse gases is an ever-expanding science, as more information has been collected, further interactions have been identified. One such interaction involves hydrogen gas releases to the environment. As stated previously, hydrogen gas is “lighter than air” which is of benefit to ground level atmospheric conditions but creates a source of greenhouse gas at higher atmospheric elevations. Currently, there are no commercially available leak-detection systems for hydrogen that can detect smaller leaks that would have climate warming effects.⁸

The BayoTech Initial Study/Mitigated Negative Declaration described the handling of the transport trailers as followed:

A filling operator would hook up returned empty truck trailers and vent any residual H₂ through the manifold vent stack during the dayshift (between the hours of 8 am and 5 pm) so that truck operators could come in during any hour, connect to an empty trailer, and then safely fill a trailer.

The BayoTech Initial Study/Mitigated Negative Declaration failed to include quantification of the “residual H₂” that would be vented into the atmosphere.

The following graphic from “Climate Consequences of Hydrogen Emissions” shows the relationship between hydrogen gas and hydroxide (OH). As H₂ gas increases, the methane oxidizing hydroxide decreases. With decreased availability of hydroxide to oxidize methane, the methane residence time in the atmosphere and global warming potential increases.⁸

I. B. Ocko and S. P. Hamburg: Climate consequences of hydrogen emissions

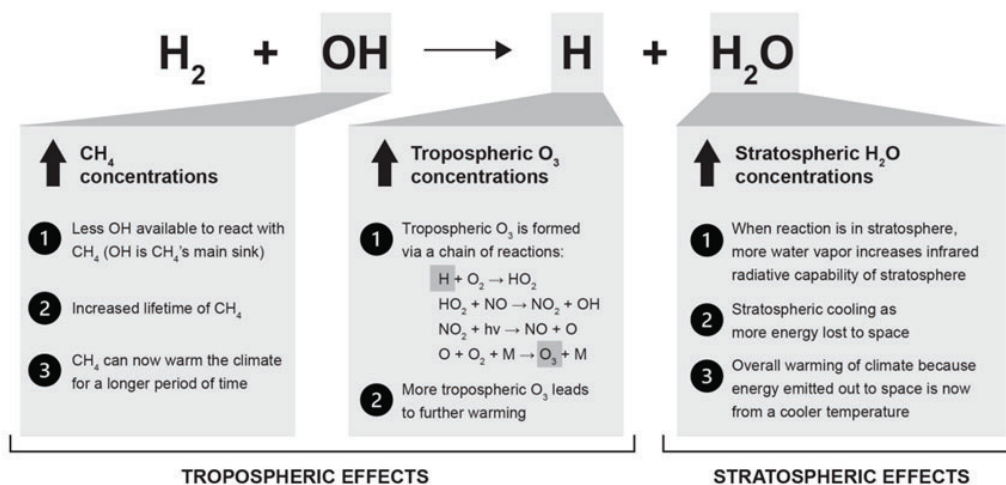


Figure 1. Effects of hydrogen oxidation on atmospheric greenhouse gas concentrations and warming.

The United States Environmental Protection Agency estimates that methane (CH₄) has a global warming potential (GWP) of 27-30 over a period of 100 years whereas carbon dioxide (CO₂) has a GWP of 1.¹⁸ Methane emissions last in the atmosphere about a decade on average given sufficient oxidation potential, which is much less time than carbon dioxide whose atmospheric lifetime is on the scale of thousands of years. But because methane absorbs much more energy than carbon dioxide, methane has a much higher GWP than carbon dioxide. The methane GWP also accounts for some indirect effects, such as the fact that methane is a precursor to ozone, and ozone is itself a greenhouse gas.

The BayoTech Initial Study/Mitigated Negative Declaration stated that for greenhouse gas emissions analysis, methane is assumed to have a GWP of 21 over a 100 year period. This represents a significant underestimation of the potential effects related to operations involving the use of methane to produce hydrogen gas, between 22% and 30% underestimated.

$$\frac{27 - 21}{27} \times 100 = 22\% \quad \text{and} \quad \frac{30 - 21}{30} \times 100 = 30\%$$

No reference was provided in the BayoTech Initial Study/Mitigated Negative Declaration for the use of a global warming potential of 21 for methane.

The December 2022 “Air Quality, Greenhouse Gas, and Health Risk Assessment Technical Report” prepared by EnSafe in the BayoTech Initial Study/Mitigated Negative Declaration Appendix B included the following Table: Total Emission Rates for one H₂-1000 unit using BayoTech Data. This table uses 25 for the global warming potential of methane emissions and noted that this data came from the IPCC second and fourth assessment report.

¹⁸ <https://www.epa.gov/ghgemissions/understanding-global-warming-potentials>

Operational Emissions

Total Emission Rates for one H2-1000 unit using BayoTech Data					
Criteria Pollutant	Emission Factor (ppmw) ⁽¹⁾	Potential Criteria Pollutant Emissions			
		lb/hr	lb/day	lb/yr	tons/year
NO _x	5	0.022	0.52	191	0.095
CO	76	0.331	7.94	2,897	1.448
VOC	5	0.022	0.52	191	0.095
PM/PM ₁₀	7	0.030	0.73	267	0.133
SO ₂	0.6	0.002	0.06	21	0.010
Max Single HAP (Hexane)	1.6	0.007	0.17	61	0.030
Total HAP	1.7	0.007	0.17	63	0.032

Greenhouse Gas Emissions	Emission Factor (ppmw) ⁽³⁾	Potential GHG Emissions				GWP ⁽⁴⁾	Metric tons/year
		lb/hr ⁽¹⁾	lb/day	lb/yr	Metric tons/year		
CO ₂	219000	953	22,869	8,347,212	3,786	1	3,786.23
CH ₄	2	0.01	0.24	88	0.04	25	0.99
N ₂ O	1	0.00	0.06	23	0.01	298	3.09
							3,790.32

Notes:

(1) BayoTech H2-1000 Unit Emission Data Sheet with Low NO_x Burner and SCR device. October 7, 2022

(2) Based on U.S. EPA AP-42 Section 1.4, Table 1.4-1, and Table 1.4-2 for Natural Gas Combustion

(3) GHG emission factors are based on BayoTech H2-1000 Unit Emission Data

(4) GHG resultant values includes the 100-yr global warming potential (GWP) values from the IPCC second assessment report (SAR) and fourth assessment report (AR4).

The United States Environmental Protection Agency uses 27-30 global warming potential factors over a 100 year period for methane in compliance with international greenhouse gas (GHG) reporting standards under the United Nations Framework Convention on Climate Change (UNFCCC). UNFCCC guidelines now require the use of the GWP values from the IPCC's Fifth Assessment Report (AR5), published in 2013.¹⁷

Recently, the United States Environmental Protection Agency published interim guidance in the Federal Register /Vol. 88, No. 5 /Monday, January 9, 2023 /Notices pg1199:¹⁹

“Methane is a potent greenhouse gas over a 100-year period, the emissions of a ton of methane contribute 28 to 36 times as much to global warming as a ton of carbon dioxide. Over a 20-year timeframe, methane is about 84 times as potent as carbon dioxide.”

Carbon dioxide levels in the atmosphere continue to rise and as of 2021 atmospheric levels of 414.21 ppm were reported.¹⁸ Evidence has long been available showing that hydrogen production from fossil fuels without carbon sequestration is not “clean” because emissions of greenhouse gases occur during production instead of combustion as is the case for fossil fuels. Carbon dioxide is produced during hydrogen gas formation and during the process of energy conversions from methane to hydrogen gas.

The local agencies most relevant to the Project, the San Joaquin Valley Air Pollution Control District and City of Stockton use an analysis of impacts, business as usual (BAU), which has been found unusable after a 2015 California Supreme Court ruling in Center for Biological Diversity v. California Department of Fish and Wildlife, according to the BayoTech Initial Study/Mitigated Negative Declaration. The BayoTech Port of Stockton greenhouse gas emission threshold for significant was determined based on the South Coast Air Quality Management District thresholds which showed a level of significance greater than 10,000 million tons of CO₂e (carbon dioxide equivalence) per year. According to the BayoTech Initial Study/Mitigated Negative Declaration, the South Coast Air Quality Management District screen values, Tier 3, construction emissions are averaged over 30 years and are added to the Project’s operational emissions. Instead, and more conservatively, the BayoTech Port of Stockton impact evaluation amortized greenhouse gases relating to construction over a 20-year period (the project lease under a land use agreement with the Port of Stockton) as shown below in Table 12

¹⁹ Federal Register/Vol.88, No.5/Monday, January 9, 2023. Effective Interim Guidance Accessed at: <https://www.govinfo.gov/content/pkg/FR-2023-01-09/pdf/2023-00158.pdf>

from the BayoTech Initial Study/Mitigated Negative Declaration. Table 12 shows that greenhouse gas emissions from the proposed Project and amortized construction related greenhouse gas emissions will significantly affect the environment, based on the South Coast Air Quality Management District criteria.

Table 12
Operational Greenhouse Gas Emissions

Sources	Annual GHG Emissions (MT per year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
H2-1000 Unit #1	3,786.23	0.99	3.09	3,790
H2-1000 Unit #2	3,786.23	0.99	3.09	3,790
H2-1000 Units 1 & 2 Start-up Venting Emissions	1.36	3.02	0	4
Area	0.01	<0.005	<0.005	0.01
Energy Consumption	2,401	0.17	0.02	2,412
Mobile (vehicle tailpipe emissions)	2,223	0.04	0.34	2,328
Solid Waste (generation and transport)	0	0	0	0
Water Consumption	1.1	0.04	<0.005	2
Total Operational GHG Emissions				12,327
Total Construction GHG Emissions (amortized, from Table 11)				5.95
Total Combined Construction and Operational GHG Emissions				12,333
Threshold				10,000
Exceed Threshold?				Yes

Note:

Emissions may not precisely sum due to rounding.

As discussed previously, the numbers representing carbon dioxide equivalence for methane emissions are low and no hydrogen gas emissions were included in the greenhouse gas emissions analysis indicating that the level of analysis performed did not fully account for the greenhouse gas production associated with the proposed Project's operations.

The BayoTech Initial Study/Mitigated Negative Declaration characterized correctly that the greenhouse effect keeps the Earth's atmosphere near the surface warmer than without any greenhouse gases that trap heat that would otherwise leave the atmosphere. Without the greenhouse gases Earth would be too cold for water-based organisms, such as exist on our planet.

Global warming environmental changes in California include:

- rising temperatures with an increased number of excessive heat days,
- changes in crops relating to higher temperatures with increased evaporation rates,
- drought, and
- lack of frost days necessary for many fruits.

Other local impacts include:

- worsening air quality problems,
- a reduction in municipal water supply due to reduced Sierra snowpack,
- sea level rise, and
- increases in wildfires relating to drought and changes in terrestrial ecosystems.

Public health is also affected by rising temperature, air pollutants, and increased infectious disease rates. These global warming effects were cited in the Initial Study/Mitigated Negative Declaration to have been from the Climate Change Center's California Changing Climate 2018: A summary of the Key Findings from California's Fourth Climate Change Assessment.²⁰

²⁰ <https://www.climateassessment.ca.gov/state/overview/>

The Fourth Climate Assessment also included “High Resolution Measurement of Levee Subsidence related to Energy Infrastructure in the Sacramento-San Joaquin Delta”.²¹ The Delta was “once a great marsh, the Delta now is a network of channels and sunken “islands” that cover—together with Suisun Marsh—about 1,300 square miles. Laid over those islands and channels is the infrastructure of a twenty-first century economy: water supply conduits; major arteries of the state’s electrical grid; natural gas fields, storage facilities, and pipelines; highways and railways; and shipping channels, all surrounded by an increasingly urban landscape.”²²

Subsidence is the sinking of the ground because of underground material movement and is most often caused by the removal of water, oil, natural gas, or mineral resources out of the ground by pumping, fracking, or mining activities.²³ Due to shallow groundwater and reduced water quality, farmers in the Delta do not typically extract groundwater. The only extraction done in the Delta is natural gas. In addition to natural gas extraction which may or may not affect subsidence rates, microbes oxidize the peat soils, high in organic carbon, when exposed to the atmosphere. This aspect of ground level lowering is thought to be the most important factor. There are important efforts being made to reduce subsidence in the Delta. These efforts to reduce subsidence involve enhanced deposition of vegetation at considerable costs.²⁴ Reducing subsidence is important for existing natural gas (methane) infrastructure safety.

To meet California’s climate goals, use of fossil fuels like natural gas will need to decrease by 80 percent or more by 2050. This means that the source of the natural gas (methane) for hydrogen gas production that is proposed should not be considered to comply with existing plans since natural gas uses will be increased. Hydrogen gas will be an important alternate fuel as described previously and will be produced using renewable energy and the process of electrolysis.²⁵ Hydrogen produced using natural gas (methane) without carbon sequestration is not renewable, not sustainable, and does not reduce carbon dioxide emissions necessary to meet California’s climate goals. During the writing of this comment letter, the Earth experienced the highest average temperature ever recorded relating to natural cycles and increased greenhouse gas emissions.²⁶

The proposed BayoTech production and dispensing facility will produce 2000 kg/day of hydrogen gas which correlates to 700,000 kg yearly, if operating 350 days as indicated. This level of production reportedly will result in the production of 12,333 metric tons of carbon dioxide equivalence per year or 12,333,000 kilograms of carbon dioxide equivalence. However, the BayoTech Initial Study/Mitigated Negative Declaration only proposes to mitigate 2,333 metric tons of carbon dioxide equivalence to under level of significance ignoring that the baseline for the proposed site has zero carbon dioxide emissions. This doing business as usual – every project approval – allowing 10,000 metric tons of

²¹ Brooks, Benjamin A., Jennifer Telling, Todd Ericksen, Craig L. Glennie, Noah Knowles, Dan Cayan, Darren Hauser, Adam LeWinter. (U.S. Geological Survey). 2018. “High Resolution Measurement of Levee Subsidence Related to Energy Infrastructure in the Sacramento-San Joaquin Delta. California’s Fourth Climate Change Assessment”, California Energy Commission. Publication Number: CCEA4-CEC-2018-003. Accessed at https://www.energy.ca.gov/sites/default/files/2019-11/Energy_CCEA4-CEC-2018-003_ADA.pdf

²² Delta Stewardship Council. 2013. “The Delta Plan”. Accessed at <https://deltacouncil.ca.gov/pdf/delta-plan.pdf>

²³ <https://oceanservice.noaa.gov/facts/subsidence.html>

²⁴ Delta Stewardship County. Subsidence Reversal for Tidal Reconnection. 1.18.2023. Accessed <https://viewperformance.deltacouncil.ca.gov/pm/subsidence-reversal-tidal-reconnection>

²⁵ California Energy Commission. 2020. “The Challenge of Retail Gas in California’s Low-Carbon Future Technology Options, Customer Costs, and Public Health Benefits of Reducing Natural Gas Use”. Accessed <https://www.energy.ca.gov/sites/default/files/2021-06/cec-500-2019-055-f.pdf>

²⁶ Jacobo, Julie. “Earth reaches hottest day ever recorded 4 days in a row”. ABC News. 7.7.2023. Accessed <https://abcnews.go.com/US/4th-july-breaks-record-highest-temperature-measured/story?id=100702850>

carbon dioxide equivalence will continue the growth of carbon emissions responsible for climate change effects that are affecting our community and beyond. People are suffering from the effects of increased carbon dioxide and other greenhouse gas emissions in the atmosphere.

In making legal findings, the State of California, Court of Appeal, Fourth Appellate District, Division One stated:²⁷

“To meet legislative GHG emission reduction targets, CARB recommends reducing emissions to six MTCO₂e per capita by year 2030 and to two MTCO₂e per capita by 2050. This is equivalent to reducing 2014 emissions by 40 percent (by 2030) and 77 percent (by 2050).”

Taking up carbon dioxide through sequestration and making changes to the business as usual approach are needed to slow carbon dioxide emissions and reduce use of short-term greenhouse gases with high global warming effects.

The proposal that all of the carbon dioxide produced does not requires mitigation ignores the efforts made at a local level to reduce carbon dioxide emission and imposes a burden on the community to mitigate the full emissions from the proposed BayoTech Project to achieve California’s climate change goals.

Not only did the BayoTech Initial Study/Mitigated Negative Declaration fail to propose to fully mitigate the carbon dioxide emissions but the proposed mitigation measure involved the purchasing of “renewable natural gas using “book and claim” credits in accordance with California LCFS methodology according to the California Air Resources Board.” The low carbon fuel standard (LCFS) includes “book and claim” credit for full term analyses of greenhouse gas emissions from fuel production through tailpipe emissions.

Further, the BayoTech Initial Study/Mitigated Negative Declaration included the following statement suggesting that the hydrogen gas produced would be marketable as an eligible fuel for credit purchasing.

Hydrogen fuel from steam methane reformation, such as that produced by the proposed Project, is eligible for LCFS credit generation via fuel pathway. Credit values are calculated accounting for the carbon intensity of the mode of production compared to the fuel it would replace; therefore, assigned LCFS credits represent a net reduction in CO₂ from fuel generated or dispensed in the state.

No energy conversion is 100% efficient. Energy is used and lost during the steam methane reformer process converting natural gas (methane) to hydrogen gas. The LCFS data indicate that the conversion is 72% efficient.²⁸ Low carbon fuel does not represent greenhouse gas reductions, only a lessening of the greenhouse gases emitted and their subsequent effect on climate change. Any credits related to hydrogen gas under the existing LCFS will be reduced over time and will further be reduced because when credits are assigned, a lifecycle approach is applied. Any plans to sell the credits as if the hydrogen that was produced was “blue” with carbon sequestration will be significantly reduced as only “grey” hydrogen gas will be produced. These low carbon fuel credits do not reduce the requirement for BayoTech to mitigate negative impacts associated with the proposed Project under the California Environmental Quality Act. The BayoTech Initial Study/Mitigated Negative Declaration failed to fully

²⁷ Golden Door Properties v County of San Diego. Accessed <https://ceqaportal.org/decisions/1943/Golden%20Door%20Properties,%20LLC%20v.%20County%20of%20San%20Diego.pdf>

²⁸ CA-GREET3.0 Lookup Table Pathways – Technical Support Documentation. Pg 38. Accessed: <https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/ca-greet/lut-doc.pdf>

mitigate the carbon dioxide produced, leaving on the debit side global warming potential gases affecting climate.

The BayoTech Initial Study/Mitigated Negative Declaration proposed to mitigate greenhouse gas produced, as a result of the production and dispensing of hydrogen gas from natural gas (methane), without carbon sequestration:

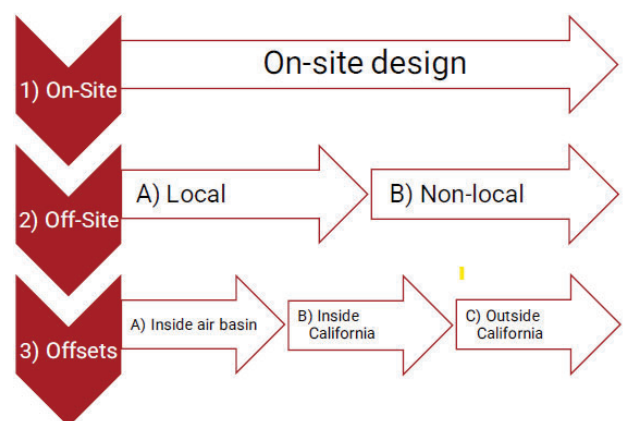
GHG-MM-1: Renewable Natural Gas (RNG). BayoTech will acquire RNG in sufficient quantity and carbon intensity to reduce the net carbon emissions of the fuel stock used in hydrogen production by an equivalent of 2,334 MT of CO₂e per year, below the threshold of significance. BayoTech will provide the Port with annual reports of RNG purchase records and overall fuel consumption to demonstrate the required carbon emission reduction (2,334 MT per year). The reports must identify the quantity of RNG and traditional natural gas consumed and fully document the availability of RNG. To meet the requirements of this mitigation measure, RNG can be acquired directly or acquired utilizing a certified book and claim accounting methodology in order to meet project demand.

The renewable natural gas which is pipeline quality gas produced from a renewable source including livestock waste, landfills, wastewater sludge, food waste, and other organic waste operations. RNG is essentially captured biogas (gas produced from the decomposition of organic matter) that has been processed to purity standards. Typically, a lifecycle approach is used to calculate the GHG emissions associated with RNG, including energy used to convert the organic material or waste to biomethane, and any methane leaks along the supply chain, as well as all avoided emissions resulting from the project. If the biogas is produced from waste rather than crops grown to generate natural gas, RNG avoids more emissions than it generates, leading to a net-negative carbon intensity. Although BayoTech would use natural gas procured from existing physical utility distribution pipelines, the use of RNG would be facilitated using the “Book and Claim” credits, based on the purchased environmental attributes of RNG produced at other locations, in accordance with established California LCFS methodology, according to CARB. These credits may be procured by BayoTech and/or in coordination with suppliers and customers within the hydrogen value chain.

The source of these fuels has not been identified nor was a selection hierarchy provided. As a general rule, offsets purchased in the general area of the Project are preferred if onsite mitigations are insufficient as shown in the CARB Scoping Plan GHG Reduction and Mitigation Hierarchy shown on the right.²⁹

No analysis of more defined and feasible mitigation measures was provided to substantially show that the mitigation selected was adequate to mitigate the significant increased energy use and greenhouse gas emissions that have global warming potential. Nor were these “offsets” shown to be additional.

In addition to the proposed offset of 2,333 metric tons of carbon dioxide equivalence, direct investment projects that reduce, avoid, or sequester GHG emissions must be included to fully mitigate the 10,000



²⁹ Office of Planning and Research. CEQA 202 Series: Greenhouse Gas Emissions. 4.18.2023. Accessed https://opr.ca.gov/ceqa/docs/20230517-CEQA_202_GHGAnalysis_Slides.pdf

metric tons of carbon dioxide equivalence that remain. For example, BayoTech could invest in a weatherization project that reduces carbon emissions within the community while also reducing residents' heating and cooling expenses. Other direct investment projects are urban forest and urban tree planting and the installation of solar panels on the property or elsewhere on Port of Stockton property or in Stockton. During the development of the environmental impact report, community meetings should be held for residents, in person, to become informed of the Project's environmental impacts, planned mitigation, and Port of Stockton's emergency responses related to the hazards of hydrogen gas produced at the proposed location.

The BayoTech Initial Study/Mitigation Negative Declaration failed to adequately characterize the global warming potential of the Project operations providing evidence to support a fair argument of potentially significant environmental impacts triggering a requirement for a full environmental impact analysis under the California Environmental Quality Act.

Environmental Assessment of Odor Impacts

As an aside on page 74 of the Initial Study/Mitigated Negative Declaration, BayoTech revealed the following:

Additionally, anhydrous ammonia will be used in the SCR unit for abatement of NO_x.

Anhydrous ammonia will be delivered by suppliers to storage tanks designed specifically for that purpose. From the tanks, the ammonia will feed directly into the SCR unit. The 10-cubic-foot SCR unit will emit ammonia from the deaerator vent to not exceed the permitted limit of 10 ppm.

BayoTech has plans to install two modular steam methane reformers (SMRs), hydrogen pumping equipment, and a central dispensing system, which would produce, store, and distribute gaseous hydrogen. Two SCR units operating simultaneously would double ammonia emissions.

According to the Public Health Statement prepared by the United States Center for Disease Control: Ammonia has a very strong odor that is irritating and when in the air is detectible at a level higher than 5 ppm and low levels of ammonia may harm some people with asthma and other sensitive individuals.³⁰ Without disclosure of other odor producing facilities in the vicinity of the proposed Project the cumulative impacts relating to odor cannot be determined. The regulatory agency that enforces odor impacts, the San Joaquin Valley Air Pollution Control District has not established cumulative significance thresholds regarding odor impacts. Regardless, of whether or not the regulatory agency has established standards for a negative environmental impact, disclosure of those impacts are necessary

The BayoTech Initial Study/Mitigated Negative Declaration stated that "the facility itself would not generate odors during operation." This statement is in direct conflict with statement that ammonia from the deaerator vent that is part of the selective catalytic reduction module (SCR) will be emitted at levels not to exceed 10 ppm.

Regardless that the San Joaquin Valley Air Pollution Control District has not developed screening distances for hydrogen fueling facilities, the BayoTech Initial Study/Mitigated Negative Declaration states: "If a project would result in an odor source with sensitive receptors located within 1 — 2 miles screening distances, additional analysis would be required."

Sensitive receptors identified by BayoTech include residential houses located 4600 feet to the north and the nearest school is Washington Elementary located 7200 feet, both within 2 miles of the proposed

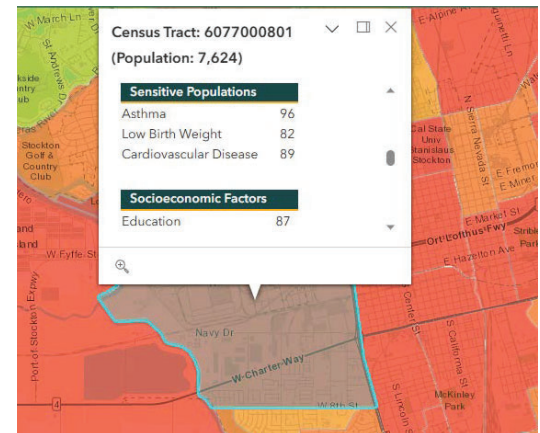
³⁰ <https://wwwn.cdc.gov/TSP/PHS/PHS.aspx?phsid=9&toxid=2>

hydrogen production and distribution facility. Thus, according to the BayoTech Initial Study/Mitigated Negative Declaration additional analysis is required.

The median asthma incidence across the United States and Territories is 9.6% for adults and 7.4% for children.³¹ In California the incidence is higher with 16.2% for adults and 11.9% for children. In San Joaquin County the asthma incidence is 14.6% for adults and unfortunately 19.5% for children.³²

The CalEnviroScreen 4.0 from the California Office of Environmental Health Hazard Assessment ranks the Census Tract where the proposed Project is located as having a very high pollutant burden and a 96 percentile asthma incidence as shown right.³³

Further analysis and mitigation of impacts associated with the use of anhydrous ammonia and venting of flue gases is necessary to reduce impacts to the neighboring community.



Mitigation Measures Already Required by Development Code

Light/Glare Mitigation Measures: The following mitigation measure would be implemented to reduce potential glare impacts:

“AES-MM-1: Use of full cut-off light shields and/or anti-glare lighting. The proposed project will include construction elements that would lessen impacts of light and/or glare, such as full cut-off light shields and/or anti-glare lighting.”

The City of Stockton Development Code already requires that “lighting sources shall be shielded to avoid glare in compliance with the Development Code (Light and Glare). To minimize the total number of freestanding light standards, wall mounted lights should be utilized whenever possible.”³⁴ As the City already requires shielding this should not have been identified as a mitigation measure. City of Stockton building permits are required and will include a review of compliance with the existing development code at the time the building permit application is submitted. The BayoTech Initial Study/Mitigated Negative Declaration states that the proposed Project is expected to create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

No quantitation of the expected amount of substantial light or glare that is anticipated was provided in the BayoTech Initial Study/Mitigated Negative Declaration. The City’s requirements outlined in the proposed mitigation measure AES-MM-1 is not a mitigation measure as it is already required. If additional mitigation measures are needed vegetative barriers should have been proposed to reduce negative impacts to the neighboring community as shown on the cover of the BayoTech Initial Study/Mitigated Negative Declaration, above. Urban darkness has been shown to lessen the effects of artificial light on



³¹ <https://www.cdc.gov/asthma/data-visualizations/default.htm>

³² <https://www.cdph.ca.gov/Programs/CCDC/DEODC/EHIB/CPE/Pages/CaliforniaBreathingCountyAsthmaProfiles.aspx>

³³ https://experience.arcgis.com/experience/11d2f52282a54ceebcac7428e6184203/page/CalEnviroScreen-4_0/

³⁴ City of Stockton <http://www.stocktongov.com/government/departments/permitCenter/planDesign.html>

health outcomes including depression and sleep disorders.³⁵ Full mitigation of light and glare effects is needed in our community.

Cumulative Impact from existing and proposed facilities at the Port of Stockton

No cumulative impact analysis, related to the effects of past projects, the effects of other current projects, and the effects of probable future projects, was performed because the BayoTech Initial Study/Mitigate Declaration stated:

“The proposed project would result in minimal less-than-significant impacts, some of which require mitigation. The proposed project’s operations were specifically designed to avoid significant air quality, GHG, noise, and transportation impacts. Therefore, the proposed project would result in less-than-significant impacts as related to cumulative impacts.”

No listing of existing greenhouse gas emitting processes at the Port of Stockton, nor proposed projects was provided to suggest that an adequate cumulative impact analysis was performed. The largest emitters of pollutants and greenhouse gases are related to the Port of Stockton on and off-site including a biomass energy conversion plant.³⁶ While the Port of Stockton has made efforts to characterize onsite emissions and to take advantage of incentive opportunities to increase use of electric equipment, high carbon emitting projects exist under lease and are proposed.

Sierra Club California just signed on to a letter “Scoping Comments on the Reissued Notice of Preparation of a Draft Environmental Impact Report for the Golden State Natural Resources Forest Resiliency Demonstration Project”.³⁷ The proposed wood pellet production facilities are projected to produce one million metric tons of wood pellets each year (700,000 metric tons/year at the Lassen facility and 300,000 metric tons/year at the Tuolumne facility) – making these two facilities as big as the polluting Enviva facilities in the Eastern United States.

The construction and operation of wood pellet storage and handling facilities, along with increased truck and rail traffic through neighborhoods surrounding the Port of Stockton, will be responsible for a massive increase in ocean going vessel traffic, the dirtiest engines in our community. Increased truck, rail, and ocean going vessel travel in the area of the Port of Stockton will increase pollutant exposure of already disproportionate burdened Stocktonians. With these air pollutants come greenhouse gases and with those wood pellet storage and handling facilities comes significant fire risk contributing to the already identified impacts associated with the BayoTech Hydrogen Production/Dispensing proposed Project. Cumulative impacts must be evaluated in the required environmental impact review.

The Manteca Bulletin published the press release associated with the comment letter on the notice of preparation including the following local comments:³⁸

“I simply want to express my opposition to this project. It is unacceptable that our environmental justice community has been overlooked during the scoping process simply under the pretense of achieving ‘efficiency,’” noted Gloria Alonso Cruz, environmental justice advocacy coordinator

³⁵<https://www.darksky.org/light-pollution/human-health>

³⁶<https://biomassmagazine.com/articles/10146/dte-energys-northern-california-biomass-plant-begins-operations>

³⁷Golden State Financing Authority. “Scoping Comments on the Reissued Notice of Preparation of a Draft Environmental Impact Report for the Golden State Natural Resources Forest Resiliency Demonstration Project”. 6.30.2023. Accessed <https://www.pfpi.net/wp-content/uploads/2023/06/JointScopingCommentsonGSNRWoodPelletProject63023.pdf>

³⁸ Manteca Bulletin. Wood Pellet Plan Could Impact SJ County Air Quality. 7.4.2023. Accessed <https://www.mantecabulletin.com/news/local-news/wood-pellet-plan-could-impact-sj-county-air-quality/>

with Little Manila Rising in Stockton. “This is particularly critical due to the air pollution threats this project poses, given the already existing air pollution conditions impacting Stockton on a daily basis.”

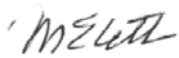
Stockton resident Mary Elizabeth, conservation chair of the Delta-Sierra Group of the Sierra Club, indicated “Increased fire risks associated with stockpiled pellets directly puts Stockton residents at risk,” Elizabeth also said the proposed project will erase the Port’s positive actions and further degrade air with increased pollutant emissions from more truck, rail and marine trips.

“Port communities like Richmond and Stockton are already overburdened with severe health risks from toxic air pollution,” said Janet Scoll Johnson, co-coordinator at Sunflower Alliance. “That’s why Richmond said ‘no’ to wood pellet handling and storage at our port. We need sustainable economic development that will preserve the quality of the environment for future generations, not a dirty wood pellet scheme.”

Rebuffing GSNR’s claims about the project’s climate benefits, the groups note that “[w]ood pellets are a highly carbon-intensive, polluting, expensive, and inefficient energy source that have no place in a clean energy future.” Biomass power plants emit more CO₂ than coal plants per megawatt hour.

Without carbon sequestration or localized carbon reduction efforts in addition to “book and claim” credits, converting natural gas (methane) into hydrogen gas will not be the cleaner energy as is possible. We request that the Port of Stockton provide emergency response information regarding hazards at the Port of Stockton and flood evacuation and responses in the affected community. A full environmental impact analysis of the BayoTech Hydrogen Production/Dispensing proposed project is necessary to comply with the California Environmental Quality Act.

Sincerely,



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Exhibit C

Jason Cashman Port of Stockton
Port of Stockton Commissioners
2201 West Washington Street
Stockton, California 95203
Via email to ceqa@stocktonport.com

4.16.2024

Re: Port of Stockton BayoTech Hydrogen Production and Dispensing Facility Project; Recirculated Initial Study/Mitigated Negative Declaration

Dear Mr. Cashman and honorable Port Commissioners,

As outlined in previous comments¹ with local coalition partners, Restore the Delta requests that a full environmental impact report (EIR) be conducted for the proposed BayTech Hydrogen Production and Dispensing Facility Project. New technologies being sited at the Port necessitate a higher level of scrutiny to ensure environmental protections and community benefit. There is potential for significant environmental impacts even after proposed mitigation measures have been fully implemented.

Moreover, as this is the first Hydrogen Production Project at the Port of Stockton, we believe it's especially important to get this first project right. Restore the Delta evaluates emerging technologies for the region in terms of community health, first, and community wealth, second. In other words, we want to ensure that the most effective strategies for decreasing air pollution and greenhouse gas emissions, keeping workers safe, reducing energy demand, and protecting water quality are implemented within new industries situated at the Port of Stockton before developing community benefits programs that will help to reverse the environmental damage from past decades within communities surrounding the Port. This letter is offered in the spirit of crafting a consistent path forward for best practices and standards for Port and industry leadership in advancing this developing industry and for ensuring that the Port is making the best investment decisions for its own long term operations.

We add to our previous comments points of emphasis below.

The Port of Stockton can prioritize clean, economically viable, community-centered alternatives for hydrogen production. We applaud the Port of Stockton's [exploration of alternative energy industries](#) to fuel stationary and mobile fuel cell power applications within the Port and for area commercial and industrial customers. In particular, we commend the Port's embrace of Zero Emissions Vehicle transition strategies to "displace the need for petroleum fuels and reduce dependency on foreign fuels". We also appreciate new language in the updated initial study/mitigated negative declaration confirming the Port's requirement of BayoTech to develop and implement a community benefits agreement with local community groups. Unfortunately, BayoTech's hydrogen production project would be an annual net emitter of over 10,000 tons of CO₂e while only producing 700 tons of hydrogen per year. This project will use diesel trucks to transport hydrogen generated from natural gas, with no plans detailed for carbon capture and storage or meaningful mitigation measures with tangible local air quality benefits to an already heavily overburdened community. Gray hydrogen is not a profitable enterprise for our local

¹ July 2023 letter submitted to Port commissioners, led by Delta Sierra Group of the Sierra Club

economy or environment. Steam methane reforming (SMR), the proposed technology for the project, emits [10-14 kilograms of CO2e per kilogram of hydrogen](#)² – well above the threshold of eligibility for proposed federal hydrogen tax credits (45V)³. BayoTech’s ineligibility for federal climate incentives is especially concerning, since the company appears to be hesitant to negotiate revenue sharing agreements with community members without significant public funding footing the bill.

To achieve greater environmental, economic, and community benefits, the Port can prioritize cleaner, more profitable and efficient methods of hydrogen production. [Green hydrogen is poised to become cost-competitive](#)⁴ with traditional fossil-based methods, thanks to new federal tax subsidies. The Inflation Reduction Act offers a 10 year tax credit for “clean hydrogen” production facilities ([45v Clean Hydrogen Production Tax Credit](#)). Draft guidelines for 45v, which currently give green hydrogen a \$2 to \$3/kg subsidy advantage over its gray and blue counterparts, respectively, are expected to be finalized in the coming months. Investing in green hydrogen now is a win-win strategy: even if green hydrogen is still prohibitively expensive after the 45v tax credits have expired, the Port will have enabled a massive build-out of renewable energy sources that can be used for other purposes.

For comparison, the climate benefits of various methane-derived hydrogen production methods are predicated on eliminating methane leaks in the supply chain and in the conversion process, reliably capturing a high amount (90%+) of CO2 generated from the facility, and storing that CO2 safely underground in saline aquifers (i.e. blue hydrogen). It’s worth noting that the few SMR plants that currently use carbon capture and sequestration (CCS) are quoted as achieving [50-60% capture rates](#). Additionally, the CO2 stream from burning methane onsite to power SMR is much more expensive and difficult to capture. If geologic CO2 storage is demonstrated for safety and viability in the Delta, the Port should work with community stakeholders to carefully evaluate a wider variety of methane-derived approaches (e.g. partial oxidation, autothermal reforming, etc.) to determine whether steam methane reforming is truly the best technology fit for climate benefits, local pollution reductions, and energy and cost efficiency.

We take issue with the GHG and criteria air pollutant accounting for the project, given a number of issues the study fails to consider.

- **By using Book-and-Claim Credits for Renewable Natural Gas (RNG), BayoTech’s project has failed to commit to *locally beneficial* GHG mitigation measures.** BayoTech plans to procure RNG “book-and-claim” credits through California’s Low Carbon Fuel Standard (LCFS) to reduce the facility’s lifecycle carbon intensity to below the San Joaquin Valley Air Pollution Control District’s threshold of significance for GHGs (10,000 MT of CO2e annually). There are three problems with this approach. First, RNG Book-and-Claim credits would not guarantee a

² International Energy Agency. [“Towards hydrogen definitions based on their emissions intensity”](#) (April 2023)

³ The [tax credit](#) goes up to \$3 per kilogram of hydrogen that’s produced with less than 0.45 kilograms of carbon dioxide or its equivalent — but can go as low as 60 cents per kilogram of hydrogen that has emitted between 2.5 and 4 kilograms of CO2.

⁴ According to the International Energy Agency, for regions with abundant renewable resources, using renewable electricity to produce hydrogen is set to be “the [most cost-effective option](#), even before 2030.”

reduction of GHGs (or criteria air pollutants) in the San Joaquin Valley Air Basin, since eligible LCFS credits for “avoided methane emissions” currently include out-of-state manure lagoons. Second, the climate benefits of LCFS dairy biomethane credits are [drastically overstated](#) and unreliable; since many eligible credits have been generated by out-of-state dairies that installed digesters before LCFS was enacted, there is no way to prevent biomethane producers from claiming credit for the same GHG reduction in other settings. Additionally, LCFS biomethane credits incentivize the consolidation of large industrial dairies that pollute groundwater and air quality in environmental justice communities in the San Joaquin Valley, rather than regulating for more geographically appropriate cattle and manure management approaches to reduce methane emissions and address sanitary and contamination risks. Third, increasing demand for methane undermines California climate goals (California’s [Short-Lived Climate Pollutant Reduction Strategy](#) mandates a 40% methane emissions reduction by 2030 through efforts to divert organic waste from landfills, clean up dairy and livestock manure management practices, and reduce fugitive methane emissions from oil and gas). Instead of using ineffectual book-and-claim credits, a more environmentally responsible option would be for BayoTech to acquire RNG from local sources onsite, however, the cost of RNG would increase the overall cost of the project. The monthly and annual reports of RNG purchase records and overall fuel consumption that BayoTech would be required to provide the Port through the Mitigation Monitoring and Reporting Program (MMRP) system should be transparent and available for public review online.

- **Methane emissions associated with increased use of natural gas or RNG across the full supply chain should be accounted for and mitigated.** Upstream and midstream emissions of methane and CO₂ in natural gas production are responsible for a significant portion⁵ of the total emissions from natural gas-based hydrogen production. The MND did not provide mitigation measures for monitoring, reporting, and verifying fugitive methane emissions directly upstream of the facility (i.e. the new natural gas distribution line that would serve the project), meaning that even the immediate upstream methane impact, which should be the most straightforward to estimate, remains unknown. BayoTech should fund the installation of a community air quality monitoring network to detect fugitive methane plumes in upstream pipeline infrastructure and provide real-time reports in a publicly accessible geospatial database. We recognize that fugitive and [operational](#) methane emissions farther upstream, such as natural gas processing plants, storage facilities, and transmission pipelines, are not the sole responsibility of BayoTech. However, BayoTech should consider limiting its procurement to local biomethane sources and working with community advocates and environmental experts to hold upstream RNG producers and distributors (i.e. PG&E) accountable to funding robust methane mitigation (e.g. monitoring, maintenance and repair of supply mains, feeder mains, and distribution mains; landfill interconnections; and large natural gas storage sites) and corresponding workforce development needs in consultation with area labor unions and worker support groups.
- **To provide a comprehensive GHG impact analysis, a full EIR is needed to account for hydrogen leakage downstream of the facility, and implications for local air quality impacts**

⁵ 1-5 kg CO₂-eq/kg H₂ out of total 10-14 kg CO₂-eq/kg H₂, according to the [International Energy Agency](#)

and global warming potential. BayoTech should also submit and comply with a hydrogen emission management plan that verifies end uses (e.g. documentation of offtake agreements), work with community-based vendors to measure hydrogen emissions with advanced sensors verified by the US Department of Energy’s National Energy Technology Lab, and mitigate downstream leakage risks with locally beneficial mitigation measures.

- Hydrogen is a [potent short-lived, indirect greenhouse gas](#); when released directly into the atmosphere, hydrogen can increase concentrations of existing GHGs (e.g. atmospheric levels of methane, tropospheric ozone, and stratospheric water vapor)⁶. Given its small molecular size, hydrogen is extremely difficult to confine and is [emitted throughout the value chain](#) from both operational releases and downstream leakage. Due in part to uncertainties with measuring hydrogen emissions, environmental groups have [petitioned the US EPA](#) to list and establish hydrogen production facilities as a stationary source category under Clean Air Act sections 111 and 112 and develop protective national emission standards under both sections to limit climate-destabilizing and health-harming air pollution from new and existing facilities.
- The updated study now includes estimates of hydrogen leakage from BayoTech’s facility (0.144 kg/yr., per “system tests”) and corresponding Global Warming Potential (GWP), however, both require a more thorough analysis.
- **More details are needed to characterize BayoTech’s plans to minimize leakage at the facility.** BayoTech has provided additional details on their plans for minimizing facility hydrogen leakage, including “use of pressure sensors, which detect pressure loss in production equipment, compression systems, ground storage pods, and filling facilities; use of gas and flame detection, which involves using thermal and optical sensors to detect natural gas or hydrogen leaks and flames; automated control and shutdown systems that isolate the affected system; and valve testing to the Canadian Standards Association (CSA)/American National Standards Institute (ANSI) Fuel System Components for Hydrogen Vehicles Hot Gas Valve (HGV) 3.1 standards (2015).” Sensors with the speed and sensitivity necessary to quantify hydrogen emissions at levels below the threshold for hydrogen gas flammability are [not widely available](#). We implore BayoTech to procure more advanced sensor technologies – measuring 10 parts per billion with a 10 second response time or less – as they become commercially available. In the meantime, we implore BayoTech to 1) work with the community to participate in advanced sensor demonstration projects to more accurately measure hydrogen emissions at its facility and downstream and 2) to implement [more robust measures](#) to minimize leakage, mitigate operational emissions, and mitigate operational repair emissions.

⁶ Warwick et al. (2023); Sand et al. (2023); Derwent et al. (2023); Hauglustaine et al. (2022)

- **More accurate accounting is needed for downstream hydrogen leakage and related transport impacts.** The Port should exercise more scrutiny in verifying hydrogen end uses, since associated emissions of GHGs and criteria air pollutants could vary significantly. The study misleadingly states that “hydrogen fuel generates power using a chemical reaction rather than combustion”; this is true if hydrogen is consumed in a [fuel cell](#), however, hydrogen can also be directly combusted, [resulting in NOx emissions](#). The study’s estimated CO2e avoidance potential of replacing diesel equipment with hydrogen does not appear to account for transport emissions or downstream leakage. BayoTech intends to “distribute zero-carbon hydrogen to customers throughout the region via compact transport trailers.” While “most of the hydrogen” produced at the site will be used within 25-100 miles of the port, it can “go as far as 200-300 miles.” These descriptions fail to specifically detail both the quantity to be used and the type of end use within 25-100 miles of the port and beyond, leaving to the lead CEQA agency’s imagination whether the hydrogen will be used as a feedstock for industrial chemicals synthesis or oil refining; combusted; or converted to electricity in a stationary or mobile fuel cell. Because BayoTech plans to use trucks to transport gaseous hydrogen, [a very flammable gas that burns invisibly and can cause explosions](#), communities deserve more transparency on where hydrogen will be transported, and whether it will be used as a fuel or feedstock. Since there are [zero hydrogen refueling stations](#) located in San Joaquin County, and the nearest *planned* mixed use stations to the Port appear to be 30 to 40 minutes away (in Galt and Livermore, respectively), we are highly doubtful that BayoTech is prioritizing hydrogen end uses that will produce meaningful air quality benefits in San Joaquin County. The Port should disclose offtake agreements for hydrogen produced at BayoTech’s production facility to verify end uses, including whether hydrogen demand at adjacent port facilities is expected to be addressed in full by the facility.

- **The Global Warming Potential of hydrogen leakage cited in the study needs to be updated in alignment with latest science.** BayoTech should estimate CO2e using 20-year GWP value. Hydrogen’s atmospheric warming effects only last a few decades, and the next 20 to 30 years will be some of the most critical for bringing global atmospheric GHG concentrations back into balance to stave off the worst, irreversible impacts of climate change. The study, however, only cites a 100-year GWP for hydrogen of 5.8. Notably, 5.8 is still an underestimate for hydrogen’s 100-year GWP, since the latest consensus, [based on advancements in chemistry-climate modeling](#), is closer to 11.6.

Once an EIR has been conducted and GHGs and criteria air pollutants associated with the project are properly accounted for, BayoTech should prioritize investment in *local* demand side solutions for mitigating methane emissions to offset the one percent increase in total natural gas usage in San Joaquin County that would otherwise result from the project. Mitigation measures that can improve energy affordability and ensure *local* air quality benefits include demand reduction measures (e.g. home

weatherization) and avoidance measures (e.g. conversion of commercial and residential buildings from natural gas to electricity, efforts to divert organic waste from landfills, etc.).

We support and appreciate tremendously the Port of Stockton's exploration of alternative energy industries to reduce local air pollution impacts, create local quality jobs, and position the Port as a global leader on new climate innovations. We question the financial viability of the BayoTech hydrogen production and dispensing facility proposal, due to the high costs of natural gas and RNG, ineligibility for 45v tax credits, and excessive costs of future carbon capture on an SMR unit as compared to other hydrogen production methods. Additionally, we hope our concerns with GHG and air criteria pollutant accounting can be addressed and standardized as a best practice for future hydrogen proposals at the Port of Stockton.

Sincerely,



Davis Harper, Carbon Program Manager, Restore the Delta
Barbara Barrigan-Parrilla, Executive Director, Restore the Delta

Exhibit D



April 25, 2024

Jason Cashman

Environmental and Regulatory Affairs Manager Port of Stockton
2201 West Washington Street
Stockton, California 95203
ceqa@stocktonport.com

Submitted Via Email

Re: Comments on Recirculated Initial Study / Mitigated Negative Declaration, BayoTech Hydrogen Production and Dispensing Facility Project

To Mr. Cashman:

The Center for Biological Diversity submits comments on the Recirculated Draft Initial Study and Mitigated Negative Declaration (“IS-MND”) for the BayoTech Hydrogen Production and Dispensing Facility Project (“Project”).¹ This comment incorporates by reference our earlier detailed comments on the Draft IS-MND (dated June 29, 2023, and attached here). While we appreciate that the Port addressed several of our concerns in the Recirculated IS-MND, the project remains substantially the same as it was originally proposed, and as such, many of our concerns persist. Fundamentally, we question whether this project is compatible with California’s climate goals or the region’s clean energy needs.

Because of the issues highlighted below and in our earlier comments, it is clear that the project may have a significant environmental impact, even after the proposed mitigation measures are fully implemented. Therefore, pursuant to CEQA, an environmental impact report (“EIR”) must be prepared, as the proposed project may substantially degrade the quality of the environment and the safety of residents, as explained in the following sections.

The Recirculated IS-MND lacks critical information about the trucks that will be used to transport hydrogen.

The Port believes the operational emissions from mobile sources will be lessened because BayoTech has entered into a commercial agreement to procure and operate zero-emission trucks,

¹ Port of Stockton, Recirculated Draft Initial Study/ Mitigated Negative Declaration (hereinafter “IS-MND”), BayoTech Hydrogen Production and Dispensing Facility Project (March 2024), <https://www.portofstockton.com/wp-content/uploads/2024/03/Recirculated-Draft-Initial-Study%E2%80%94Mitigate-Negative-Declaration.pdf>.

a new development following the Draft IS-MND.² However, the Port also admits that “third-party pickup and transport would also occur, depending on the contracted offtake from the facility, utilizing vehicles belonging to those third parties.”³ While ZEV trucks are certainly an improvement over combustion vehicles, the IS-MND does not specify how many trucks were procured under this agreement, nor their ratio compared with the third-party combustion vehicles that will be used for transport. Thus, it is impossible to tell whether the announcement of ZEV trucks is a meaningful effort to reduce emissions or a mere attempt at greenwashing.

The proposed project claims credit for climate benefits associated with green hydrogen when in fact it will produce hydrogen using natural gas.

The Recirculated IS-MND doubles down on the flawed assumption that state policy supports this project as a means of achieving California’s climate goals. However, the only form of hydrogen with any potential to meaningfully reduce lifecycle greenhouse gas emissions is green hydrogen, meaning that produced via electrolysis, or splitting water into hydrogen and oxygen using 100% solar or wind energy while adhering to the Three Pillars—hourly matching, deliverability, and additionality.⁴ This project still does not fit the bill. Simply put, the type of hydrogen produced by this project is exactly the kind for which efforts are underway to eliminate.

The IS-MND premises the “project need” on the assertion that “small and local hydrogen production, similar to the proposed project, addresses the need for hydrogen to fuel the growing zero-emission fleets in California by reducing transportation costs and emissions associated with importing hydrogen from larger, more distant providers.”⁵ However, the IS-MND does not critically evaluate the fuel source for the proposed BayoTech project: fossil gas (methane), also called “natural” gas.⁶ The IS-MND fails to grapple with the fact that utilizing fossil fuel inputs for hydrogen generation entrenches and prolongs dependence on fossil fuels. Investment in fossil hydrogen production locks in existing dirty fossil fuel production and infrastructure, harming the communities of color and low-wealth communities where such fossil fuel infrastructure is disproportionately sited. Investment in fossil hydrogen production projects also serves to delay investment in efficiency and electrification solutions—mature energy sources that are more

² Recirculated IS-MND at 19.

³ *Id.* at 58.

⁴ Ricks, Jenkins, *The Cost of Clean Hydrogen with Robust Emission Standards: A Comparison Across Studies*, Princeton University Zero-carbon Energy Systems Research and Optimization Laboratory (2023), <https://subscriber.politicopro.com/f/?id=00000187-9bb4-daaa-a5e7-bfbfff120000>; Dan Esposito et al., *Smart Design of 45V Hydrogen Production Tax Credit Will Reduce Emissions and Grow the Industry*, Energy Innovation Policy & Technology (2023); and Ben Haley, Jeremy Hargreaves, *Three-Pillars Accounting Impact Analysis*, Evolved Energy Research (2023), <https://www.evolved.energy/post/45v-three-pillars-impact-analysis>. The Three Pillars help assure that additional renewable energy is being used directly in the production of hydrogen, thereby mitigating adverse harms and emissions. This means hydrogen production where generators are powered by *new* sources of zero-emissions electricity (additionality) that directly supply the grid electrolyzers are connected to (deliverability), within the same hour that generators are running (hourly matching).

⁵ Recirculated IS-MND at 10.

⁶ See Hydrogen Science Coalition, *Principles*, <https://h2sciencecoalition.com/principles/#green-hydrogen> (last accessed June 16, 2023). Hydrogen generation which utilizes fossil gas as the energy input (such as the proposed BayoTech project, here) is often called “gray hydrogen.”

efficient, lower cost, and lower in greenhouse gas emissions than the fossil hydrogen proposed here.

Similarly, the IS-MND deceptively touts that hydrogen generated by the proposed project could be used to fuel “zero-emission [transportation] fleets” even though the project would generate hydrogen solely from fossil fuel inputs. The implication that the hydrogen produced by the proposed project is “clean energy” is promoted by industry to encourage more methane gas use. This is reinforced by the project proponent’s citation to modeling and studies which state only that hydrogen “*could*” play a role in decarbonizing certain sectors. And while the California Air Resources Board’s (CARB) most recent Advanced Clean Cars program and the Low Carbon Fuel Standard do envision hydrogen as a path for decarbonization, the IS-MND fails to acknowledge that hydrogen generation from renewable energy inputs—not the fossil fuel inputs utilized by the proposed project—is necessary to realize those decarbonization gains.⁷ Merely citing CARB’s decarbonization goals does not adequately substantiate the “need” for this project.

The IS-MND improperly assumes, without evidence, that the proposed project will create benefits by acting as distributed hydrogen generation within the state’s energy mix, despite insufficient description and no evaluation of the project’s produced hydrogen use. Currently, so-called “gray hydrogen” from fossil fuel inputs—like that which would be generated by the proposed BayoTech project—is primarily used for petroleum refining.⁸ Despite this reality, the project documents imply that hydrogen generated by the proposed project could be used to benefit decarbonization of the transportation sector. This questionable underlying assumption renders the project description and need sections inadequate and flawed.

Greenhouse gas emissions impacts are not adequately disclosed or mitigated.

CEQA recognizes that evaluation and mitigation of greenhouse gas emissions is critical because “the accumulation of these emissions in the atmosphere over time is already causing the climate to change - with more significant changes to come.”⁹ To analyze greenhouse gas emissions, lead agencies need to consider consistency with the State’s long-term climate goals and strategies and need to support their decision to utilize a particular methodology. In the IS-MND, the Port inexplicably decided to apply a 10,000 MT of CO₂e / year threshold of significance from an air district in another area of the state, and then proceeded to minimize emissions and prematurely negate certain emissions to arrive at a conclusion that the project will have less-than-significant greenhouse gas emissions impacts. We renew our objection that the Port’s analysis is not supported by substantial evidence. The emissions from the project are significant and should be analyzed in greater detail and mitigated.

⁷ “[W]e cannot assume hydrogen made from fossil fuels . . . will by default be low emissions.” *Id.*

⁸ In 2018, “[n]early 70%” of hydrogen produced by steam methane reforming in the United States “[wa]s used in the petroleum refining industry and 20% [went] into fertilizer production.” See U.S. Dep’t of Energy Hydrogen and Fuel Cell Tech. Off., *Fact of the Month May 2018: 10 Million Metric Tons of Hydrogen Produced Annually in the United States* (May 2018), <https://www.energy.gov/eere/fuelcells/fact-month-may-2018-10-million-metric-tons-hydrogen-produced-annually-united-states>.

⁹ Governor’s Office of Planning and Research, *CEQA & Climate Change*, <https://opr.ca.gov/ceqa/ceqa-climate-change.html> (last visited June 22, 2023).

The Port's Significance Threshold Methodology is Not Supported By Substantial Evidence

Although agencies may use significance thresholds to assess greenhouse gas (GHG) emissions impacts, agencies are required to support their decision to use a particular threshold with evidence in the record,¹⁰ which the Port did not do here. Evidentiary support is particularly important where commenters raise concerns about the relevance or outdatedness of the threshold.¹¹

It is inappropriate to utilize the South Coast Air Quality Management District (SCAQMD) threshold because that threshold was developed with specific reference to the emissions within the South Coast district. The South Coast threshold should be used only for projects where SCAQMD is the lead agency or should at least be limited to projects within the district. SCAQMD set its threshold based on the emissions from industrial projects it anticipated considering as lead agency. Specifically, its staff analyzed projects permitted in 2006-2007 to determine the 90th percentile of cumulative natural gas usage for all permitted facilities. The top 10% of facilities consumed more than 90% of the gas, which corresponds to the 10,000 metric tons (MT) of CO₂e annual emissions threshold.¹² There is no evidence that a similar breakdown of facility emissions exists within the San Joaquin Valley Air Pollution Control District (SJVAPCD), where the proposed project would be sited.

It is also inappropriate to use a threshold adopted in 2008—fifteen years ago—when so much has changed to increase the urgency of reducing GHG emissions.¹³ Since 2008, the California Air Resources Board has updated its Scoping Plan several times, most recently in 2022.¹⁴ The 2022 Scoping Plan focuses on actions necessary to achieve targets for carbon neutrality and reduce anthropogenic greenhouse gas emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279.¹⁵ Assembly Bill 1279 was not yet law in 2008. Indeed, the SCAQMD threshold is based on Executive Order S-3-05, which set the goal of reducing GHG emissions 80% below 1990 levels by 2050. There have been several additional Executive Orders and legislative actions since then as well (e.g., Assembly Bill 1279 and Senate Bill 32, which requires CARB to reduce greenhouse gas emissions to 40% below the 1990 levels by 2030) that demand a more stringent standard.¹⁶

¹⁰ See 14 Cal. Code Regs. §§ 15064.4(b), 15064.7(c); *Ctr. for Biological Diversity v. Dep't of Fish & Wildlife*, 62 Cal. 4th 204, 230-31 (Cal. 2015).

¹¹ *Save Cuyama Valley v. County of Santa Barbara*, 213 Cal. App. 4th 1059, 1072 (Cal. App. 2013); *Mejia v. City of Los Angeles*, 130 Cal. App. 4th 322, 342 (Cal. App. 2005).

¹² SCAQMD, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold (Attachment E) (2008) at 3-13, [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/ghgattachmente.pdf](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf).

¹³ See, e.g., Intergovernmental Panel on Climate Change, *Climate Change 2021: The Physical Science Basis*, Summary for Policymakers (2021), https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf (report describing increased severity of climate change impacts and importance of reducing GHG emissions).

¹⁴ California Air Resources Board, 2022 Scoping Plan for Achieving Carbon Neutrality (2022) (hereinafter “CARB, 2022 Scoping Plan”), <https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf>.

¹⁵ *Id.* at 45.

¹⁶ *Id.* at 45-53.

Furthermore, there is increasing evidence that California is falling behind on its climate goals and will require increased GHG reduction rates in the future.¹⁷ At the very least, the 2008 SCAQMD threshold should not be used until it is updated to match the urgency of the climate crisis.¹⁸

Finally, the CEQA Guidelines place emphasis on the process for adopting significance thresholds—agencies are encouraged to publish thresholds, and thresholds adopted for general use need to be developed through a “public review process.”¹⁹ The Port’s decision to self-servingly select the SCAQMD-specific threshold for assessing the significance of GHG emissions completely thwarts this goal of public participation and review. Community groups commenting on a project in Stockton cannot be expected to have been able to anticipate that a process fifteen years ago in another air basin would possibly impact the analysis of the proposed project at issue here.

The IS-MND's Greenhouse Gas Emissions Numbers Are Not Supported, and Claims that Emissions Will Be Mitigated Are Unfounded

Even if the SCAQMD 10,000 MT/year CO₂e threshold was appropriate for assessing the significance of GHG emissions, the IS-MND inappropriately underestimates the proposed project’s emissions so that they are below this threshold. It is particularly suspicious that the IS-MND claims emissions would be mitigated by 2,334 MT/year—from 12,333 to 9,999 MT/year, which is just one metric ton less than the threshold.

The IS-MND only proposes to mitigate 2,333 metric tons of carbon dioxide equivalence to just under the level of significance rather than mitigating to the baseline of zero emissions. This is an irresponsible decision, given that each project approval allows thousands of metric tons of carbon dioxide emissions and increases the rate of climate change. Emissions from this project should be fully mitigated, especially since most mitigation will happen off-site.

The GHG emissions analysis also depends on so-called renewable natural gas (RNG) as a mitigation measure to reduce GHG emissions below the threshold of significance, even though the mitigation method is unproven (as further discussed below) and there is no commitment from the project proponent to actually utilize RNG at the project site. By incorporating RNG, the operator claims that emissions would be reduced by 2,334 MT of CO₂e per year—conveniently 1 MT below the threshold. However, the carbon intensity of RNG is likely drastically underestimated, which casts doubt on RNG as a viable mitigation measure. RNG is also responsible for many other environmental harms like volatile organic compound emissions and nitrogen runoff.²⁰

¹⁷ Lazo, A. California isn’t on track to meet its climate change mandates — and a new analysis says it’s not even close, CalMatters (Mar. 14, 2024), <https://calmatters.org/environment/climate-change/2024/03/california-climate-change-mandate-analysis/>.

¹⁸ 14 Cal. Code Regs. § 15064.4(b) (“The agency’s analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes.”)

¹⁹ 14 Cal. Code Regs. § 15064.7(c).

²⁰ Saadat, Sasan et al, Rhetoric vs. Reality: The Myth of “Renewable Natural Gas” for Building Decarbonization (2020), https://earthjustice.org/wp-content/uploads/report_building-decarbonization-2020.pdf.

The proposed project intends to rely on RNG in accordance with California’s Low Carbon Fuel Standard (LCFS) methodology. But CARB’s methodology for determining the lifecycle emissions of RNG, or factory farm gas, fails to account for the leakage of farm gas during all stages of production, transport, and refining. For example, a study of methane leakage from biogas plants found that leaked methane can be as high as 14.9% of total methane production.²¹ Importantly, one recent study concluded that renewable natural gas from intentionally produced methane—as is the case with factory farm methane—is always a net greenhouse gas emitter unless total system leakage is zero.²² Furthermore, CARB’s factory farm gas calculations ignore upstream feed production and transport, enteric emissions, and downstream emissions from digestate handling, use, and disposal.²³ In failing to consider these components of the full lifecycle of RNG, it cannot serve as an effective mitigation measure.

Moreover, though proposed as a mitigation measure, there is no commitment to using RNG at the facility. Instead, the project proponents propose to use the “Book and Claim” mechanism under the LCFS. With this mechanism, credits would be purchased for the use of RNG elsewhere, but the supposed emissions reductions would be claimed by the proposed facility. Thus, even if RNG *were* a viable mitigation measure, any emissions reductions would be contingent on dubious measures akin to carbon pricing or offsets—measures which are notorious for their ineffectiveness in reducing both emissions and other environmental harms.²⁴

In any case, there is no commitment to use RNG at the facility. This is problematic, to say the least. First, the SCAQMD guidance that the IS-MND (improperly) relies upon states that “[a]ny offsite mitigation measures that include purchase of offsets would require the project proponent provide offsets for the life of the project, which is defined as 30 years.”²⁵ There is no such 30-year commitment in the IS-MND to support this mitigation measure. Second, California courts have clarified that offset credits need to be “real, permanent, quantifiable, verifiable, enforceable, and additional to any GHG emission reduction otherwise required by law or regulation, and any other GHG emission reduction that otherwise would occur.”²⁶ Offsets onsite

²¹ Scheutz, Charlotte & Anders M. Fredenslund, Total methane emission rates and losses from 23 gas plants, 97 Waste Mgmt. 38(2019), <https://doi.org/10.1016/j.wasman.2019.07.029>.

²² Grubert, Emily, At scale, renewable natural gas systems could be climate intensive: the influence of methane feedstock and leakage rates, 15 Env’tl. Research Letters 8 (2020), <https://iopscience.iop.org/article/10.1088/1748-9326/ab9335>.

²³ California Air Resources Board, Compliance Offset Protocol Livestock Projects (2014) at Table 4.1, Description of all GHG Sources, GHG Sinks, and GHG Reservoirs, <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2014/capandtrade14/ctlivestockprotocol.pdf>; California Air Resources Board, Response to Animal Defense Legal Fund Comment (2021), https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/fuelpathways/comments/tier2/new_temp_carb_response.pdf (CARB arguing that “Emissions from existing CAFO operations are accounted for, but do not include emissions associated with enteric methane and animal feed use because these emissions should more appropriately be allocated to and associated with the preexisting underlying, non-fuel product stream, and are thus excluded from the system boundary in the Board approved Tier 1 Calculator.”)

²⁴ Climate Justice Alliance & Indigenous Environmental Network, Carbon Pricing: A Critical Perspective for Community Resistance (2017), <https://climatejusticealliance.org/6196-2/>.

²⁵ SCAQMD, 2008 Interim CEQA GHG Significance Threshold Board Meeting Letter (Dec. 5, 2008) at 7.

²⁶ See *Golden Door Props., LLC v. County of San Diego*, 50 Cal. App. 5th 467 (2020); SCAQMD, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold (Attachment A) (2008) at 1, [https://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-](https://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-)

and in the surrounding County should be prioritized, and there must be mechanisms to ensure that mitigation is not improperly deferred. Thus, both RNG and the “Book and Claim” method of using it are inadequate for producing provable emissions reduction, rendering the proposed project’s purported emissions mitigation particularly untenable.

The Port must prepare an EIR for this project.

As explained in these comments, the IS-MND for this project presents an inadequate assessment of its environmental impacts. There is more than a fair argument that many of the project’s potential environmental impacts are significant.²⁷ Consequently, the Port of Stockton must prepare an EIR to properly evaluate the environmental impacts of this project.²⁸

The EIR Must Evaluate a No-Project Alternative and Should Evaluate Alternatives That Do Not Further Entrench Use of Fossil Gas

In preparing an EIR, a lead agency must evaluate a “No Project” alternative, which reflects a scenario in which the project is not implemented.²⁹ In addition, the EIR must include an assessment of location alternatives and a reasonable range of project alternatives that meet the Project’s goals.³⁰ Here, the project’s purported goal is to provide alternative transportation fuels. Achieving that goal does not require construction of a new fossil-gas powered hydrogen production facility. An EIR for this project should examine project alternatives that truly advance California’s decarbonization goals. For instance, it is unclear from the IS-MND why a hydrogen fueling project is necessary at all rather than other alternative transportation fuels, such as an electric charging station that could power an expanding portion of the truck fleet servicing the Port. Many such projects are already in the works, including in the Central Valley.³¹

The IS-MND also does not consider alternative hydrogen production methods, such as using renewable energy to fuel electrolysis. “Green” hydrogen production technology, using truly renewable sources like wind and solar in adherence with the Three Pillars instead of fossil fuels or gas from factory farms,³² has been proposed in several locations as a strategy to reduce emissions in specific sectors like shipping, aviation, high-heat industrial processes, and long-distance trucking.³³ In an EIR, the Port must either explain why alternatives such as these are not viable or fully evaluate them.

[thresholds/ghgattachmentsa_d.pdf?sfvrsn=2](#) (mitigation order of preference in the SCAQMD guidance is 1) design features, 1) onsite reduction projects, 3) reduction projects in neighborhood, 4) reduction projects in district, then 5-6) reductions in California and out of California).

²⁷ 14 Cal. Code Regs. § 15064; *No Oil, Inc. v City of Los Angeles*, 13 Cal. 3d 68, 75 (1974).

²⁸ *Id.*; Cal. Pub. Res. Code §§ 21151, 21100(a).

²⁹ 14 Cal. Code Regs. § 15126.6.

³⁰ *Id.*

³¹ See, e.g., St. John, Jeff, Big Electric-Truck Charging Depots Are Coming Soon to California, Canary Media (Jan. 26, 2024), <https://www.canarymedia.com/articles/ev-charging/big-electric-truck-charging-depots-are-coming-soon-to-california>.

³² Ricks, *supra* n. 6.

³³ Saadat, Sasan & Sara Gersen, Reclaiming Hydrogen for a Renewable Energy Future (2021), https://earthjustice.org/wp-content/uploads/hydrogen_earthjustice_2021.pdf.

Conclusion

Despite some minor improvements in the Recirculated IS-MND, this project has not fundamentally changed from its original form. We strongly disagree with the premise that fossil-gas-generated hydrogen projects should play any role in achieving our state's goal of reaching near-zero emissions by midcentury in order to limit global warming to 1.5°C. Fossil-gas-generated hydrogen is a false solution that harms the climate and environment, prolongs the use of fossil fuels, and diverts attention and resources from clean renewable energy. Instead of promoting fossil hydrogen, the Port of Stockton should promote renewable energy projects that phase out fossil fuel use to prevent catastrophic climate change and environmental injustice.

Our comments highlight the significant and far-reaching impacts of the proposed BayoTech Hydrogen Project. Rather than identify and examine these impacts, the Recirculated IS-MND ignores some of them and minimizes others. That does not satisfy CEQA. The Port must prepare a comprehensive EIR that addresses this expansion and thoroughly analyzes the project's significant environmental impacts. We appreciate the opportunity to comment on this Recirculated IS-MND, and we will continue to monitor this project closely.

Respectfully Submitted,

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Exhibit E



4.25.2024

² California Code of Regulations, Title 14 National Resources, Division 6 Resources Agency, Chapter 3 Guidelines for Implementation of the California Environmental Quality Act, Article 6 Negative Declaration Process § 15073.5. Recirculation of a Negative Declaration Prior to Adoption. [California Code of Regulations \(westlaw.com\)](#) accessed 4.20.2024.

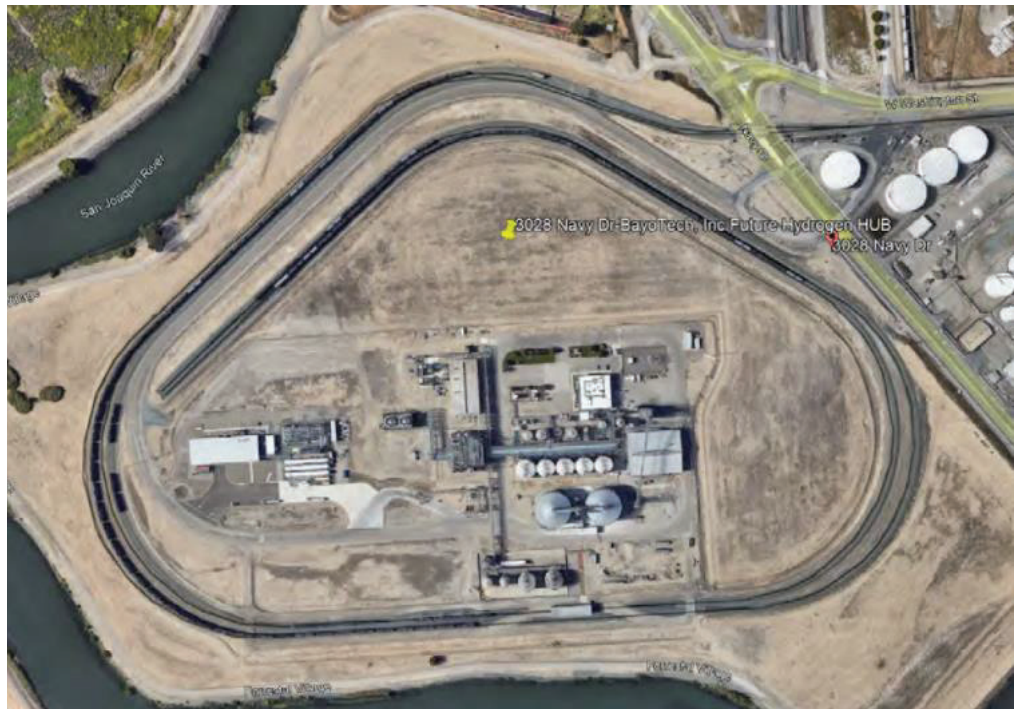
We will provide substantial evidence as fact and fact-based reasonable assumptions or expert opinion³ that the March 2024 Recirculated BayoTech Initial Study/Mitigated Negative Declaration (Recirculated IS/MND), including responses to comments referenced therein, failed to adequately describe and mitigate harms related to construction and operation of the proposed Project. These comments will include a brief project description, discussion of the response to comments submitted July 2024, and the negative effects on the environment that are not fully mitigated or avoided. The following significant negative environmental impacts and potential significant impacts that may remain for the proposed Project include these three broad topics: hazards, cumulative impacts and global warming potential.

Project Description: Location

The property is bounded by Forrestal Village Road on the north, west, and south and by Navy Drive on the east; train tracks also encircle the property and during a recent site visit had railcars lined up on all train tracks accessible to the public. The site is currently vacant and encompasses approximately 5 acres of undeveloped, graded land as shown (below).

The City of Stockton describes the parcel as having building permit applications associated with three addresses for San Joaquin County APN 14502018:

- 3028 Navy Drive (Pelican Renewal)
- 3030 Navy Drive (AirGas)
- 3034 Navy Drive (BayoTech).



The 4.20.2024 record status for the City of Stockton Building Permit Record BP24-00832 at 3034 Navy Drive for the BayoTech Project is “Resubmittal Required”. The BP24-00832 submitted by BayoTech, Inc., 8601 Paseo Alameda NE, Ste C, Albuquerque, NM 87113 on 2.13.2023 included payment of the \$25,369.71 plan review fee for Project construction valued at \$5,000,000. The BP24-00832 records reference that 2022 Building Codes are required for compliance, not the 2019 Building Code referenced in the Recirculated IS/MND. The actual address on building permit documents was never referenced in the Recirculated IS/MND. Instead the address of record for the parcel with San Joaquin County was reported as 3028 Navy Drive (above).

³ Introduction to CEQA. <http://www2.courtinfo.ca.gov/protem/courses/ceqa/07-01.htm> accessed 4.20.2024

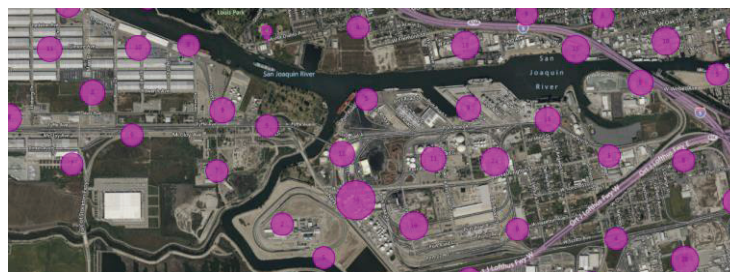
San Joaquin County has assigned an APN of 14502018 for the 95-acre parcel shown below (left below). The CalEPA Regulated Site Portal has three references for the proposed BayoTech site as shown (right below).⁴



The smaller parcel north of the site adjacent to the San Joaquin River and Navy Drive 14502019 has an address as 3040 Navy Drive and is owned by the City of Stockton and used as the City of Stockton Police Firing Range. According to CalEPA Regulated Site Portal in 2023, the Police facility stores between 25,000 and 49,999 pounds of ammunition.⁵

The two properties owned by the Port of Stockton, AirGas LCO2 at 3030 Navy Drive and Pelican Renewable at 3028 Navy Drive, have various levels of compliance according to the CalEPA Regulated Site Portal. As no mention of AirGas was included in the Recirculated IS/MND and the only building permit finalized by the City of Stockton in 2019 was for a non-illuminated sign and the construction permit expired, we assume that the AirGas LCO2 project did not obtain a Port of Stockton lease. Pelican Renewable with hazardous waste and above ground storage tanks reportedly has 21 open compliance violations since 2022.⁶

The location of the proposed project in relation to the many hazardous materials handling operations was not adequately disclosed in the Recirculated IS/MND as shown below:



The Recirculated IS/MND included the following characterization of the hazardous materials locations in the vicinity of the proposed BayoTech Project:

“Directly south of the project site, the Port leases property to Pelican Renewables, LLC, which produces renewable transportation fuels at its facility. The Pelican Renewables parcel is characterized by the presence of storage tanks, silos, large storage facilities, railroad facilities, and factory components. Other parcels in the vicinity are used for various industrial uses, with similar characteristics to the Pelican Renewables parcel in addition to maritime terminals and stockpiles of various commodities.”

⁴ <https://siteportal.calepa.ca.gov/nsite/map>

⁵ CalEPA Regulated Site Portal for 3040 Navy Drive: <https://siteportal.calepa.ca.gov/nsite/map/help/summary/347717> accessed 4.20.2024.

⁶ CalEPA Regulated Site Portal for 3028 Navy Drive: <https://siteportal.calepa.ca.gov/nsite/map/help/detail/398903/compliance> accessed 4.20.2024.

“Surrounding sites potentially containing hazardous materials were identified through a search of the California Department of Toxic Substances Control EnviroStor (DTSC 2022) and State Water Resources Control Board GeoTracker (SWRCB 2022) databases. None of these sites occur within 1,000 feet of the proposed facility.”

The two facilities adjacent to the proposed BayoTech project are both listed in CalEPA Regulated Site Portal as facilities that store hazardous chemicals and are regulated by the San Joaquin County Environmental Health Department (CUPA). The Stockton Police Training Facility (AKA Firing Range) located at 3040 Navy Drive Stockton CA 95206 is a facility that stores hazardous chemicals with oversight by San Joaquin County Environmental Health and has been cited for failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material, or to document and maintain training records for a minimum of three years. The materials onsite were previously noted. Pelican Renewable is also a facility that stores hazardous chemicals including sodium hydroxide and sodium bisulfite, both DOT hazard class 8 corrosives and with oversight by San Joaquin County Environmental Health. Neither of these sites containing hazardous materials were identified in the Recirculated IS/MND.

Additional hazards not characterized in the Recirculated IS/MND relate to nearby locations with shallow groundwater gasoline and diesel contamination. The nearest shallow groundwater contaminated plume is located west of the property, 3003 Navy Drive, whose responsible party is the Stockton Terminal Technical Committee under the regulatory oversight of the Central Valley Regional Water Control Board. The 2023 annual report⁷ shows the plume, documents contaminant levels, and very shallow groundwater levels. Surrounding the proposed BayoTech location are drainage facilities which are below the street level grade, open and unlined. Whether migrating plumes are hydrologically connected during storm events to these below grade drainage facilities is unknown and not mentioned as a possible hazard in the Recirculated IS/MND. A full environmental impact analysis is necessary to characterize this potential hazard.

Another hazard not described or characterized is the practice of allowing railcars containing hazardous materials to be temporarily stored on railroad tracks owned by the Port or leaseholder. Three working days is considered as “free time” and allowed. If tenants of the Port of Stockton desire to continue storing railcars on Port tracks, a storage fee will accrue at a rate of \$166.39 per car per day, Saturdays, Sundays, holidays included.⁸ The proposed site is surrounded by rail tracks and on 4.20.2024 there were observed railcars surrounding the property on both sides of the accessible public road. Whether or not these railcars contain dangerous and hazardous materials is unknown. No characterization of this storage practice was described in the Recirculated IS/MND. The cumulative hazards associated with these nearby facilities, should a methane or hydrogen gas release occur, must be evaluated for the safety of the community.

Project Description: Project Need and Objectives

The purpose of the project to produce hydrogen gas for sale in support of achieving climate goals is not supported by the referenced documents. Forming hydrogen gas from methane is energy inefficient, continues the release of carbon dioxide when methane is combusted, involves methane releases during lifecycle transport from subsurface to combustion site, and creates another greenhouse gas, albeit indirect as described in the previously submitted 7.10.2023 comment letter.

The purpose of an initial study is to provide documentation of the **factual basis** for the finding in a negative declaration that a project will not have a significant effect on the environment.⁹ Hydrogen produced by fossil fuels, like that proposed by BayoTech, will not contribute to decarbonization but

⁷ https://documents.geotracker.waterboards.ca.gov/esl/uploads/geo_report/8331547439/SL0607737442.PDF

⁸ 2023-2024 Port General Tariff: <https://www.portofstockton.com/wp-content/uploads/2023/06/General-Tariff-No.-1-2023-2024.pdf>

⁹ 2024 CEQA Statutes and Guidelines; https://www.califaep.org/docs/2024_CEQA_Statute_and_Guidelines_Handbook.pdf

instead will contribute to increased greenhouse gas emissions. Renewably produced hydrogen gas is not synonymous with fossil fuel produced hydrogen gas. Misleading the community to think that the type of hydrogen that BayoTech proposes will move California towards necessary greenhouse gas emission reductions does not provide a factual basis.

From the Recirculated IS/MND:

As part of its broader strategy to decarbonize the energy sector, California views hydrogen as a key to decarbonizing hard-to-abate sectors such as transportation, ports and goods movement, and energy storage and resilience (CGOBED 2024).”

“With its hydrogen production plant, BayoTech would produce hydrogen for customers and contribute to energy security in the region. Expansion of hydrogen as a transportation fuel has also been supported by the CARB’s most recent Advanced Clean Cars program and the Low Carbon Fuel Standard (LCFS).”

From the Governor’s Office of Business and Economic Development hydrogen webpage where the referenced document (CGOBED 2024) is linked: ¹⁰

“**Renewable hydrogen** will play a pivotal role in achieving California’s climate goals by cutting emissions in difficult to decarbonize sectors.”

Not just any hydrogen is viewed as a key to **decarbonizing** hard-to-abate sectors, but renewable hydrogen.

From the California Hydrogen Market Development Strategy Objectives & Public Engagement (the document link provided in the Recirculated IS/MND and used as a reference, CGOBED 2024):¹¹

“California has an unprecedented opportunity to accelerate the production, distribution, and use of **clean, renewable hydrogen**, which can play a critical role in meeting California’s climate and air quality goals while also creating jobs and stimulating the economy. The California Air Resources Board’s 2022 Scoping Plan Update calls for scaling the production and use of clean, renewable hydrogen to fully decarbonize our economy by 2045. This carbon-free energy carrier complements electrification efforts by helping the state to fully address difficult-to-decarbonize sectors of our state economy, including, but not limited to transportation, power generation and storage, shipping, ports, aviation, fertilizer production, and heavy industry.”

Objective 11 Production:

“Support in-state clean, renewable hydrogen production from biogenic feedstocks and electrolysis using renewable and zero-carbon produced electricity.

- a. Enable low, zero and negative carbon biogenic and electrolytic hydrogen production by sending clear policy signals and addressing barriers.
- b. Plan for increased electric load from clean, renewable hydrogen production and incorporate the growth in this sector into statewide clean energy resource planning and procurement and electric distribution and transmission infrastructure planning and development.
- c. Encourage electrolytic hydrogen production facilities to serve as ‘good electric grid citizens’ by operating as flexible loads that maximize the utilization of renewable and zero-carbon produced electricity and minimize or avoid grid electricity consumption during peak and net-peak electric demand and grid reliability events while reducing grid and operating costs.

d. Track hydrogen production to monitor the transition away from hydrogen produced from fossil fuels as we scale clean, renewable hydrogen production.

The referenced CGOBED 2024 statement in the Recirculated IS/MND was significantly truncated to eliminate the term renewable when describing the type of hydrogen that BayoTech plans on producing, which is hydrogen produced from fossil fuels namely methane supplied by Pacific Gas and

¹⁰ [Hydrogen - California Governor’s Office of Business and Economic Development](#)

¹¹ California Governor’s Office of Business and Economic Development California Hydrogen Market Development Strategy Objectives & Public Engagement: <https://business.ca.gov/wp-content/uploads/2023/12/H2-Strategy-Framing-Doc-12-26-23.pdf> accessed 4.20.2024.

Electric. The type of hydrogen that BayoTech plans on producing is exactly the kind for which efforts are underway to eliminate.

The Low Carbon Fuel Standard (LCFS) is near the final stages of rulemaking and a recent workshop held on 4.10.2024 further emphasizes the need for rulemaking to increase the stringency of the program to displace fossil fuels and incentivize more production of clean fuels such as low-carbon hydrogen, not hydrogen produced using fossil fuels like methane.¹²

No meaningful mitigation has been proposed to offset the impacts related to increasing the methane usage in San Joaquin County. The Recirculated IS/MND included a corrected reference for 2022 methane use in San Joaquin as 96,820,000 therms and the proposed project would generate a maximum demand of 1,630,610 therms annually accounting for a 1.68% increase in methane combustion. This increase in fossil fuel usage is not insignificant and the full lifecycle supply chain impacts should be accounted for and **fully mitigated**. Recently, 4.15.2024, the Port Commissioners considered policy and mission statements. One such mission core values included:¹³

" Sustainability – We operate in a manner that protects the environment and reduces the Port’s environmental impact.”

As so well stated in the Restore the Delta comments dated 4.16.2024 submitted to the Port of Stockton regarding the BayoTech proposed project:¹⁴

“The Port of Stockton can prioritize clean, economically viable, community-centered alternatives for hydrogen production. Grey hydrogen (methane steam reformation) is not a profitable enterprise for our economy or environment.”

Project needs were not substantiated with evidence within the Recirculated IS/MTD. We are aware of some potential users of hydrogen in the Stockton area, but these were not included in the CEQA document. The statement that having hydrogen produced locally will prevent long distance transport of hydrogen is not supported with evidence. The objective is clear that BayoTech desires to produce hydrogen for ongoing profitability without ongoing mitigation of the proposed increased methane usage and potential hydrogen leakage.

Response to Comments

The Port of Stockton identified 44 comments in our 7.10.2023 correspondence that required response in the Recirculated IS/MND. The Port referenced CEQA guidelines with which the project proponent agrees to mitigation measures/project modifications that would avoid significant environmental effects to a point where clearly no significant effect on the environment would occur, resulting in a lead agency not needing to prepare an environmental impact report.

The response to comments that the Port confers regularly with responsible and trustee agencies and that there were no trustee agencies identified for the project is erroneous. CEQAnet included comments from the California Department of Fish and Wildlife dated June 29, 2023, a trustee agency and responsible agency.¹⁵ These comments were not acknowledged or addressed in the Recirculated IS/MND. We request that when the Port responds to comments on the Recirculated IS/MND that the Department of Fish and Wildlife (and others) be afforded 30 days to review the Port’s responses before being considered for certification by the Port Commissioners. The mitigation measures

¹² April 10, 2024 LCFS Workshop: <https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard/lcfs-meetings-and-workshops>

¹³ 4.15.2024 <https://www.portofstockton.com/wp-content/uploads/2024/04/AgendaItem7.pdf>

¹⁴ RTD 4.16.2024 BayoTech MND comments to Port: https://docs.google.com/document/d/1ssKRp-1P1iUtFTbpsyiaeU-HH_6aeHY/edit?usp=sharing&ouid=102095836591427095615&rtpof=true&sd=true

¹⁵ CDFW June 28, 2023 comments. https://files.ceqanet.opr.ca.gov/288240-2/attachment/e0aiUSwF_edhZuX2bjfvMcalqsgAbsYUQ9FmP0-JhXYKpbkKUEbrnsVbqSTRzsufIrEbus55hA2AjQ1a0

proposed in the Recirculated IS/MND did not address the very important facts discussed by the Department of Fish and Wildlife (DFW). The project is located next to the San Joaquin River and across the river there is relatively undeveloped land that wildlife may utilize. The effects of artificial lighting on wildlife were discussed by DFW and referenced in their June 2023 comment letter. Specific recommendations were included to minimize significant impacts related to the proposed artificial lighting, in addition to those already included in the Recirculated IS/MND.

The proposed BayoTech production and dispensing facility will produce 2000 kg/day of hydrogen gas which correlates to 700,000 kg yearly, if operating 350 days as indicated. This level of production reportedly will result in the production of 12,333 metric tons of carbon dioxide equivalent per year or 12,333,000 kilograms of carbon dioxide equivalent. The BayoTech Initial Study/Mitigated Negative Declaration and the Recirculated IS/MND only proposes to mitigate 2,333 metric tons of carbon dioxide equivalence to under a 2008 level of significance, ignoring that the baseline for the proposed site has zero carbon dioxide emissions. Continuing business as usual – every project approval – allowing 10,000 metric tons of carbon dioxide equivalent, will continue the growth of carbon emissions responsible for climate change effects that are affecting our community and beyond. People are suffering from the effects of increased carbon dioxide and other greenhouse gas emissions in the atmosphere.

The proposal that all the carbon dioxide produced does not require mitigation ignores the efforts made at local levels through personal sacrifice and public funds to reduce carbon dioxide emission. The unmitigated greenhouse gas emissions impose a societal burden that will involve more public funds to mitigate BayoTech's full emissions from the proposed Project, in order to achieve California's climate change goals.

The reliance on the 2008 South Coast Air Quality Management District guidance that allows 10,000 metric tons (MT) of CO₂e per year fails to consider where we are now in terms of continued increases in greenhouse gases and warming effect. The reference in the Recirculated IS/MND to the California Natural Resources Agency December 2018 clarifications for the method for determining GHG impacts in CEQA documents, as summarized by the Governor's Office of Planning and Research, includes statements not included in the Recirculated IS/MND but which are directly related to arguments presented by commenters including:¹⁶

- The impacts analysis of greenhouse gas emissions is global in nature and thus should be considered in a broader context. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. (See CEQA Guidelines, § 15064.4, subd. (b).)
- Lead agencies should consider a timeframe for the analysis that is appropriate for the project. (See CEQA Guidelines, § 15064.4, subd. (b).)
- A lead agency's analysis must reasonably reflect evolving scientific knowledge and state regulatory schemes. (See CEQA Guidelines, § 15064.4, subd. (b).)

The regulatory schemes and atmospheric greenhouse gas concentrations have changed significantly since 2008. No analysis was included in the Recirculated IS/MND to demonstrate that the use of the 2008 recommendation reasonably reflects current regulatory schemes or evolving scientific knowledge. The GHG emissions were calculated on a 100 year basis instead of 20 year basis.

If every industrial project is allowed to emit 10,000 metric tons of CO₂ equivalent, we will not achieve the CARB regulatory targets established by the State of California. Carbon dioxide and other

¹⁶OPR, 2023. CEQA & Climate Change. Accessed 4.20.2024. Available at: <https://opr.ca.gov/ceqa/ceqa-climate-change.html>.

greenhouse gases are having global impacts experienced by all and including those less able to develop and fund adaptive measures to counteract the effects of global warming and climate change.

Carbon dioxide levels continue to increase resulting in temperatures that continue to increase as shown (right).¹⁷

As indicated, the reliance on 2008 guidance by the Port of Stockton for the analysis used during the preparation of the Recirculated IS/MND is inadequate. A full and thorough environmental impact analysis of the proposed project's significant impacts, and mitigation measures necessary to reduce impacts to less than significant, is warranted.

The response to the comment regarding the use of greenhouse warming potential stated that as lead agency, the Port chose to use GWPs which are consistent with CARBs inventories for 2021 and because CARB has not yet requested facilities report the GHG emissions with the AR5 GWP. The USEPA is currently using the AR5 GWP to calculate most emissions that are reported.¹⁸ Because the proposed BayoTech Project will produce less than 25,000 MT of CO₂e, the project will not be required to report to USEPA GHG emissions pursuant to Title 40 regulations (as of 4.18.2024).¹⁹

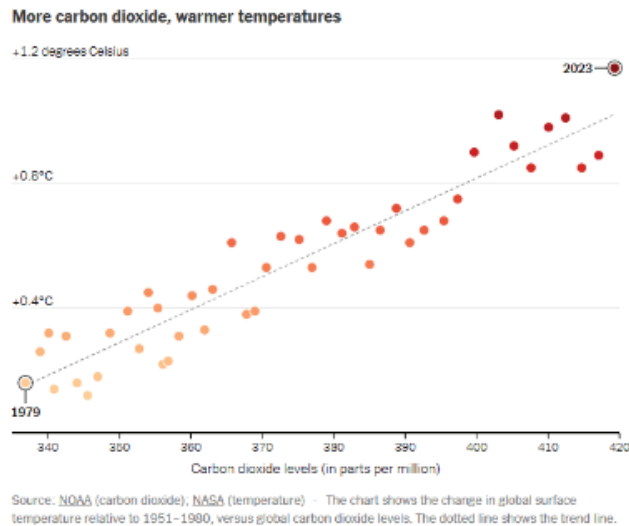
No greenhouse gas emission inventory of Port of Stockton operations or Port tenant were included to evaluate cumulative effects. The total Port greenhouse gas emissions estimated in the 2020 Clean Air Plan included scopes 1, 2, and 3 for the following sources: ocean-going vessels, harbor craft, cargo handling equipment, locomotives, on-road vehicles (heavy-duty trucks and Port-owned vehicles), and Port-owned stationary source (Greenhouse Gas (GHG) was 22,361 tonnes (metric ton or 23,361,000 kg).²⁰ We appreciate that the Port is estimating their emissions but these estimates do not come close to the emissions that the Port has allowed through their lease terms.

The largest emitter of pollutants and greenhouse gases within the Port of Stockton area includes the DTW biomass energy conversion plant.²¹ Burning biomass for “renewable energy” is very polluting and contributes to global warming as well as being the number one source of stationary air pollutants in Stockton, CA. While the Port of Stockton has made efforts to characterize onsite air pollutant emissions and to take advantage of incentive opportunities to increase use of electric equipment, high carbon emitting projects exist under lease and are proposed for future leases.

The Recirculated IS/MND stated that the hydrogen produced would be LCFS eligible and certified:

“The proposed project produces **LCFS-eligible fuel** and therefore is consistent with state goals to de-carbonize fuel.”

“While the proposed project produces **LCFS certified fuel** and therefore is consistent with state goals to de-carbonize fuel, the project would not incorporate carbon capture and sequestration.”



¹⁷ Bhatia, A. [Carbon Dioxide Levels Have Passed a New Milestone](#). New York Times. April 20, 2024.

¹⁸ Greenhouse Gases Equivalencies <https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references>

¹⁹ Title 40 — Protection of Environment, Chapter I — Environmental Protection Agency. Subchapter C — Air Programs, Part 98 — Mandatory Greenhouse Gas Reporting. <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-98/subpart-A?toc=1>

²⁰ <https://www.portofstockton.com/wp-content/uploads/2023/02/2020-Emissions-Inventory.pdf>

²¹ SJVAPCD, AB617. <https://community.valleyair.org/media/h50dve3x/appendix-c.pdf>

Since 2018, CARB included third-party verification requirements to the LCFS to ensure data completeness, accuracy, and conformance with the regulation – consistent with the verification programs under California’s Cap-and-Trade Program and international best practices.²²

No expert third-party verification was referenced to provide factual evidence that the proposed hydrogen production is **LCFS-eligible** or **LCFS certified**. No energy conversion is 100% efficient. Energy is used and lost during the steam methane reformer process converting methane to hydrogen gas. The LCFS data indicate that the conversion is 72% efficient.²³ Low carbon fuel does not represent greenhouse gas reductions, only a lessening of the greenhouse gases emitted and their subsequent effect on climate change.

We continue to assert that immediate and significant reductions in greenhouse gas emissions is necessary and reasonable to lessen the effects of climate change as outlined in our July 2023 comment letter. Rapid reduction in greenhouse gas emissions is critical to avoid several tipping points which would further contribute to warming impacts.²⁴ The Recirculated IS/MND responded that CEQA does not require that all GHG emissions be mitigated. A lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers (Port Commissioners) to intelligently take into account a project’s incremental contribution to climate change and referenced CEQA Guidelines 15064.4(c). Yes, CEQA Guidelines provide that lead agencies have discretion. What was not cited were the sentences that follow:

(c) A lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project’s incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.²⁵

No factual rationale was provided for using a 2008 guidance in 2024 when the effects of climate change are increasingly more disastrous. Furthermore, increasing evidence exists that progress towards California’s goal is lagging and will require increasing emissions reduction rates.²⁶

Again, misinformation is presented in the Recirculated IS/MND and, in response to comments submitted, with the following statement taken out of context:

“CARB’s 2022 Scoping Plan calls for accelerating the transition from combustion of fossil fuels to hydrogen.”

CARB’s 2022 Scoping Plan regarding refinery-based steam methane reformation with carbon capture and sequestration (CCS), not proposed for the BayoTech Project, includes the following statements:²⁷

“This Scoping Plan also calls for accelerating the transition from combustion of fossil fuels to hydrogen. Hydrogen can be produced through electrolysis with renewable electricity or through steam methane reformation of biomethane. There is a high degree of uncertainty around the availability of solar to support both electrification of existing sectors and the production of hydrogen through electrolysis. Producing hydrogen required under the Scoping Plan Scenario with electrolysis would require about 10 gigawatts (GW) of additional solar capacity. If steam methane reformation is paired

²² CARB LCFS Verification <https://ww2.arb.ca.gov/lcfs-verification>. Accessed 4.21.2024

²³ CA-GREET3.0 Lookup Table Pathways – Technical Support Documentation. Pg 38. Accessed 4.20.2024. <https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/ca-greet/lut-doc.pdf>

²⁴ Cho, R. “How Close are We to Climate Tipping Points”, Columbia Climate School State of the Planet From the Field IPCC Report AR6. 2021 Accessed <https://news.climate.columbia.edu/2021/11/11/how-close-are-we-to-climate-tipping-points/>

²⁵ 2024 CEQA Guidelines. https://www.califaep.org/docs/2024_CEQA_Statute_and_Guidelines_Handbook.pdf. Accessed 4.21.2024.

²⁶ Lazo, A. *California isn’t on track to meet its climate change mandates — and a new analysis says it’s not even close*. CalMatters. 3.14.2024. <https://calmatters.org/environment/climate-change/2024/03/california-climate-change-mandate-analysis/>.

²⁷ CARB 2022 Scoping Plan for Achieving Carbon Neutrality dated 11.16.2022. https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp_1.pdf

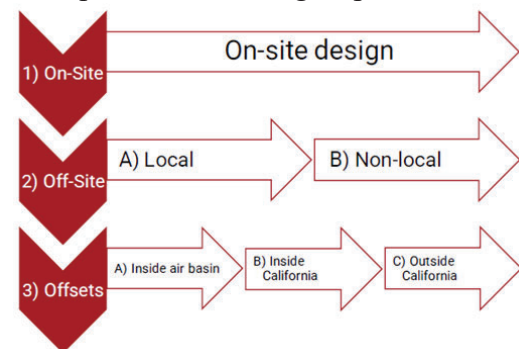
with CCS, the hydrogen produced could potentially be low carbon. Additionally, the biomethane used to generate hydrogen could be sourced from gasification of forest or agricultural waste resulting from forest management and other NWL management practices, which could also lead to net negative carbon outcomes. **Steam methane reformation paired with CCS** can thus ensure a rapid transition to hydrogen and increase hydrogen availability until such time as electrolysis with renewables can meet the ongoing need, assuming there is also sufficient water supply.”

The reference statement is misleading because the BayoTech Project did not provide evidence that the hydrogen gas produced would 1) be used solely for transportation and 2) is LCFS certified. Partial mitigation using the “book and claim” acquisition of renewable natural gas to reduce the “net carbon emissions of fuel stock used in hydrogen production” was not referenced in the 2022 Scoping Plan.

The 2022 Scoping Plan clarifies what type of hydrogen is being referred to, but this Recirculated IS/MND states that the type of hydrogen produced and the mitigation proposed is supported by the 2022 Scoping Plan. The only steam methane reformation to produce hydrogen included in the 2022 Scoping plan is using biomethane and biomass gasification with carbon capture and storage, not fossil methane with partial offset and no carbon capture and sequestration.

Given that California is not achieving the greenhouse gas emission reductions anticipated, and unintended consequences exist related to crop based renewable fuel sources used in the “book and claim” process, CARB’s LCFS is under revision. CARB is developing crop sustainability criteria which will disincentivize biofuels from deforestation or food crops, and increasing step-downs of carbon intensities which qualify for “book and claim” credits.²⁸

The source of these renewable fuel offsets have not been identified nor was a selection hierarchy provided. As a general rule, offsets purchased in the general area of a project are preferred if onsite mitigations are insufficient, as shown in the CARB Scoping Plan GHG Reduction and Mitigation Hierarchy shown on the right.²⁹



Additionally, the Recirculated IS/MND includes these statements:

“To meet the requirements of this mitigation measure, RNG can be acquired directly or acquired utilizing a certified book and claim accounting methodology in order to meet project demand.”

“The hydrogen produced using RNG purchased as a GHG mitigation measure does not qualify for sale under the LCFS, as the environmental attributes of the RNG will have been retired already as part of the CEQA mitigation.”

While we acknowledge that possibly sometime in the future that more RNG may be used, there is no requirement to do so in the Recirculated IS/MND. The amount of RNG acquired is calculated to reduce the GHG levels to less than significant according to a 2008 guidance. The proposed location at the Port could be developed to utilize City of Stockton wastewater treatment plant derived biomethane, but that is not the project under review for certification and lease approval.

The current LCFS is not fully aligned with the 2022 Scoping Plan and, as stated previously, is under review and modifications are being considered. No analysis of more defined and feasible mitigation

²⁸ CARB 4.10.2024 LCFS Rulemaking Workshop. <https://ww2.arb.ca.gov/sites/default/files/2024-04/LCFS%20April%20Workshop%20Slides.pdf>

²⁹ Office of Planning and Research. CEQA 202 Series: Greenhouse Gas Emissions. 4.18.2023. Accessed https://opr.ca.gov/ceqa/docs/20230517-CEQA_202_GHGAnalysis_Slides.pdf

measures was provided to substantially show that the mitigation selected was adequate to mitigate the significant increased energy use and greenhouse gas emissions that have global warming potential. Nor were these “offsets” shown to be additional.

The ability to claim credits from processes outside of the state for biogas has created uncertainty that the credit is claimed only once and has contributed to increased electricity costs. Where dairy methane digesters were used for producing onsite electricity, there is market pressure to sell the biogas for a higher price for environmental attributes. In order for those environmental attributes to be achieved, there can be no losses along the supply chain during production, transport, refinishing or ultimate site of usage. These biogases use the same methane infrastructure that are known to have underestimated leakage rates and when leaked will have the same global warming potential as fossil methane.^{30 31}

Increasing the distance increases the likelihood that a leak will occur. High school chemistry students viewing NASAs 2022 Year in Review commented on the methane spikes shown using satellite imagery coming from California.³² Requiring that biologically contemporary produced methane be sourced locally can reduce uncertainties about source and reduce the regulatory burden necessary to enforce complicated chain of custody and accounting practices.

The Recirculated IS/MND failed to provide any additional information to indicate that the increased methane conveyance through PG&E pipelines through the East Complex would not pose a hazard, other than to state:

“Natural gas would be provided from local providers (i.e., PG&E) connecting to existing pipelines and infrastructure within the Port. PG&E existing infrastructures would not require any modification or new infrastructure outside the facility. There is no indication that PG&E’s infra structure is compromised or not sound. Natural gas pipelines are overseen by both federal and state agencies that mandate regular safety checks and testing. The natural gas used by the proposed project would be conveyed to the site by existing permitted pipeline infrastructure.”

The condition of the Port of Stockton gas infrastructure pipelines for conveying methane from Pacific Gas and Electric supply pipelines to the facility was not discussed. Leaking pipelines are hazardous to the community and climate. Pipeline leaks regularly occur.³³ The CPUC estimates emissions based on infrastructure leakage and transmission line leaks account for 7% of all emissions.³⁴ The project will have 1.68 % of all of San Joaquin’s County methane use flowing through the existing Port infrastructure. Pipeline failures and leaky methane wells are needed to be eliminated and efforts are underway at a national level to address these methane emission sources.³⁵ The Port of Stockton as the property owner failed to obtain information from PG&E about testing of the pipeline and failed to provide the community that has expressed safety concerns with needed safety assurances. The

³⁰ Weller, Z, et al. *A National Estimate of Methane Leakage from Pipeline Mains in Natural Gas Local Distribution Systems*. *Environ. Sci. Technol.* 2020, 54, 14, 8958–8967. <https://pubs.acs.org/doi/10.1021/acs.est.0c00437>.

³¹ USEPA Estimates of Methane Emissions by Segment in the United States. <https://www.epa.gov/natural-gas-star-program/estimates-methane-emissions-segment-united-states>

³² NASA. A Look Back: 2022’S Temperature Record. <https://www.youtube.com/watch?v=GxXmIgcFn4>.

³³ Deehan, L. *Report: Damaging methane gas pipeline leaks happen every 40 hours in the U.S.* Environment California Research and Policy Center. <https://environmentamerica.org/california/center/media-center/report-damaging-methane-gas-pipeline-leaks-happen-every-40-hours-us/>

³⁴ CPUC. *Analysis of the Gas Companies’ June 15, 2023, Natural Gas Leak and Emission Reports*. <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/safety-policy-division/reports/2023-ngla-joint-report.pdf>.

³⁵ <https://www.whitehouse.gov/wp-content/uploads/2022/11/US-Methane-Emissions-Reduction-Action-Plan-Update.pdf>

BayoTech Initial Study/Mitigated Negative Declaration failed to characterize the condition of existing methane infrastructure that would convey 1.68% of all the methane used in San Joaquin County.

The Recirculated IS/MND included additional text to clarify the process for communicating with emergency responders but did not include how the community is to be notified in the case of an emergency. The local emergency response plan should be readily available to the public including a point of contact information, muster location for employees and visitors considered safe, and what local actions would be taken during different events.

Please consider working with other nearby Port leaseholders to evaluate how the extreme flammability of hydrogen produced could affect other nearby hazardous sites and possible near and far neighborhood impacts. We have repeatedly asked the Port of Stockton representatives to have annual meetings regarding emergency response relating to hazardous materials and flooding. Please describe the uninterruptible power supply located in the Albuquerque, New Mexico Control Room and located locally at the Stockton facility site.

Hydrogen gas (H₂) is highly flammable with lower ignition energies than gasoline or methane. Special engineering controls are needed to monitor including leak detection along with special flame detectors, because hydrogen burns with a nearly invisible flame.³⁶ Hydrogen is a nontoxic and lighter-than-air gas, which negates most risk from inhalation or pooling.³⁷ However, the U.S. Department of Energy strictly regulates the production, storage, and delivery of hydrogen at high pressure due to its flammability. Hydrogen gas transportation and storage requires specialized infrastructure to prevent embrittlement of metals, as hydrogen is the smallest molecule and can leak through metal or polymer materials as well as through tiny cracks.

Hydrogen gas has been identified as an indirect greenhouse gas that causes increases in methane, ozone, and stratospheric water vapor in the atmosphere.³⁸ Most of hydrogen's warming impacts occur during the first few decades after its emission. Currently, there are no commercially available leak detection systems for hydrogen that can detect smaller leaks that would have climate warming effects. Larger leaks can be detected by the sound produced when escaping pressurized vessels.³⁹

The Recirculated IS/MND included several systems to monitor and control leaks at the facility, including the following:

- Use of pressure sensors, which detect pressure loss in production equipment, compression systems, ground storage pods, and filling facilities.
- Use of gas and flame detection, which involves using thermal and optical sensors to detect natural gas or hydrogen leaks and flames.
- Automated control and shutdown systems that isolate the affected system.
- Valve testing to the Canadian Standards Association (CSA)/American National Standards Institute (ANSI) Fuel System Components for Hydrogen Vehicles Hot Gas Valve (HGV) 3.1 standards (2015). CSA/ANSI HGV 3.1 sets requirements for newly produced compressed hydrogen gas fuel system components and a maximum leak rate of 10 normal cubic centimeters per hour (N cc/hr) of hydrogen.

Further information regarding the sensitivity and device modes of function is needed and we suggest reaching out to further educate the community about the safety systems proposed.

³⁶ Department of Energy. Safe Use of Hydrogen. Accessed <https://www.energy.gov/eere/fuelcells/safe-use-hydrogen>.

³⁷ American Institute of Chemical Engineer. https://www.aiche.org/sites/default/files/docs/pages/the_elemental_hydrogen_flammability.pdf

³⁸ Ocko, I.B and Hamburg, S.P., "Climate consequences of hydrogen emissions" Atmos. Chem. Phys., 2022. Accessed <https://doi.org/10.5194/acp-22-9349-2022>.

³⁹ Mine Safety Appliances (MSA). Working Safely with Hydrogen Understanding Layered Gas Detection and Fire Prevention Technologies. <https://msa.webdamdb.com/download.php?ti=133037581&tok=1h6uoGWbeBVYxOHuiirNXQRR>

Parts of Stockton south and central, including the Port are within a designated area for additional community air protections being led by the AB617 Steering Committee facilitated by CARB and the San Joaquin Air Pollution Control District. The communities in South and Central Stockton in closest proximity to the Port are disadvantaged, affected by heavy pollutant loads and, unfortunately, Stockton has been deemed the most vulnerable port community on the west coast according to *The Impacts of Developing a Port Network for Floating Offshore Wind Energy on the West Coast of the United States*.⁴⁰ The authors found that the population around the Port of Stockton is more vulnerable than other populations around any other port on the West Coast of the United States, as shown (right).

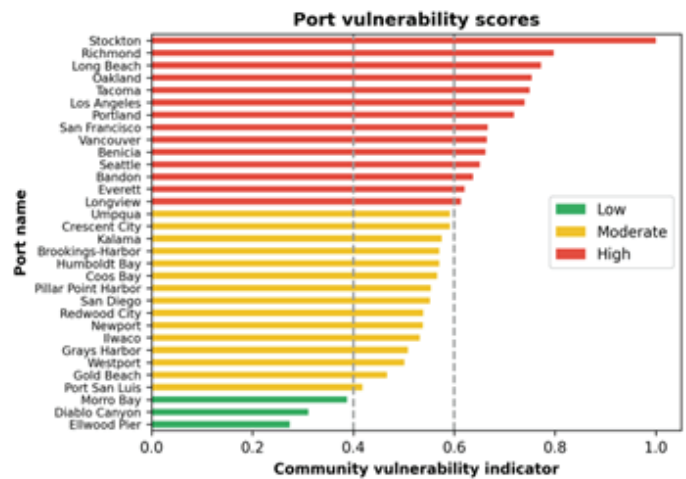


Figure E3. Distribution of community vulnerability indicators across all ports considered in this study (32 total)

The intent of the Port to be an active member of the Stockton AB617 is admirable, and the Port has made some adjustments to business as usual and is considering other actions that may lessen the impact of pollutants originating from Port operations, including tenant operations. Air quality monitoring within the Port is very important to residents because the Port has been identified as having the highest air pollution emissions in the Stockton area, primarily related to marine, rail, and truck emissions. The Port has allowed an air monitor to be placed on Port property leased by the Edible Schoolyard, formerly Boggs Tract Farm and has been actively engaged with bringing grant funds to update Port equipment to zero emission equipment.

We appreciate that BayoTech has entered into a commercial agreement to procure and operate zero-emission trucks. These trucks would be utilized for BayoTech-contracted hydrogen deliveries and transportation needs. However, third-party pickup and transport would also occur. BayoTech trucks and trailers would be parked on site overnight when not in use. An estimate of the fraction of truck trips that would be performed by BayoTech vs third-party pickup was not provided nor were the anticipated markets disclosed.

The Port of Stockton has indicated that Community Benefit Agreements entered into with community-based organizations will be part of enforceable lease conditions. The Recirculated IS/MND included statements that the Community Benefit Agreement with BayoTech would be independent of the CEQA process.

The Department of Energy has developed a Community Benefit Agreement Toolkit and includes the following description:⁴¹

A Community Benefit Agreement is an agreement signed by community benefit groups and a developer, identifying the community benefits a developer agrees to deliver, in return for community support of the project. Community benefit groups are coalitions comprised of neighborhood associations, faith-based organizations, unions, environmental groups and other stakeholders. **They represent the interests of residents who will be impacted by proposed developments.** CBAs can ensure that measurable, local benefits will be given to a community.

⁴⁰ National Renewable Energy Laboratory <https://www.nrel.gov/docs/fy23osti/86864.pdf>

⁴¹ U.S. Department of Energy Office of Minority Business & Economic Development. <https://www.energy.gov/justice/articles/community-benefit-agreement-cba-resource-guide>.

They are enforceable, legally binding contracts for all parties that stipulate community benefits and are the direct result of substantial community input.

As leases with Port tenants are not public documents, we request to meet with Port staff who are involved with lease enforcements so that transparency can be developed with documentation. The scope of the possible community benefit projects under discussion are very limited and have not represented an ongoing commitment. BayoTech staff have been very invested and have prepared a draft agreement, although discussions have just begun. Following the requested meetings with the Port we will be better informed and will continue to discuss benefits that could be agreeable to all parties.

We request that the Port of Stockton seek out economic development opportunities in line with putting their community's health first. A full environmental impact analysis of the proposed BayoTech Hydrogen Production/Dispensing Project is necessary to determine whether a significant impact may exist in compliance with the California Environmental Quality Act, and so that lease agreements do not result in harms for our community.

Sincerely,

Mary Elizabeth M.S., R.E.H.S.
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Exhibit F



Katrina Tomas
Earthjustice
50 California St. Suite 400
San Francisco, CA 9411

July 11, 2024

Subject: Port of Stockton Bayotech SMR Hydrogen Facility – Stockton, CA
Proposed use of LCFS RNG credits as CEQA Greenhouse Gas Mitigation

Dear Ms. Tomas:

As requested, I have reviewed the greenhouse gas (GHG) portion of the Final Initial Study/Mitigated Negative Declaration (MND) for this proposed project prepared by Anchor QEA for the Port of Stockton, dated June 2024.¹ My key comments are summarized in this letter.

In summary:

The proposed use of book-and-claim renewable natural gas (RNG) credits to mitigate the project's GHG emissions does not ensure additional, verifiable GHG reductions. Relying on the Low Carbon Fuel Standard (LCFS) methodology for assigning carbon intensity (CI) scores is not appropriate for purposes outside of the LCFS regulation. The LCFS is not designed for generating GHG mitigation or offsets and should not be used as a methodology for determining mitigation offsets.

How the LCFS works

The LCFS is a California transportation decarbonization incentive program in which high-carbon transportation fuel producers incur LCFS deficits and must purchase and retire an equivalent number of LCFS credits annually to be in compliance with the LCFS regulation. Credits are issued to low-carbon transportation fuel producers. A fuel generates deficits if its lifecycle emissions are higher than the annual LCFS benchmark or it generates credits if its emissions are lower than the annual LCFS benchmark. The LCFS benchmark is an annually-declining CI level from a 2010 regulatory baseline representing the sector-wide carbon intensity of California's transportation fuel in 2010 as defined in the LCFS regulation.²

¹ I have also reviewed the Recirculated MND dated March 2024 and all relevant appendices.

² Benchmarks are determined for gasoline, diesel, and jet fuel for 2010 as described in Tables 1, 2, and 3, respectively, in the California Code of Regulations (CCR) Section 95484.

Credits are determined by a fuel pathway CI score, and the volume of California transportation fuel reported. Both the CI and fuel volumes are subject to annual verification, and if CARB finds that too many credits were issued, the credit generator must retire an equivalent number of credits and may be subject to enforcement action by CARB, including penalties.

The LCFS is not a CEQA offset program.

From the MND, it is unclear how Bayotech will evaluate, acquire, verify, and retire “offsets” relative to LCFS credits. Credits, as defined in the LCFS program, cannot be used for mitigation under the California Environmental Quality Act (CEQA), nor may the CI of RNG from the LCFS be used to determine GHG offsets. LCFS credits are only applicable within the context of LCFS compliance. LCFS credits and deficits are defined in the LCFS regulation as “units of measure used for determining a regulated entity’s compliance with the average carbon intensity requirements in section 95484.”³ CI and credits used in the LCFS are not developed to be used in other programs such as for purposes of CEQA mitigation.

Further, the LCFS is not an open marketplace. To acquire and hold LCFS credits, entities must be registered in the LCFS as regulated entities.⁴ The Recirculated IS-MND states that “[t]hese credits may be procured by Bayotech and/or in coordination with suppliers and customers within the hydrogen value chain”⁵. However, it does not explain whether Bayotech is a regulated entity in the LCFS and if not, how or when they would become regulated entities. It also does not say how or when it or entities within its hydrogen value chain would become regulated entities and guarantee that the entities would comply with any mitigation measure applied to or agreed upon by Bayotech.

Even if Bayotech were registered and regulated under the LCFS, the LCFS does not have a mechanism to retire credits for non-LCFS compliance purposes such as CEQA. LCFS deficit holders retire LCFS credits to demonstrate annual compliance in the LCFS. Additionally, LCFS credits do not expire, meaning that credits are not automatically retired from a credit-holder’s account for non-compliance purposes.⁶ The IS-MND does not explain how Bayotech or its affiliates would assure that LCFS credits acquired would be used only for mitigation rather than as a compliance obligation in LCFS.

Use of LCFS Carbon Intensity is inappropriate for non-LCFS purposes where additional GHG reductions are required.

The IS-MND has not described how the project would estimate the credits for CEQA mitigation purposes. The LCFS uses a specific approach to evaluating the carbon intensity that is intended only for the purposes of that regulation.

³ CCR Section 95481(a)(36).

⁴ CCR Section 95481(a)(128) and 95487(b)(1).

⁵ Recirculated IS-MND page 74.

⁶ CCR Section 95487(a)(1).

The CI score in the LCFS may not be evaluated against a proper baseline for CEQA GHG emissions offset purposes. For example, an existing methane-capture digester at a dairy farm may be eligible for RNG LCFS credits that would not pass an additionality test under CEQA.

The CEQA Guidelines Section 15126.4(c)(3) states that a project's GHG emissions can be reduced by "Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions." By contrast, as stated in a CARB staff comment in the Final Statement of Reasons for the 2018 LCFS Rulemaking, "... fuels eligible to receive LCFS credit and associated carbon-intensity reduction strategies are not required to demonstrate that the fuel production would have happened or not happen without the existence of the LCFS. Specific requirements that the fuel volume be created solely to satisfy LCFS compliance requirements is not a requirement of the present regulation."⁷

CARB CI certification methodologies do not apply to non-transportation fuels.

The LCFS evaluates the carbon intensity of a facility-specific "fuel pathway." The LCFS evaluates a fuel pathway's CI score based on a lifecycle assessment for use as a California transportation fuel (including the energy density of the fuel and the energy economy ratio). One cannot apply an LCFS CI score to RNG purchased in the marketplace without regard to its use. Thus, even if the project could use the LCFS methodology without participating in the program and applying for an LCFS pathway, the LCFS-assigned CI score for RNG is not valid for non-transportation uses. The project states that it will sell hydrogen for industry and power sector end uses. This would lead to different CI scores that LCFS methodology does not address. The MND fails to account for this difference in its GHG mitigation.

Unless Bayotech submits an LCFS pathway request to CARB for its hydrogen, receives a certified CI score, and verifies annually that the fuel produced meets that certified score, there is no way to ensure that the RNG's CI score is properly evaluated under CARB's methodology. As described above, the RNG must be used to produce a transportation fuel used in California. Per DGS-12, the RNG that is certified in the LCFS, implying that it is used as a transportation fuel; however, in the same response, Bayotech states it is not being used as a fuel.

CI scores assigned outside of the LCFS cannot be used in the LCFS and are not verified by CARB.

Using a certified CI score outside of the LCFS regulation does not provide assurance or verification of the CI as a certified LCFS pathway. It is therefore not the same as verified credits under the LCFS. Under the LCFS, a pathway applicant applies for a CI score, which may be certified and eligible for reporting and credit generation under the LCFS. No credits are issued until fuel volume is reported in the LCFS as a transportation fuel.

Annually, the actual volume of fuel and the CI of the fuel must be verified through the LCFS. Credits that do not meet the certified CI score must be returned to CARB, which the MND also does not address. Because the RNG acquired by Bayotech, per the MND, will not be used for

⁷ <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2018/lcfs18/fsorlcfs.pdf>. PDF page 185. Underline added.

transportation fuel, it cannot receive a certified CI score, nor be verified annually through the LCFS.

Risk of double counting

The MND does not offer evidence for how environmental attributes from the book-and-claim RNG purchased outside of the LCFS would be verified or assured to not be double-counted in other programs, including the LCFS. Most offset programs include registration in a reputable registry using approved protocols for determining the number of offsets, additionality, and verification. The MND does not disclose which offset registry it will rely on, nor that it will adhere to standard offset registries/protocols to ensure the integrity of any “offsets.”

Absent such verification, there is a risk of double counting. Unlike in programs such as the Renewable Portfolio Standard, where renewable energy credits are registered in a centralized database and can be looked up to see if the environmental attributes have been claimed elsewhere, there is no such mechanism used for RNG that is broadly used by programs, including the LCFS. Therefore, it is possible that RNG credits purchased by Bayotech will be double counted elsewhere, even if not in the LCFS.

I trust you will find this information useful. Please do not hesitate to contact me if you have any questions or require any other information.

Sincerely,

Cheryl Laskowski, Ph.D.