

6. The next meeting is currently scheduled for September 18, 2026.
7. Adjourn

The Committee will provide reasonable accommodations for persons with disabilities planning to attend the Committee meetings. Contact the staff person listed below at least 72 hours before the meeting. Any disclosable public records related to an open session item on a regular meeting agenda and distributed by the County to a majority of members of the Committee less than 96 hours prior to that meeting are available for public inspection at 1025 Escobar Street, Martinez, CA, during normal business hours. Staff reports related to items on the agenda are also accessible online at www.contracosta.ca.gov. If the Zoom connection malfunctions for any reason, the meeting may be paused while a fix is attempted. If the connection is not reestablished, the committee will continue the meeting in person without remote access. Public comment may be submitted via electronic mail on agenda items at least one full work day prior to the published meeting time.

For Additional Information Contact: Alyson Greenlee Escarzaga 925-755-2783 or alyson.greenlee@dcd.cccounty.us



CONTRA COSTA COUNTY

1025 ESCOBAR STREET
MARTINEZ, CA 94553

Staff Report

File #: 26-3184

Agenda Date: 7/17/2026

Agenda #: 3.

Advisory Board: Governing Board of the Green Empowerment Zone

Subject: Review and Approval of Meeting Record

Presenter: County staff

Contact: Alyson Greenlee Escarzaga, 925-655-2783

Information:

Meeting Record attached.

Referral History and Update:

This is a standing item of this committee.

Recommendation(s)/Next Step(s):

REIVEW and APPROVE the Meeting Record from May 15, 2026.

Meeting Minutes – Draft
Governing Board of the Green Empowerment Zone (GEZ)

Supervisor John Gioia, Chair
Assemblymember Lori Wilson, Vice Chair
Chuck Leonard, Vice Chair

Friday, May 15, 2026

9:30 AM

**1025 Escobar
Room 110A/B/C
Martinez, CA 94553**

ZOOM:

<https://cccouny-us.zoom.us/j/88323737930>

(888) 278-0254

Conference Code: 841892

1. The public may attend this meeting in person at the above location. The public may also attend this meeting remotely via Zoom or call-in.
2. Agenda Items: Items may be taken out of order based on the business of the day and preference of the Governing Board.

1. Call to Order and Roll Call.

Chair John Gioia called the meeting to order.

2. Public comment on items not on agenda
3. Review and Approve the Meeting Records of the March 20, 2026, Meeting.

There is a quorum to review and approve the Meeting Record from March 20, 2026.

A motion was made to approve March 20, 2026, minutes. All were in favor.

4. APPROVE a Letter of Support for Sustainable Aviation Fuel Coalition (SAF) Incentive Package from the Green Empowerment Zone

Currently Bay Area refineries supply most of the aviation fuel to the Bay Area airport, with most of it consisting of crude oil-based fuel. There have been incentives at the federal level that are no longer being supported. Phillips would like to supply to airlines a fuel that offers much lower greenhouse gas emissions. The purpose of having this on the agenda is to investigate policies that support facilities that move the GEZ along the pathway of zero emissions.

Board member Tiffany Roberts of Phillips 66 gave a brief history of the topic. This would allow California to diversify the fuel supply here. And Phillips 66, \$1.4 billion dollar facility conversion, shows how Phillips 66 is looking to advance the fuel being used in California.

Used cooking oil would be the main feed stock that would be used. This was chosen because airlines prefer non livestock feed stock. Also, California's fuel carbon fuel standard pushes for lower carbon intensity feedstocks.

Currently Phillips 66 can supply 35% of SFO's total jet fuel demand through sustainable aviation fuel.

A discussion arose around the tax credit and the type of feed stock being used and if the one chosen is the best available. For future letters of support the Governing Board requested staff reports be produced.

A motion was made to approve the support of the SAF support letter. Senator Cabaldon abstained, Board member Meitzenheimer abstained, Tiffany Roberts abstained, Councilmember Robinson abstained, Board member Sandeen alternate abstained, Vice Chair Wilson abstained.

Board Member Wechsler voted No

The motion passes.

5. RECEIVE Presentation from Governor's Office of Business and Economic Development (GO-Biz) on Opportunity Zones 2.0

Brian Coleman gave a presentation on Opportunity Zones 2.0. This federal incentive program is designed to provide tax incentives to encourage long term private investment in economically distressed areas. If any investor, institutional investor, or individual have realized capital gains, they can reinvest those capital gains into economically distressed low-income areas. This will give them certain federal tax advantages.

The zones that are nominated need to meet certain federal eligibility criteria. The Governor's office can nominate up to 25% of the eligible census tracts. The State anticipates 618 tracts for the 10-year designation cycle. The process commences on July 1st at the federal level. The State selection process will begin in June. The State will allow local jurisdictions to ability to recommend census tracts for nomination to the U.S. Treasury.

More information will be shared. Webinars will be held to assist in understanding the Opportunity Zones 2.0 program. Census Tracts nomination will be closed to local

jurisdictions on July 31st.

An item for the July 17th meeting will be included on the agenda will revisit this topic and discuss which tracts will be nominated by GEZ communities.

6. RECEIVE Update from UC Labor Center on Workforce and Community Benefits Research and Policy Discussion

Bay Area Manufacturing

- *Manufacturing employs over 300,000 workers in the Bay Area*
- *Manufacturing is the 6th largest industry in terms of employment in the Bay Area.*
- *It is a diverse sector in terms of types of production, ranging from food and beverage to pharmaceuticals to electronics and vehicles.*
 - *Many of these production processes are very well-aligned with clean energy manufacturing.*
- *The workforce is diverse: half foreign-born, 3 out of 10 are women.*
- *Just under half of the jobs don't typically require a 4-year degree for entry.*
- *There is room for improvement and innovation – improve job quality and increase productivity*

Union density in California manufacturing continues to decline from over 20% in the 1980s to around 5% today.

CEM Technology Workforce Analysis

Aims

- *Document what kinds of jobs exist in CEM*
- *Describe occupations and skills*
- *Gather information about job quality, including wages and benefits*
- *Explore connections to workforce development system*

Study Design

- *30 interviews with CEM firms*
- *Weighted toward firms with operations in CA; include non-CA firms*
- *6 interviews with local workforce development practitioners*
- *BLS data, O*NET, academic literature*

Firm Types

1. *Start-ups: Developing prototype product; strong R&D focus*
2. *Transitional firms: Taking prototype to market; continuing R&D*

3. *Manufacturing-to-scale firms: Full production and delivery to downstream vendors (e.g., OEMs)*

Key takeaway:

Bay Area has all three firm types. There is an additional draw for start-ups and transitional firms to locate, stay, and expand manufacturing operations in the Bay Area.

Local Workforce Development System

Robust and multifaceted but also fragmented and opaque

- *Community college system is big: 28 schools, many programs*
- *Existence of established labor training programs and labor-management partnerships*
- *Several workforce boards*
- *Can be difficult for firms, especially new ones, to find and navigate*

Workforce system challenges

- *Rigid funding mechanisms discourage or disallow innovative programs*
- *Tension between “responsiveness” of workforce system and “fickleness” of firms*

CEM Technology Workforce Analysis: Conclusions

- *CEM industry is located in Bay Area and growing*
- *Workforce is a major attraction for all firm types—firms want to stay here, expand here, and move here to access workforce*
- *Intervention is needed to retain skilled workers, especially displaced workers.*
- *Intervention is needed to skill new workers and build pathways into jobs, especially for disadvantaged and young workers*
- *Intervention is needed to improve quality of blue-collar production jobs by raising wages, building a pathway to unionization, and protecting worker safety and health*
- *Opportunity to leverage and refine the region’s robust workforce development System*
 - *Raise visibility and increase outreach to start-ups and relocating firms*
 - *Consolidate program information across skills sets—give firms and workers a clear map and help them navigate*
 - *Develop labor-management partnerships at the firm and sector levels as a bridge between workers, firms, and training programs*
- *Opportunity to leverage and expand existing funding for displaced workers (WIOA, DOGWF) and refine programming based on research and local*

experience (e.g. Marathon worker survey)

- o Certify skills; income supports; targeted re-skilling, not extensive training

Policy Research

Workforce Transition Policy

Strategic Foundation: Just transition programs succeed by combining worker supports (income, benefits, training) with place-based investments to create credible alternative employment.

Planning & Governance

- Outcomes depend on advance planning and local governance capacity
- It is not merely about whether training dollars exist, but if replacement jobs match wages and identity

Income & Training Synergy

- Wage Replacement is a critical complement to training
- Training works best when workers can afford to complete it and income support prevents forced early exit

The "Destination Lens"

- Connect payments to evidence of job placement and wage outcomes rather than simple enrollment
- Ensure training leads to a specific economic destination for the community

GEZ must overcome a Deep Structural Problem to Realize High Road Advantage. The GEZ must design structural incentives to promote stable, high-wage careers through collective bargaining agreements, skill mastery, and work organization of firms to capture productivity benefits

Training alone is not enough for workforce strategies. Policies that do not address management and work organizations may underperform. The GEZ should support worker skill development and technical assistance that assists firms

Task Bundling

Low bundling: A line worker who only performs routine tasks

High bundling: Incorporate nonroutine and analytical tasks. As well as allowing workers to develop interpersonal skills

Key Impact on Productivity

Even Higher Bundling of Tasks into Occupations leads to higher productivity, especially in high-tech manufacturing. This is what unions help with— work organization and training – and why they are so valuable for firms seeking to scale production. Unions also structure the sharing with workers the benefits of higher productivity

U.S. Manufacturing: Race to the Bottom

Recommendations to address labor gap, productivity, and equitable distribution

1. Set a Floor for Labor and Community Standards

- o Job Quality*
- o Access to Opportunity*
- o Community Benefits*

2. Build a High Road Advantage

- o Sector Strategies*
- o Tripartite Collaboration*
- o Innovation Support*

Use carrots for High Road Outcomes

- Conditional entitlements*
- Development agreements and infrastructure financing*
- Streamlined review processes for projects*
- Explicit integration into planning and permitting frameworks*
- Training funds*

7. The next meeting is currently scheduled for Friday, September 18 at 9:30 a.m. at 1025 Escobar St, Martinez

8. Adjourn

The date for the next meeting of the Governing Board of the Green Empowerment Zone will be Friday, July 17, 2026.

Vice Chair Leonard adjourned the meeting.



CONTRA COSTA COUNTY

1025 ESCOBAR STREET
MARTINEZ, CA 94553

Staff Report

File #: 26-3185

Agenda Date: 7/17/2026

Agenda #: 4.

Advisory Board: Governing Board of the Green Empowerment Zone

Subject: Support Letter for Opportunity Zones 2.0

Presenter: County Staff

Contact: Alyson Greenlee Escarzaga, 925-655-2783

Information:

Support Letter and List of Census Tracts are attached.

Referral History and Update:

At its last meeting on May 15, 2026, the Governing Board of the Green Empowerment Zone received a verbal update from Brian Coleman, Governor's Office of Business and Economic Development (GO-Biz) on the State of California's process for receiving recommendations for Opportunity Zones 2.0.

The GEZ Board directed staff to bring an item on the next agenda supporting the nominations of Opportunity Zones coming from the Green Empowerment Zone.

Staff reached out to the 9 GEZ cities that-in addition to Contra Costa County-contain eligible census tracts for Opportunity Zone 2.0 nomination (See the map of eligible census tracts:

<https://www.policymap.com/embed/widget/12163/DNAOEK4MOFUIAGJCCEX7MVRX9IRWBIKG>). Of those, 7 cities responded with census tracts that they are nominating for Opportunity Zones, in addition to Contra Costa County.

The attachment contains the list of census tracts from the Green Empowerment Zone that staff are aware of that are being nominated for Opportunity Zones 2.0.

Recommendation(s)/Next Step(s):

APPROVE a Letter of Support for the Nominations of Opportunity Zones in the Green Empowerment Zone.



July 17, 2026

The Honorable Gavin Newsom
Governor of the State of California
State Capitol
Sacramento, CA 95814

RE: **Support for Nomination of Opportunity Zones 2.0 in the Green Empowerment Zone**

Dear Governor Newsom:

On behalf of the Governing Board of the Green Empowerment Zone, we extend our strong support for the nominations of Opportunity Zones (OZs) from the Green Empowerment Zone.

The Green Empowerment Zone Governing Board, established under state law, is composed of representatives from Federal, State and local government, industry, labor unions, community, workforce organizations, state agencies and educational institutions. Our goal is to attract clean energy manufacturing to the industrial waterfront areas of Contra Costa and Solano Counties.

The Green Empowerment Zone represents one of the state's most viable areas to prioritize access to this federal tax incentive, as there are 9 cities and 1 county with eligible census tracts for nomination for Opportunity Zones 2.0.

Our region is home to critical industrial areas, infrastructure and energy-related businesses, and vacant and underutilized properties. We are also home to a regional concentration of highly skilled workers in the California Jobs First strategic sectors.

Leveraging these existing assets allows California to prioritize access to tax incentives in areas that are uniquely positioned to attract private-sector clean energy investment, while also rewarding long-term patient capital in areas in need of economic revitalization.

The OZs will assist areas like ours where public and private dollars will be best utilized in a coordinated effort to support the development of the clean energy economy. The inclusion of census tracts within the Green Empowerment Zone also sends a strong signal to those projects and programs that are uniquely positioned to improve the economic vitality of our area that they have priority access to tax incentives.

We stand ready to work collaboratively with GO-Biz to promote our region for private sector investment in the renewable energy sector, market the Green Empowerment Zone's shovel-ready sites, and support efforts to grow the California Jobs First strategic sectors.

Thank you for your continued leadership and commitment to community revitalization in historically underserved areas, job creation, and sustained economic growth.

Sincerely,

JOHN GIOIA
Chair, Governing Board of the Green Empowerment Zone
Contra Costa County Board of Supervisors, District One

Attachment: List of Census Tracts Being Nominated for Opportunity Zones 2.0

Jurisdiction:	County:	Recommended Census Tract:	Census Tract Preference Ranking:
City of Antioch	Contra Costa	06013305000	1
City of Antioch	Contra Costa	06013306002	2
City of Antioch	Contra Costa	06013307201	3
City of Antioch	Contra Costa	06013307205	4
City of Antioch	Contra Costa	06013307202	5
City of Antioch	Contra Costa	06013306004	6
City of Antioch	Contra Costa	06013306003	7
City of Concord	Contra Costa	6013328000	1
City of Concord	Contra Costa	6013327001	2
City of Concord	Contra Costa	6013337201	3
City of El Cerrito	Contra Costa	6013389100	1
City of El Cerrito	Contra Costa	6013386000	2
City of El Cerrito	Contra Costa	6013389200	3
City of Martinez	Contra Costa	06013316000	1
City of Martinez	Contra Costa	06013318000	2
City of Martinez	Contra Costa	06013317000	3
City of Martinez	Contra Costa	06013320001	4
City of Pittsburg	Contra Costa	6013309000* *Pittsburg, CA Staff note this tract is not on the list of eligible census tracts but is still being nominated.	1
City of Pittsburg	Contra Costa	6013305000	2
City of Pittsburg	Contra Costa	6013313104	3
City of Pittsburg	Contra Costa	6013313105	4
City of San Pablo	Contra Costa	6013367001	No ranking provided.
City of San Pablo	Contra Costa	6013367002	No ranking provided.
City of San Pablo	Contra Costa	6013368001	No ranking provided.

City of San Pablo	Contra Costa	6013368002	No ranking provided.
City of San Pablo	Contra Costa	6013369001	No ranking provided.
City of San Pablo	Contra Costa	6013369002	No ranking provided.
City of San Pablo	Contra Costa	6013370001	No ranking provided.
City of San Pablo	Contra Costa	6013370002	No ranking provided.
City of Vallejo	Solano	6095250701	1
City of Vallejo	Solano	6095251600	2
City of Vallejo	Solano	6095250900	3
City of Vallejo	Solano	6095251500	4
City of Vallejo	Solano	6095251802	5
City of Vallejo	Solano	6095251000	6
City of Vallejo	Solano	6095251701	7
City of Vallejo	Solano	6095251100	8
Contra Costa County	Contra Costa	6013314103	1
Contra Costa County	Contra Costa	6013365002	2
Contra Costa County	Contra Costa	6013304002	3
Contra Costa County	Contra Costa	6013327001	4
Contra Costa County	Contra Costa	6013358000	5
Contra Costa County	Contra Costa	6013317000	6
Contra Costa County	Contra Costa	6013320001	7
Contra Costa County	Contra Costa	6013363000	8
Contra Costa County	Contra Costa	6013361000	9
Contra Costa County	Contra Costa	6013369002	10
Contra Costa County	Contra Costa	6013314200	11
Contra Costa County	Contra Costa	6013314106	12
Contra Costa County	Contra Costa	6013324003	13
Contra Costa County	Contra Costa	6013356001	14

Contra Costa County	Contra Costa	6013367200	15
Contra Costa County	Contra Costa	6013313204	16
Contra Costa County	Contra Costa	6013318000	17



CONTRA COSTA COUNTY

1025 ESCOBAR STREET
MARTINEZ, CA 94553

Staff Report

File #: 26-3186

Agenda Date: 7/17/2026

Agenda #: 5.

Advisory Board: Governing Board of the Green Empowerment Zone
Subject: Update from the UC Labor Center on GEZ Permitting/Zoning Research
Presenter: Josh Sonnenfeld, Senior Policy Researcher
Contact: jsonnenfeld@berkeley.edu

Information:

The presentation is attached.

Referral History and Update:

On September 12, 2023, the Board of Supervisors of Contra Costa County authorized an agreement with the Governor's Office of Business and Economic Development (GO-Biz) in an amount not to exceed \$5,000,000 to be used to provide administrative and other support services for the Green Empowerment Zone consistent with State legislation AB 179, the Budget Act of 2022. The term of this Agreement is July 1, 2023 - June 30, 2026. The Governing Board of the Green Empowerment Zone had its first meeting on December 7, 2023.

On December 7, 2023, the Green Empowerment Zone Governing Board received an informational presentation from the UC Berkeley Labor Research Center on a proposal of research to inform planning for the Green Empowerment Zone. Pursuant to the Green Empowerment Zone legislation, AB844 (Grayson), the duties of the Green Empowerment Zone include to partner with the University of California, the California State University, community colleges, and the state's other research and educational institutions, as well as private foundations, to provide guidance, advice, and encouragement in support of studies of particular interest and importance to the energy industry in the Northern Waterfront area of the County of Contra Costa. The UC Berkeley Labor Center refined its proposed concept to focus on developing a high road strategy for the clean energy sector. This refined concept represented an example of research to inform planning for the Green Empowerment Zone that the GEZ Board might wish to consider before strategic planning can be completed.

On February 16, 2024, the Board provided direction to staff to provide an invitation to develop a detailed proposal and to bring a full proposal back to the GEZ Board for consideration. Staff has met with the UC Labor Center five times, working in detail to flesh out the scope of work that resulted in a full draft proposal with the following three strategies:

1. Foundational research to shape clean energy manufacturing priorities and high road growth strategies.
2. Stakeholder engagement and technical assistance to identify opportunities to support high road clean energy manufacturing growth and identify barriers to growth.
3. Policy recommendations to support additional high road clean energy manufacturing growth in the GEZ.

At its April 19, 2024, meeting, the Governing Board of the GEZ received a presentation on the full and detailed proposal from the UC Berkeley Labor Center to consider recommending the Board of Supervisors enter a \$2 million, 3-Year contract to retain UC Berkeley Labor Center to conduct foundational research, to support

stakeholder engagement and technical assistance, and to make policy recommendations to support the Green Empowerment Zone. The GEZ Governing Board directed County staff to negotiate a contract with the University for this scope of service and seek approval from the Board of Supervisors to execute the contract. The Board of Supervisors approved and authorized the Department of Conservation & Development to execute a contract with the UC Berkeley Labor Center on August 8, 2024. The implementation of this contract requires the collaboration of various entities to be successful, including an economic development working group. It also requires biannual (or as needed) reporting to the GEZ Governing Board.

At its January 17, 2025, meeting, the Governing Board of the GEZ received an update on the economic development research and stakeholder engagement to support a high-road clean energy manufacturing strategy for the GEZ. At its March 31, 2025, meeting, the Governing Board of the GEZ received an update on the Just Transition Economic Development Framework and the Green Empowerment Zone Priority Technology Research. At its September 19, 2025, meeting, the Governing Board of the GEZ received an update on Technology Research and Stakeholder Engagement. At its February 13, 2026 meeting, the Governing Board of the GEZ received an update on the 2026 Research Workplan for the Green Empowerment Zone. At its March 20, 2026 meeting the Governing Board of the GEZ received an update on Facility, Site, and Infrastructure Research and Policy Discussions. At its May 15, 2026 meeting, the Governing Board of the GEZ received an update on Workforce and Community Benefits Research and Policy Discussion.

Recommendation(s)/Next Step(s):

RECEIVE Update from UC Labor Center on GEZ Permitting/Zoning Research.

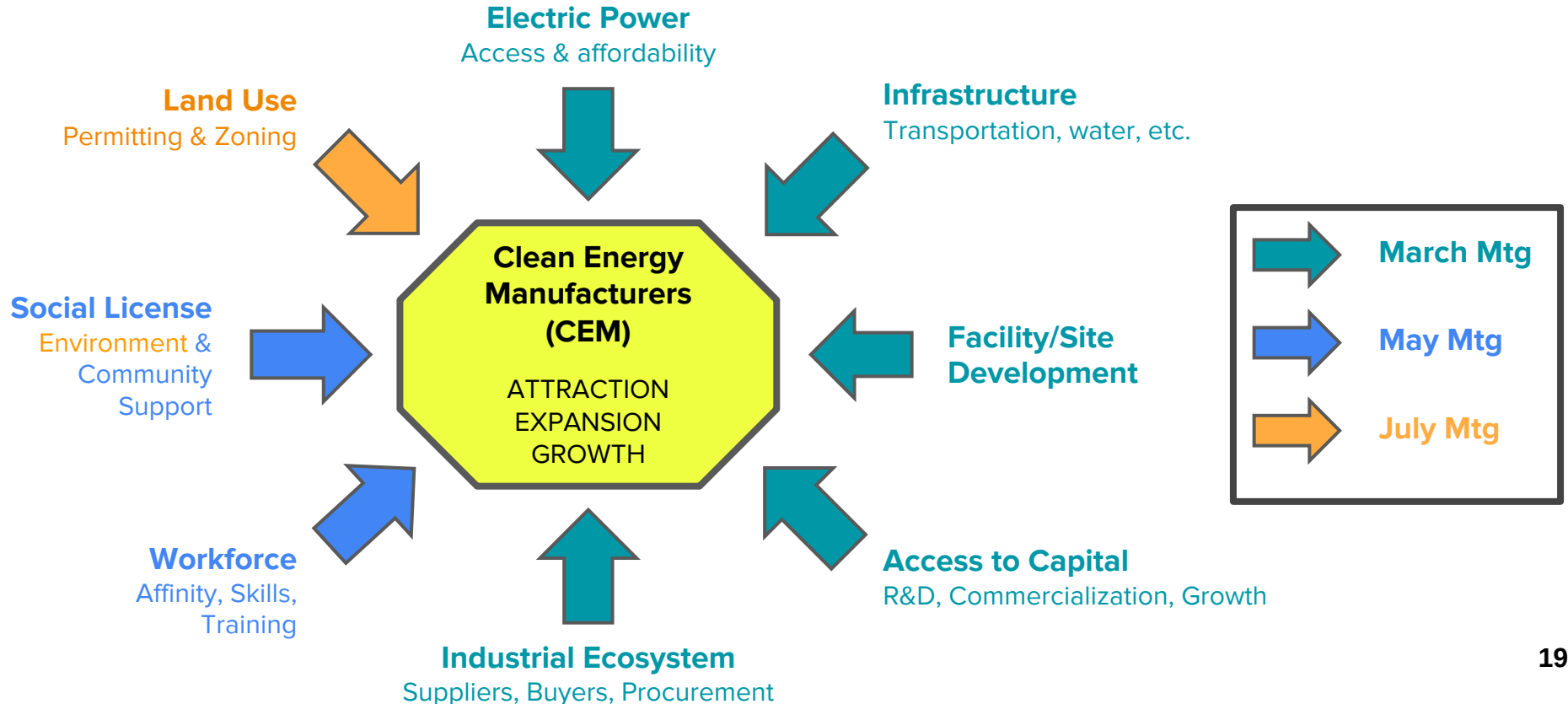
Environmental Risks, Permitting & Zoning

Research update and policy discussions

GEZ Board Meeting - 07/17/2026

UC Berkeley Labor Center

Levers to Develop Clean Energy Manufacturing in GEZ



Work plan and schedule of meetings in '26

Technology

Policy

3/20

Facility, Site and Infrastructure
Needs of Manufacturers

Electric Power

Infrastructure

Procurement

Facility Development

Financing

Other Tech

5/15

Workforce Analysis

Workforce Development

Job Quality Standards

Community Benefits and Negotiated Agreements

7/17

Environmental Risk and
Strategies Assessment

Permitting & Zoning

Environmental Standards

9/18

Interim Report and Recommendations

Plan for today

1

Technology Research

Environmental Risks

- Presentation by PSE Healthy Energy: *GEZ Environmental Risks & Strategies Assessment*

2

Policy Research & Discussion

Permitting & Zoning

- Overview of Local GEZ Permitting Processes
- Case Studies and Best Practices for Local Jurisdictions
- Potential GEZ Permitting/Zoning Strategies

Environmental Risks and Strategies Assessment for the Green Empowerment Zone

July 17th, 2026



Bringing science
to energy policy



Sofia Bisogno, BSE

Air Quality Scientist

Sofia joined PSE in 2023 with a focus on the air quality and public health impacts of oil and gas production, energy generation, and the energy transition. She has a background in Environmental Engineering and experience as an environmental consultant, conducting health risk assessments for various Bay Area industries.



Karan Shetty, M.ESM

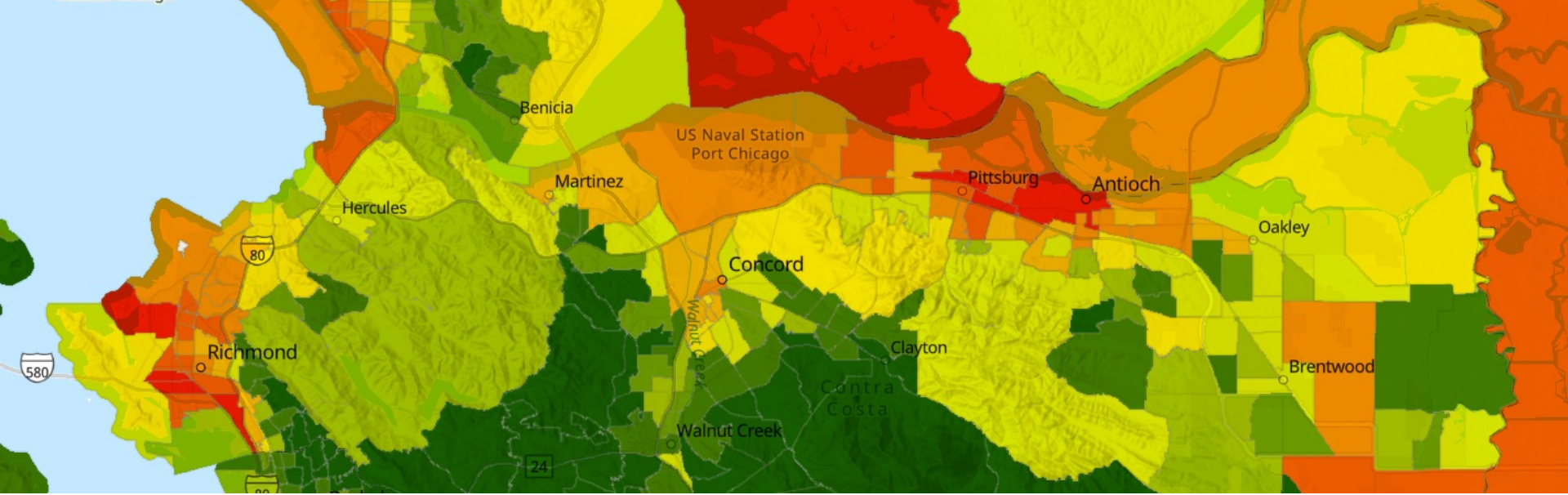
Clean Energy Transition Scientist

Karan joined PSE in early 2021 with a focus on air quality, public health impacts of the power sector, and energy affordability. He has performed extensive research on air quality trends in Richmond, CA and broader Contra Costa County, and has used health analysis to accelerate retirement coal and gas power plants in the Midwest.



About PSE

PSE Healthy Energy is a nonprofit energy science and policy research institute. Our mission is to generate science-based energy and climate solutions that protect public health and the environment.



Statement of Purpose

As part of the “high road” sector strategy, we assessed potential public health risks from and developed mitigation recommendations for Clean Energy Manufacturing to inform investment without recreating burdens the region is working to leave behind.

Scope of Work

UCB Scope

Identify priority clean energy manufacturing technologies viable for the GEZ.

Compile a list of example facilities across the U.S.



Batteries

Electric Grid Components

Zero Emission Vehicles

EV Chargers

Heat Pump/Water Heaters

Electrolyzers

Offshore wind



PSE Scope

Assess the potential environmental/public health risks from manufacturing these technologies.

Provide GEZ board with recommendations to protect nearby communities.

Methods

Environmental Modules

Hazardous Waste

Waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment. Hazardous waste is regulated at the federal and state levels.

Air Pollution

Air pollutants that could be harmful to human health. Air pollution emissions are regulated at both the federal and state levels.

Industrial Wastewater

Water discharge that might affect the water quality of the receiving waters or interfere with publicly owned treatment works that receive these discharges. Industrial wastewater is regulated at the federal and state levels.

Research Domains

Regulatory

Federal and state permits, reported emissions, effluent concentrations, hazardous waste types and amounts.

Scientific Literature

Potential environmental hazards associated with the facility's manufacturing processes based on peer-reviewed or other scientific sources.

Public Media

News coverage on events of environmental or public health concern or other non-regulatory, non-scientific outlets.

Stakeholder Engagement



Risk Definitions

Risk Level	Definition	Confidence Rating	Definition
Very Low	Minimal or no reported emissions, limited or no hazardous waste generation, and little to no evidence of CAA, CWA, or RCRA permitting.	A	Consistent findings across multiple facilities and supported by the literature.
Low	Small-scale emissions (<10 tons per year of any one pollutant), non-major permitting status, and very small hazardous waste streams (<100 kg/month) with no meaningful compliance violations.		
Medium	Moderate emissions (< 50 tons per year of any one pollutant), small hazardous waste generation (< 1000 kg/month), effluent monitoring requirements, with potential for localized impacts under upset conditions.	B	Partial data completeness or a limited number of facilities examined.
High	High emissions levels (> 50 tons for air emissions), very large quantities of hazardous waste disposal required, or significant permit violations incurred. Higher potential for significant environmental or community exposure in the event of control failures.	C	Limited, indirect, or qualitative information or too few facilities to identify a pattern.
Very High	Exhibited major source emissions levels (> 100 tons for air emissions), very large quantities of hazardous waste disposal required, AND significant permit violations incurred.		

For Example: Risk Rating Existing Industries

Category	Air Risks (Confidence)	Water Risks (Confidence)	Hazardous Waste Risks (Confidence)
Manufacturing	Low (B)	Low (B)	High (B)
Chemical Plants	High (B)	Low (B)	Very High (A)
Oil & Gas Refining	> Very High (A)	> Very High (A)	> Very High (A)



Limitations

- Regulatory requirements may not capture all environmental risks
- Many companies are still nascent operations and therefore do not have substantial footprints or data
- Manufacturing processes are generalized – specific companies have their own patents and may not have the same steps or impacts
- Some environmental impacts were out of scope (i.e., noise, construction impacts, trucking impacts, upstream and downstream impacts)

Key Takeaways

Category	Sub-Category	Air Pollution Risk (Confidence)	Water Discharge Risk (Confidence)	Hazardous Waste Generation Risks (Confidence)
Batteries	Solid State Battery	Very Low (B)	Very Low (B)	High (B)
	Non-Vanadium Flow Battery	Very Low (C)	Very Low (C)	Medium (B)
	Thermal batteries	Very Low (C)	Very Low (C)	Medium (B)
	Module assembly	Very Low (A)	Very Low (A)	Very Low (C)
	Cathode material	Low (C)	Very Low (C)	Low (B)
Electric Grid Components	Electronics Manufacturing Services	Low (B)	Low (B)	Medium (B)
	Power Electronic Module Assembly	Low (B)	Low (B)	Medium (B)
	High Voltage Distribution Grid Transformers	Medium (B)	Low (B)	High (B)
	High Voltage Transmission Grid Transformers	High (B)	Medium (B)	High (B)
	Medium Voltage Switchgear	Low (B)	Low (B)	Low (B)
	High Voltage Switchgear	Low (C)	Low (C)	Low (C)
Heat Pumps	Commercial and Residential Heat Pump Water Heaters	Low (C)	Low (B)	Medium (C)
Electrolyzers	Catalyst, Stack, and Module Assembly, PEM/AEM/AWE	Very Low (C)	Very Low (C)	Medium (B)
EV Chargers	DC Fast Charger, Final Assembly	Very Low (C)	Very Low (C)	Very Low (C)
Zero Emissions Vehicles	Light to Medium Duty Vehicles, Final Assembly	Very Low (C)	Very Low (C)	Medium (C)
	Drone Manufacturing, Final Assembly	Very Low (C)	Very Low (C)	Very Low (C)
	Electric Ferry Manufacturing, Final Assembly	Very Low (C)	Very Low (C)	Very Low (C)
	Electric Powertrain Manufacturing	Very Low (C)	Very Low (C)	Very Low (C)
Offshore Wind	Floating Offshore Wind Steel, Semi-Submersible Platform	Medium (C)	Very Low (C)	Very Low (C)
	HVDC Subsea Cable Manufacturing	Very Low (C)	Very Low (C)	Very Low (C)

Key Findings

1. Most technologies carry **Very Low** to **Low** risk across the three environmental modules; however, a few technologies carry higher risks.
 - High-voltage transformer manufacturing poses highest risks of all technologies evaluated.
2. Hazardous waste management poses most consistent risk across technologies.
 - Solid-state battery manufacturing carry significant hazardous waste risk.
3. Mitigation measures, including preventative measures, engineering controls, and operational practices, protect public health. These can be achieved through regulatory permitting processes.

Risk Mitigation Recommendations

Facility Risk Mitigation Strategies

Pollution Reduction

- Substitute for less hazardous materials
- Employ lower-risk processes and equipment

Engineering Controls

- Proper enclosure, venting, and filtering of air through air pollution control devices
- Wastewater pretreatment options by hazard

Operational Practices

- Proper storage of hazardous material/waste
- Personnel training and worker voice
- Emergency response planning/ coordination with the local authorities



Regional Mitigation Strategies

1. Ensure regulatory framework effectively encourages and enforces facility specific controls
2. Ensure best practices for occupational health and safety to protect workers from hazardous chemical exposure and minimize risk to the community
3. Site higher risk facilities further from residential populations
4. Make site specific monitoring and reporting publicly available
5. Consider cumulative impacts in permitting

Thank You!



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Policy Research: Permitting & Zoning

Research Methodology

Interviews

Interviews with planning staff from 8 GEZ jurisdictions, along with 3 neighboring jurisdictions, Bay Area Air District and GoBiz. Further informed by 30+ employer interviews and other stakeholder interviews.

Research Sources

- Review of land use / zoning for all GEZ jurisdictions applicable for CEM
- Review of local/state/federal permitting process
- Review of current and pending state CEQA legislation

Overview of Key Terms

Zoning: Along with the General Plan, a primary mechanism by which local jurisdictions regulate how land can be used and developed

Use Permits: Local jurisdictions allow certain activities to occur on a property either “by right” (through staff/ministerial approval), or through discretionary approval (Zoning Administrator, Planning Commission, City Council/Board of Supervisors), typically through a Conditional Use Permit.

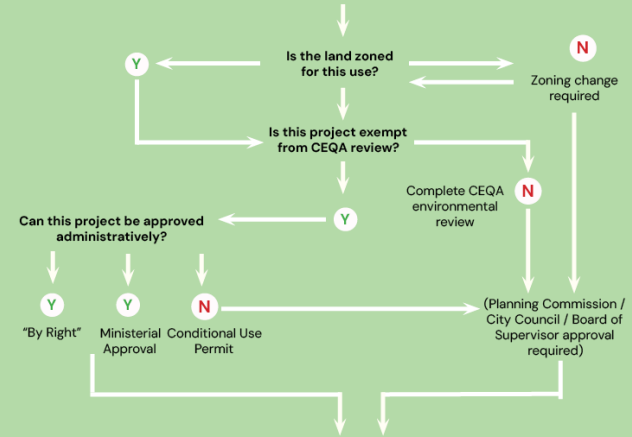
Regulatory Permits: Required for construction and operation of facilities. Includes air, water, hazardous materials, habitat/species, and other permits, depending on the nature of the project.

CA Environmental Quality Act (CEQA): Environmental analysis required for new discretionary projects that do not qualify for a CEQA exemption. Mitigations may be applied to reduce environmental impacts.

Local Permitting Flow Chart (Leasing / Development of a Facility)

Flow chart illustrates the permitting pathway for a Clean Energy Manufacturer seeking to lease or develop a site. Includes whether the land is zoned for the use, whether CEQA is required, whether the project can be approved administratively or whether it requires a Conditional Use Permit or other approval from the local Planning Commission, City Council or Board of Supervisors. The chart then describes the range of additional potential permits the project might need to secure prior to breaking ground or beginning operations.

Securing Permits (Lease / Develop)



Potential Operational Permits

Fire Permit (Fire Marshall)	Permit to Operate, Title V Permit, Small Source Equipment (BAAD)
Hazardous Waste Facility Permit (DTSC CUPA)	Sewer Permit (Sanitary District)
Industrial Facilities Permit, Individual Wastewater Permit (Water Board)	Water Permit (Water District)

Potential Building Permits

General Application Planning Permit (Municipal)	Drainage Permit (Municipal)
Flood Control Permit (Municipal)	Building or Renovation Application (PG&E)
Building and Grading Permits (Municipal)	Fire Construction Permit (Fire Marshall)
Power Application (PG&E Building and Renovation)	Brownfields (DTSC Voluntary Oversight Application)
Bay Permits (BCDC, Water Board, US Army Corps of Engineers)	Wildlife Permits (CDFW, USFWS)

Build / Operate!

State Permitting: California Environmental Quality Act

Passed in 2025: SB 131 (Weiner)

In June 2025, the California State Legislature and Governor Newsom passed a broad CEQA reform bill that among other things, **created a statutory exemption, waiving CEQA requirements for all “advanced manufacturing” projects** not located on “natural and protect lands.”

Pending in 2026: SB 954 (Blakespear)

Spearheaded by a coalition of labor, environmental and environmental justice organizations, the bill **would narrow CEQA exemption for advanced manufacturing to the final assembly of products and require projects to meet specific labor and environmental standards to qualify.** Currently advancing in the Legislature.

Pending in 2026: Ballot Initiative (Sponsored by CA Chamber of Commerce)

Does not apply to manufacturing.

Local Permitting of CEM in the GEZ

Jurisdiction	Zone	Heavy/Gen Industrial	Light Industrial	R&D	Indoor Warehousing & Storage	Chemical Storage	Zone	Heavy/Gen Industrial	Light Industrial	R&D	Indoor Warehousing & Storage	Chemical Storage
Contra Costa Co.	"Light Industrial"	NP	P/C	U	C	C	Oakley	"Light Industrial"	NP	P		
Contra Costa Co.	"Heavy Industrial"	P/C	C	U	C	C	Pinole	"Office Professional Mixed Use Zoning District"	C	C	P	
Antioch	"Light Industrial"	C	C	C	C	NP	Pinole	"Office Industrial Mixed Use Zoning District"	C	P	P	
Antioch	"Heavy Industrial"	C	C	C	P	C	Pittsburg	"Industrial Park"		P	C	C
Benicia	"Limited Industrial"	NP	P	P	P		Pittsburg	"Limited Industrial"	P	P	P	C
Benicia	"General Industrial"	P	P	P	P		Pittsburg	"General Industrial"	C	P	P	C
Benicia	"Water-related Industrial"	P	P	P	P		Richmond	M1: "Industrial, Business";		P	P	U
Benicia	"Industrial Park"	P	P	P	C		Richmond	M2: "Industrial, Light"	C	P	P	P
Brentwood	"Planned Employment Center"	NP	P				Richmond	M3: "General Industrial";	P	P	P	P
Brentwood	"Industrial/Commercial"	NP	P				Richmond	M4: "Water-related Industrial";	C	C	NP	P
Concord	"Industrial Business Park"	NP	P	P	P	NP	Richmond	"Richmond Bay Specific Plan - Limited Industrial"	NP	P		
Concord	"Industrial Mixed Use"	NP	P	P	P	NP	San Pablo	"Employment Mixed Use"	C	P	P	P
Concord	"Heavy Industrial"	C	P	P	P	C	San Pablo	"Industrial Mixed Use"	P	P	P	P
El Cerrito	"Commercial and Mixed Use"	C	C		C		Vallejo	"General Industrial"	P		U	P
Martinez	"Commercial Light Industrial"	P	P	P	C		Vallejo	"Limited Industrial"	C		U	P
Martinez	"Industrial and Manufacturing"	P	P	P								NP

Key:

P: Permitted Use
(By Right or Administrative)

C: Conditional Use
Permit Required

U: Permitted with
Unique Requirements

NP: Not Permitted

The above chart lists all local jurisdictions within the GEZ along with industrial zones where CEM projects could be permitted. It then identifies where CEM could be permitted By Right, with an Administrative Permit, or where a Conditional Use Permit or other unique permitting requirement may be required. The chart demonstrates that CEM is generally a permitted-use across industrial zones in the GEZ, however with a lot of variation depending on the type of project and the specific local jurisdiction.

Summary from Interviews

- A maze of permit requirements for employers, which can be confusing, costly and time-intensive. Larger companies hire consultants, small to mid-size companies need the most assistance and are most at-risk
- Outdated zoning codes across GEZ jurisdictions, multiple jurisdictions in the process of updating. CEM generally permitted in much of the GEZ, however not well communicated, and no unique zoning codes for CEM or advanced manufacturing
- Discretionary permits, particularly Conditional Use Permits, introduce uncertainty and delays for employers. Employers want clear standard guidelines and predictability
- Old and outdated infrastructure a major issue. Results in catch-22: Permitting review of projects triggers new, unanticipated site improvement requirements that can be costly
- Very little awareness of CEQA exemption for advanced manufacturing. No reported uses
- Securing permits from regional regulatory agencies can be a challenge, particularly at the Bay Area Air District. Bay Area Air District currently assessing their permit process
- Small econ dev staff teams at most GEZ jurisdictions (1-2 people). Mixed awareness of GEZ by planners. Desire for concierge-style services, but insufficient capacity

Case Study: Fremont

Highlights

- Over **900** manufacturers, employing approx. **65,000** workers
- Manufacturing responsible for **35%** of employment, and a significant portion of the city's tax revenue
- Strategically leveraged Tesla's presence to attract EV supply chain, and now represents 75% of Silicon Valley's advanced manufacturing leasing

Successful Approach

- City leadership prioritization & coordination across departments
- Comprehensive employer concierge service
- Pro-active site conversion & heavy power procurement
- In-house hazardous materials & fire permits
- Building a brand: *"The Hardware Side of the Bay"*



Image: Aerial photograph of Tesla's factory in Fremont (Source: AP)

Case Study: Hayward

Highlights

- Hundreds of manufacturers, ~10,000 residents working in manufacturing
- Recent major announcements include Zoox and robotics firm 1X
- Leveraging strategic location, industrial acreage. Updated zoning code to create clarity for manufacturers and stronger buffers for community

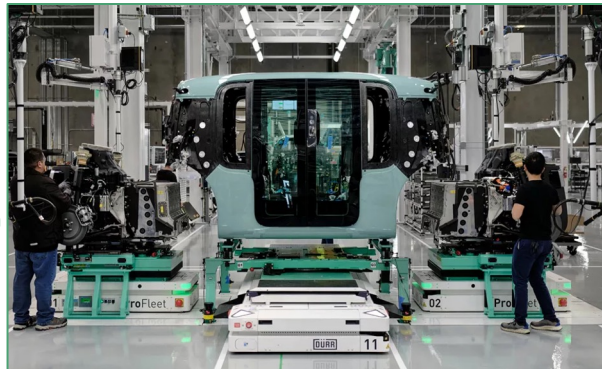


Image: Zoox workers assemble a autonomous vehicle at their factory in Hayward.
(Source: Zoox)

Successful Approach

- **Focused attraction strategy & prioritization rubric**
- **By-right zoning that steers manufacturers to core industrial areas**
- **Comprehensive employer concierge service**
- **In-house hazardous materials & fire permits**
- **Building a brand:** Leveraging attraction success to develop interest from other manufacturers

Case Study: Alameda

Highlights

- Leveraging city-owned Alameda Point, a former Naval Air Station, attractive community and proximity to the inner Bay Area
- Home to a large number of start-up clean energy manufacturing companies
- Key resource: Alameda Municipal Power, the city's electric utility, which offer rates significantly lower than PG&E

Successful Approach



Image: Aerial photo of businesses at Alameda Point in Alameda, with San Francisco Bay and San Francisco in the distance (Source: SF Business Times)

- **Focused Attraction Strategy:** R&D and smaller scale manufacturing. “Green tech, blue tech and moonshot” start-ups
- **Clarity on Zoning:** By-Right industrial permitting under the Alameda Point Specific Plan
- **Comprehensive concierge service**
- **Municipal power utility: Alameda Municipal Power**
- **In-House Hazardous Waste and Fire Permits**
- **Building a Brand:** A family-friendly place for start-ups

Summary of Best Practices: Local Permitting & Zoning

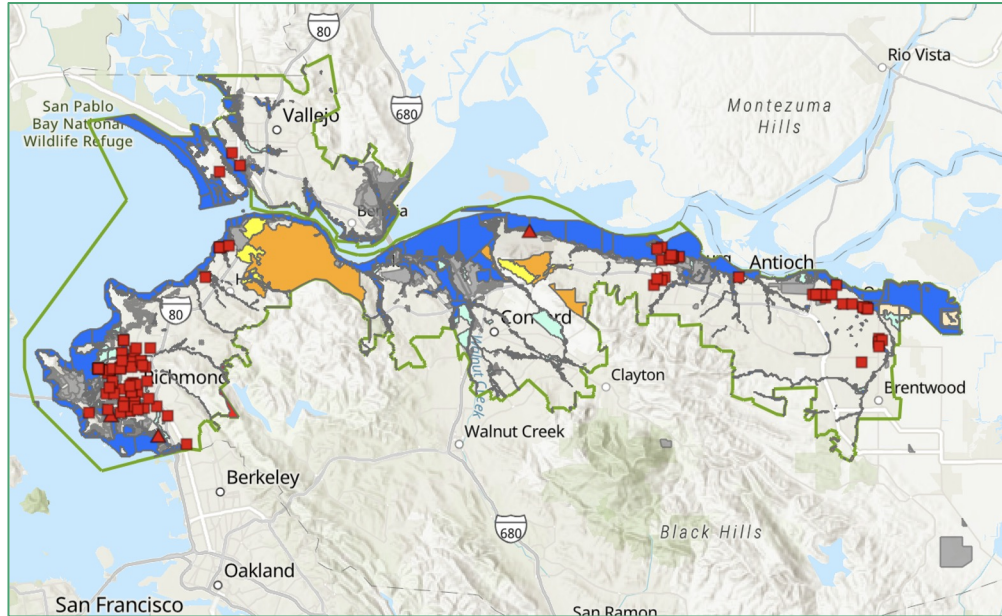
- CEM as a shared priority of elected leadership, with city staff working across departments to attract, permit projects
- Robust economic development teams with technical expertise in target technologies. Hands-on employer concierge program, supporting site identification, permit & power navigation, utilizing GoBiz as needed
- Clear, straightforward zoning code, with By Right CEM in zones that are appropriate
- Expedited permitting pathways, at cost
- In-house fire and hazardous waste permits, with strong coordination and technical expertise
- Proactive engagement with development community to redevelop and pre-permit heavy power sites for advanced manufacturing
- Branding and communications: building reputation as business-friendly jurisdictions that understand advanced manufacturing and help employers get projects online

New Tool: GEZ Industrial Lands and Environmental Constraints GIS Map

Informational Tool: Designed to assist policymakers and stakeholders in assessing environmental constraints of GEZ's industrial lands, in the context of future development.

Layers:

- GEZ industrial parcels
- Flooding
- Sea level rise
- Groundwater rise
- Wildfire risk
- CalEnviroScreen pollution burden
- U.S. EPA brownfield sites
- Sensitive receptors
- Wetlands
- Wetland migration



Coming soon to the UCB Labor Center's website!

Image: A GIS map showing an outline of the Green Empowerment Zone, with different colors representing industrial zones and different environmental considerations, such as flooding, sea level rise, fire risk and brownfield sites.

Potential GEZ Strategies: Permitting & Zoning

Potential GEZ Strategies: Permitting and Zoning

- 1. GEZ CEM Employer Concierge Program:** Establish a GEZ-wide economic development program to create a one-stop shop for site identification, power & permit navigation, partnering with and amplifying existing capacity of local jurisdiction economic development teams.
- 2. Develop CEM Model Zoning Code Language for Local GEZ Jurisdictions to Adopt:** Develop a “Clean Energy Manufacturing” specific zoning use classification or use type that can be applied across the GEZ with zoning code updates, with clear objective standards and requirements. Engage the community and local government in the process.
- 3. Identify Zones for CEM:** Identify industrial zoned areas across GEZ appropriate for CEM use By-Right or through ministerial approval, taking into consideration community health, climate resilience and other factors. Integrate into zoning code updates.
- 4. Engage in Statewide Legislative CEQA Reform Discussions:** Consider engaging in legislative CEQA reform discussions around advanced manufacturing, with a focus on advancing low-risk CEM projects that include strong labor, community health and environmental protections.
- 5. Regional Regulatory Agencies:** Engage with the Bay Area Air District’s permit reform process to determine appropriate standards and effective processes for CEM permitting, while ensuring strong regulatory oversight that protects community health.

Policy research discussion



1. Which of the policy strategies are of most interest?
2. What are the ideas that you feel like you could act on? What would you need to be able to act on them?
3. What obstacles do you foresee?
4. What additional information would you like?