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Bay Area Jobs First Collaborative

Next-Generation Battery Innovation and Manufacturing Hub in the Bay Area

Activation Plan

Revised Date:
September 30, 2026

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BAY AREA JOBS FIRST OVERVIEW

In 2021, Governor Newsom launched the $600 million Regional Investment Initiative (formerly the Community Economic Resilience Fund, or CERF) to support California's 13 regions to create quality jobs and bolster their resilience to climate and global challenges impacting the diverse regional economies. As part of this program, each of the 13 regions has built a California Jobs First Collaborative tasked with developing a clear vision for their region's economic future.

California Jobs First will support high-road economic development plans to create equitable access to quality jobs. High-road economic development supports environmentally sustainable businesses that pay living wages and create opportunities for career growth. As California recovers from the economic distress of COVID-19, California Jobs First aims to ensure that the state's economy works for all California residents, particularly those who have historically been marginalized.

In the Bay Area and 12 other regions in California, organizations have come together to create the Bay Area Jobs First Collaborative (formerly High Road Transition Collaborative), which includes a balanced representation of the workforce, community, labor, business, government, economic development, education, philanthropy, and Indigenous communities.

All Home is the Regional Convener for the Bay Area Jobs First Collaborative. The Bay Area Good Jobs Partnership for Equity (BAGJPE), an association of ten workforce development boards and regional workforce planning units across the nine-county Bay Area, serves as the Fiscal Agent, with the San Francisco Office of Economic and Workforce Development (SFOEWD) as the Fiscal Lead. The Bay Area includes the nine counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma.

The Bay Area Jobs First vision is to re-envision regional economic development planning, centered around the values of equity, high-road employment, sustainability, and climate resilience, and shaped by workers and impacted community members themselves. To achieve this mission, the Collaborative relies on the following guiding principles:

- Climate Resilience Led by Frontline Communities and Workers
- Lift Job Quality, Grow High-Road Jobs, Elevate Racial Equity and Worker Voice
- Honor Local Without Losing the Power of the Region
- Inclusive, Democratic, Grassroots Governance
- Take Action Towards Transformational Change

1. INTRODUCTION AND BACKGROUND

What: Transform the San Francisco Bay Area into a global center for next-generation battery research, innovation, and manufacturing excellence.

Why: The urgent need to decarbonize our economy demands rapid advancement in energy storage technologies. The Bay Area's unique combination of technical talent, entrepreneurial spirit, and innovative ecosystem positions it perfectly to drive this transformation while creating high-road manufacturing jobs. This initiative specifically targets economic opportunities for historically marginalized communities and workers at risk of displacement during the clean energy transition.

Who: A coalition of community advocates, labor representatives, industry leaders, and cross-sector partners working collaboratively to ensure this initiative aligns with California Jobs First principles and delivers equitable outcomes. This inclusive partnership model emphasizes community leadership and worker empowerment throughout the decision-making process.

How: Leverage the region's competitive advantages, including its robust startup ecosystem, research institutions, and skilled labor pool, while making strategic investments in critical physical infrastructure. Incorporate high-road standards, comprehensive workforce training programs that create accessible career pathways for workers without college degrees, and community and environmental health and safety standards. Ensure meaningful community engagement from inception to implementation.

Where: Establish an integrated industry cluster spanning multiple California regions, creating a complete supply chain network. This encompasses Silicon Valley's innovation core, manufacturing corridors through Alameda, Contra Costa, Solano, and Sacramento counties, strategic expansion into the Central Valley, raw material extraction and processing facilities in Imperial County and the Salton Sea region, and end-to-end sustainability through recycling operations.

The urgency to decarbonize global energy systems has catalyzed unprecedented advances in energy storage technology. Recent breakthroughs have fundamentally altered the economic landscape, establishing utility-scale renewable energy as the superior alternative to conventional nuclear, coal, and natural gas generation, and advancing transportation electrification. This transformation extends beyond cost competitiveness, offering enhanced grid resilience while expanding energy access through microgrid solutions that serve historically underserved rural and tribal communities.

The economic trajectory of renewable energy technologies demonstrates remarkable advancement. Between 2009 and 2019, utility-scale solar and wind energy achieved cost reductions of 89% and 70%, respectively, driven by continuous technological innovation and expanding deployment scales. Lithium-ion battery technology has also significantly progressed, realizing a 98% cost reduction since 1991. However, current lithium-ion technology presents inherent limitations for complete economic decarbonization, constrained by energy density parameters, persistent safety considerations, and supply chain vulnerabilities.[1]

Achieving America's clean energy objectives requires developing advanced battery technologies. This endeavor requires orchestrated collaboration among governmental institutions, industrial partners, and academic research centers to advance novel chemical compositions, establish robust domestic supply chains, modernize manufacturing methodologies, and cultivate strategic cross-sector alliances. While European and Asian entities currently lead in this domain, the United States possesses unique capabilities to assume leadership.

Bay Area's Manufacturing Potential

The San Francisco Bay Area represents an unparalleled concentration of battery innovation expertise. This dynamic ecosystem integrates premier research institutions—Lawrence Berkeley National

[1] https://ourworldindata.org/cheap-renewables-growth

Laboratory (LBNL), Lawrence Livermore National Laboratory (LLNL), and SLAC National Accelerator Laboratory—and distinguished universities and pioneering startup enterprises.

However, the region confronts a significant challenge in translating research excellence into manufacturing capability. The Bay Area is failing to fully realize the economic potential inherent in clean energy technology commercialization. While the region's distinctive advantages—including elite technical talent, a skilled labor pool, substantial venture capital resources, progressive climate policy frameworks, and a top market for clean energy products—successfully attract battery technology startups, these enterprises frequently relocate out of the region, and usually out of California, to scale up their manufacturing operations. This pattern results in significant opportunity costs for local communities through lost employment opportunities (especially in middle-wage jobs) and diminished tax revenue. It also threatens the region's long-term competitiveness in cutting-edge innovation. In emerging industries going through rapid innovation (e.g., battery manufacturing), this shift could be particularly pronounced because the proximity of R&D to manufacturing allows for faster prototyping and testing (critical for new materials and designs).

Conventional wisdom suggests the Bay Area's cost structure precludes manufacturing operations. However, empirical evidence indicates manufacturing maintains a 10% share of regional employment[2], with electric vehicle production fostering an expanding network of local suppliers. Rather than accepting industrial decline as inevitable, the region must strategically leverage these established capabilities for future growth.

WHAT ARE HIGH-ROAD WORKFORCE PRACTICES?

The high-road approach seeks to create an environment where firms compete based on the quality of their products and services. The high-road markers of good jobs include:

- **Job quality**—family-supporting wages and benefits, high standards for health and safety, long-term career pathways, and worker voice and protections (i.e., the right to organize).
- **Job access**—entry points for good jobs for local workers, hiring commitments to ensure inclusion of marginalized communities, and training to support advancement.

Source: Powering Prosperity, Building an Inclusive Lithium Supply Chain in California's Salton Sea Region, New Energy Nexus, UC Santa Cruz, and UC Berkeley Goldman School of Public Policy

Federal Catalyst for Change

The Biden-Harris Administration's historic $2 trillion infrastructure investment marks America's most ambitious industrial policy since the 1980s. The Inflation Reduction Act (IRA), Bipartisan Infrastructure Law (BIL), and CHIPS and Science (CHIPS) Act create unprecedented opportunities to reshape domestic manufacturing and supply chains. The National Blueprint for Lithium Batteries 2021-2030 outlines a clear vision: America must simultaneously solve scientific challenges and build manufacturing capacity to meet surging demand for electric vehicles and grid storage. The Department of Energy's Li-Bridge initiative targets critical supply chain components, from raw materials to finished cells.

> *"Building new regional centers of excellence and expanding the current testing leaders were selected as the top options for the roadmap to improve piloting capabilities and resolve the innovation barrier."*
> *—LiBridge Pilot Demand Study, U.S. Department of Energy*

[2] https://vitalsigns.mtc.ca.gov/indicators/jobs-by-industry

Building on Regional Strengths

The Bay Area possesses crucial assets to support advanced manufacturing: a base of firms in competitive industries looking to grow to commercial scale and into large-scale manufacturing; a regional network of contract manufacturers, machine shops, and component suppliers that can build prototypes, tooling, and small production runs for companies not yet ready to run their own lines; available, well-located, and protected industrial lands; extensive transportation infrastructure, and a highly skilled workforce supported by robust workforce development programs through universities, community colleges, and labor unions. However, unlocking this potential requires addressing key infrastructure challenges: modernizing congested ports and highways, expanding industrial utility capacity, ensuring reliable energy supply, mitigating climate risks, and remediating contaminated sites. The dissolution of redevelopment agencies created funding gaps, but regional organizations like the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) are stepping in to serve some of that need with pilot programs like Priority Production Areas (PPA). These initiatives can transform legacy industrial corridors (such as along Interstate 80 and Highway 4) into clean energy manufacturing zones, simultaneously serving environmental justice, equity, and economic prosperity goals.

Market Opportunity and Competitive Advantage

The global energy storage market presents unprecedented growth potential, projected to expand at a 33% annual rate to reach 4,700 GWh by 2030—a $400 billion[3] market opportunity. However, American innovators in advanced battery technologies face significant scaling challenges amid intensifying international competition, with critical gaps persisting across materials processing, component manufacturing, and recycling solutions. California's leadership in decarbonization, exemplified by its ambitious targets of 100% renewable energy by 2045 and zero-emission medium/heavy-duty transport by 2040, positions the state to leverage federal resources while accelerating next-generation storage technologies. Through strategic coordination among utilities, industry, and academic institutions, California can simultaneously advance its climate objectives and capture global market share, demonstrating that environmental leadership and economic growth can be mutually reinforcing.

WHY NEXT-GENERATION BATTERIES MATTER?

Sustainable Competitive Advantage—The Bay Area plays a unique role in the advanced battery landscape. While traditional Li-ion manufacturing gravitates toward lower-cost regions like Nevada and Mississippi, the Bay Area excels in pioneering next-generation technologies. Rather than competing on operating costs alone—a race that demands significant public subsidies—the region can leverage its core strengths: cutting-edge research, a skilled labor force and workforce development programs, and strategic public investments in innovation infrastructure.

Accelerating Economic Decarbonization—Current battery technology, while functional, imposes significant limitations on our clean energy transition. Next-generation batteries promise to democratize renewable energy by delivering more stable, affordable, and energy-dense solutions that can truly transform our energy landscape. The barriers include high production costs that slow adoption, performance constraints in extreme environments, suboptimal energy density that limits applications, and volatile supply chains that increase economic risks.

Strengthening National Security—In today's geopolitically uncertain environment, America's reliance on overseas suppliers presents a critical vulnerability. Most intellectual property for current battery systems—even those that are manufactured domestically—remains with overseas firms. Developing and owning next-generation battery patents isn't just an economic opportunity; it's a national security imperative that can protect America's energy independence and technological leadership.

[3] McKinsey Market Study for Li-Ion Batteries, 2023

Advancing Environmental Justice—Legacy industrial areas have left a devastating environmental and health legacy in marginalized communities. Simply closing these facilities isn't enough—these sites require substantial investment in environmental remediation and economic revitalization. Clean energy manufacturing presents a unique opportunity to transform these spaces into centers of innovation while creating high-road local jobs. By focusing on next-generation battery manufacturing, we can turn environmental challenges into engines of equitable economic growth. This approach delivers multiple benefits: environmental cleanup of contaminated sites, creation of family-sustaining manufacturing jobs, generation of tax revenue for community investment, implementation of cleaner industrial practices, and development of sustainable economic opportunities.

2. TARGET SECTOR STRATEGY OVERVIEW

The Next-Generation Battery Innovation and Manufacturing Hub Activation Plan outlines six strategic tactics, detailed in section 7: Tactical Work Plan Matrix. As illustrated on the next page, each tactic encompasses three to seven targeted tasks to be executed over 5 years. The collaborative will continue to provide oversight and adjust the Activation Plan to ensure optimal outcomes. The selection of Next-Generation Battery Innovation and Manufacturing as a priority sector stems from several strategic advantages:

- *Momentum:* The initiative builds upon existing collaborations between national laboratories, the California Mobility Center (CMC), the Governor's Office of Business and Economic Development (GOBiz), the California Energy Commission (CMC), Contra Costa County, the University of California Berkeley (UC) Labor Center, community colleges, battery manufacturing startups, and federal partners in the Departments of Energy (DoE) and Commerce (DoC).
- *Funding:* Through the Catalyst Program, the BAJFC Steering Committee has allocated $1.5 million to the Bay Area High-Road Manufacturing Initiative, which includes a focused effort to build the battery innovation and manufacturing ecosystem. This initiative is led through a collaboration between Working Partnerships USA, UC Berkeley Labor Center, Bluegreen Alliance Foundation, New Energy Nexus, California Federation of Labor Unions, SEMI Foundation, Pilipino Association of Workers and Immigrants South Bay, Step Forward Foundation, Services and Immigrant Rights and Education Network and several clean tech businesses, community, local government, and workforce organizations, and labor unions.
- *Assets:* The Bay Area is home to world-class battery research institutions, an innovative startup ecosystem, comprehensive transportation infrastructure, a skilled workforce, global business networks, and substantial market demand for advanced battery storage solutions.
- *Alignment:* The initiative strengthens and complements regional processes such as the Green Empowerment Zone (GEZ), MTC's pilot PPA Program, and the ABAG's Bay Area Comprehensive Economic Development Strategy (CEDS). It aligns with local economic development goals to attract clean energy manufacturing jobs to industrial communities.
- *Potential:* This effort advances multiple strategic objectives: revitalizing underserved industrial areas, creating accessible high-road employment in clean energy industries, accelerating decarbonization through advanced storage solutions, strengthening and growing the region's energy grid, supporting the just transition of fossil fuel workers in the Bay Area's refinery corridor, and promoting environmental justice in communities affected by legacy industrial pollution.

The Activation Plan presents six core tactics:

- *Tactic A: Form a Regional Coordination Entity to Guide Planning and Implementation.* To form a regional organization with comprehensive capabilities to lead planning and implementation efforts.
- *Tactic B: Identify and Prioritize Critical Infrastructure Projects.* To modernize and expand infrastructure to support large-scale manufacturing and eliminate barriers to investment.

- *Tactic C: Design and Build a Research and Innovation Campus.* To respond to manufacturers' need for pilot lines and material processing facilities.
- *Tactic D: Develop Labor Standards, Training Curriculum, and Access and Recruitment Programs.* To establish clear benchmarks for job quality while creating accessible pathways through training, paid apprenticeships, and support services.
- *Tactic E: Align Regulations, Development Standards, and Approval Processes.* To streamline regulatory requirements across jurisdictions while maintaining environmental and safety standards.
- *Tactic F: Safeguard Community and Environmental Health and Safety.* To identify and establish clear standards for the siting and operation of research and manufacturing facilities that safeguard health and safety.

Research on job quality in clean energy manufacturing more broadly—across the sector, from start-ups through full-production firms—should not be read as a finding about next-generation battery manufacturing specifically. This plan targets a subsector that is largely not in the Bay Area yet, where production is proximate to research, and the occupational mix is weighted toward technicians rather than assembly. The plan's job quality case rests on the occupational mix of the subsector it is trying to seed, not on averages across manufacturing.

Implementation requires concurrent advancement of all six tactics over the next 12-18 months of the California Jobs First process. The immediate priority is establishing the regional coordination entity to oversee daily operations. This entity will then guide and support initiatives across the remaining tactics, establishing a foundation for community-led, worker-centric high-road job creation throughout the Bay Area over the next decade. The implementation timeline is shown in the chart below.

3. OPERATING STRUCTURE

Developing a battery innovation and manufacturing cluster in the Bay Area requires coordinated engagement across public, private, nonprofit, academic, labor, and philanthropic organizations. Given the initiative's complexity and diverse stakeholder landscape, establishing a dedicated governance entity (detailed in Tactic A) represents a critical priority. This entity will be supported by a sector coordinator identified by the Bay Area Jobs First Collaborative.

Essential stakeholder groups for engagement and potential governance participation include:

- *State Agencies:* CEC and GOBiz partners in developing California's battery manufacturing ecosystem. CEC advances seven core priorities: renewable energy development, transportation transformation, energy efficiency enhancement, innovation investment, state energy policy advancement, thermal power plant certification, and emergency preparedness. GOBiz leads the California Jobs First Program while coordinating statewide clean energy initiatives, including the Hydrogen Hub.
- *Local Jurisdictions:* While all 109 Bay Area jurisdictions hold important stakes in this regional strategy, leadership emphasis falls on cities and unincorporated areas with significant legacy industrial areas in Alameda, Contra Costa, Santa Clara, and Solano counties. These jurisdictions directly influence economic development through land use entitlements, zoning, development standards, infrastructure planning and delivery, and providing essential services for employers, workers, and residents.
- *Industry Partnerships:* CALSTART and New Energy Nexus (NEN) are vital to technology advancement and entrepreneurial support. CALSTART focuses on clean transportation market acceleration through low-emission vehicle promotion, technology development, and policy advocacy. NEN provides global support to clean energy entrepreneurs through funding, business acceleration, and network access, helping ensure manufacturing operations remain in the Bay Area during scale-up phases.

- *National Laboratories and Research Institutions:* Led by LBNL's expertise in battery electrochemistry and manufacturing science, the region's research ecosystem includes UC Berkeley, Stanford University, SLAC National Accelerator Laboratory, LLNL, and the Cambridge Energy Innovation Center. This unprecedented concentration of technology-related research capacity drives innovation and workforce development and attracts startups seeking collaborative opportunities.
- *Battery Startups:* Northern California hosts an exceptional concentration of battery innovators, including Sila, Lyten, Natron Energy, Mitra Chem, Amprius, and numerous others. These companies represent potential future manufacturing investors, making their input on facility requirements, amenities, and services essential for long-term operational planning.
- *Labor Organizations:* Organizations including the State Building and Construction Trades Council, the California Federation of Labor Unions, various local and regional unions, Rising Sun, Blue-Green Alliance, Construction Trades Workforce Initiative (CTWI), and Greenlining Institute champion worker rights, workplace safety, and in-job career advancement opportunities. Their leadership in the Bay Area initiative continues to shape policy, advocacy, and implementation.
- *Economic Development Organizations:* Regional business organizations, such as the East Bay Economic Development Alliance (EBEDA), Solano Economic Development Corporation (Solano EDC), Bay Area Council (BAC), and others, provide crucial connections between industry sectors and support business attraction and retention through their public and nonprofit programs. Statewide organizations such as CA FWD could also potentially support interconnections between the Bay Area and other regions' economic development activities.
- *Utilities:* The region's diverse utility providers must address decades of infrastructure underinvestment in industrial areas. Modernization and expansion of water, wastewater, energy, transportation, and broadband systems require coordinated public-private investment to establish reliable foundations for manufacturing growth.
- *Community and Environmental Organizations and Leaders:* Ensuring meaningful participation from historically marginalized communities and workers requires dedicated resources and engagement opportunities throughout planning and decision-making. This commitment helps prevent past patterns where large initiatives failed to incorporate the feedback of impacted stakeholders, transformative promises failed to materialize, and/or new industries introduced new community health and environmental impacts, adding additional burdens to communities already overburdened by economic and environmental disparities.

4. RESOURCING ACROSS THE STRATEGY

Implementing the Activation Plan requires sustained investment across public, private, nonprofit, and philanthropic sectors over ten years. Infrastructure investments are projected to range from $50 million to $100 million annually. Additionally, the collaborative must secure $5 million to $10 million per year to maintain essential planning, research, and engagement activities. These estimates exclude existing funding streams and programs that could support specific strategies, such as workforce training initiatives at community colleges. The funding requirements are structured as follows:

- *Planning, Policy, and Strategy Development*—Regional, state, and federal grants could raise $1 million to $2 million annually over five years to support comprehensive planning and policy initiatives.
- *Collaborative Process, Outreach, and Engagement*—Local and philanthropic grants could contribute $1 million to $2 million annually over five years to ensure robust stakeholder participation and community engagement.
- *Research and Prototyping Facilities and Equipment*—Federal and state grants and loans, complemented by private sector investment, could provide $10 million annually over five years to establish and maintain essential research infrastructure.

- *Workforce Development Programs*—Existing funding mechanisms through local and state workforce boards, community colleges, and unions could support comprehensive training programs, including paid apprenticeships.
- *Research and Development Activities*—Established funding sources could continue to support research and development, including DoE, National Science Foundation (NSF), CECs, universities, national laboratories, and battery startups.
- *Physical Infrastructure Investment*—Federal, state, regional, and local public agencies, alongside private sector partners, could provide up to $100 million annually over ten years to develop and maintain critical infrastructure.

BAY AREA CATALYST PROJECT

The BAJFC Steering Committee has allocated $1.5 million in Catalyst funding to Working Partnerships USA to implement the Bay Area High-Road Manufacturing Initiative, which spans Alameda, Contra Costa, San Mateo, Santa Clara, and Solano counties. The initiative brings together a coalition of partners, including the University of California Berkeley Labor Center, Bluegreen Alliance Foundation, CalCEF Innovations (New Energy Nexus), SEMI Foundation, California Federation of Labor Unions, Filipino Association of Workers and Immigrants South Bay, Step Forward Foundation, and Services and Immigrant Rights and Education Network, along with several cleantech businesses, community, labor, and workforce organizations, and local government.

The initiative will help establish a high-road manufacturing ecosystem by combining landscape analysis, strategic pilot projects, and collaborative stakeholder engagement. It will evaluate innovative strategies, build consensus on workforce and community standards, and mobilize resources to ensure that the manufacturing sector prioritizes job quality, equity, and sustainability while advancing California's climate objectives.

With Catalyst funding, the initiative will undertake three core activities: conduct comprehensive research and landscape analysis to understand the existing manufacturing ecosystem; develop a Code of Conduct and a regional high-road manufacturing action plan to establish clear standards and guidelines; and design and launch three strategic pilot projects:

- *Technical Assistance Program:* The initiative will provide specialized guidance to manufacturing employers and stakeholders pursuing state or federal funding opportunities, emphasizing the integration of high-road partnerships and agreements into their proposals.
- *Job Quality Enhancement Program:* Working with 3-5 pioneering high-road employers in San Mateo and Santa Clara Counties, this pilot will develop and implement equitable outreach, recruitment, and training strategies. It will create defined career advancement pathways for current manufacturing workers to progress into higher-level positions that meet market demand.
- *Battery Manufacturing Development Program:* This pilot will focus on establishing high-road battery manufacturing capabilities in Contra Costa County. Through collaborative engagement with employers, labor unions, community organizations, and other key stakeholders, the program will assess needs and design an implementation plan for a sustainable industrial campus dedicated to battery manufacturing, aligned with the county's just transition initiatives.

Several regional initiatives align with and complement this Activation Plan:

Green Empowerment Zone—The California Legislature established the GEZ through AB 844 to streamline access to financial resources in the renewable energy sector along the historic industrial corridor of northern Contra Costa County and Southern Solano County. This includes tax incentives, grants, loan programs, workforce development initiatives, and private investment opportunities.

Northern Waterfront Economic Development Initiative—This comprehensive strategy focuses on economic growth and job creation in Contra Costa County through five strategic sectors: advanced transportation, manufacturing, biomedical and biotech, agricultural technology, and clean technology.

Priority Production Area Pilot Program—Launched in 2022 by ABAG and MTC, this pilot program supports local governments in developing protective policies for essential industrial lands while expanding access to middle-wage employment opportunities.

San Francisco Bay Area Goods Movement Plan—MTC's 2016 regional goods movement plan requires updating to identify and prioritize infrastructure improvements for multimodal transportation access, including seaports, airports, railroads, and trucking routes. A comprehensive update is pending.

Plan Bay Area—This state-mandated long-term regional plan, developed jointly by ABAG and MTC, addresses transportation, land use, and housing needs while advancing affordability, connectivity, diversity, health, and vitality across the Bay Area. The next iteration of the plan is slated for approval by MTC and ABAG in late 2025.

5. GOALS AND METRICS

The sector strategy's primary objective is establishing a robust foundation for a new Bay Area industry cluster during phase one. Subject to adequate resource availability, key milestones include:

- *Coordination Entity Formation (12 months)*—Establish and operationalize a dedicated entity to oversee planning and implementation activities, as detailed in Tactic A.
- *Supply Chain Analysis (12 months)*—Complete comprehensive techno-economic analysis of key supply chain components, aligned with Tactic C.
- *Research Facility Planning (18 months)*—Conduct a thorough site suitability assessment for the core research facility, supporting Tactic C.
- *Workforce Development Framework (18 months)*—Establish comprehensive labor standards and workforce development strategy as outlined in Tactic D.
- *Health and Safety Standards and Programs (24 months)*—Develop health and safety standards and establish a community-led health risk monitor and reporting program as outlined in Tactic F.
- *Infrastructure Assessment (24 months)*—Complete Bay Area physical infrastructure evaluation to identify gaps and capacity constraints, supporting Tactic B.
- *Infrastructure Investment Planning (36 months)*—Develop a preliminary infrastructure investment strategy and implementation roadmap per Tactic B.
- *Regulatory and Environmental Review (36 months)*—Complete necessary planning, permitting, and environmental assessments for facility and infrastructure development, aligned with Tactic E.
- *Facility Construction Initiation (36 months)*—Begin construction of the research and innovation facility as specified in Tactic C.
- *Strategic Planning (48 months)*—Develop a five-year strategy for phase two implementation, supporting Tactic A.

The regional convener and sector coordinator will provide progress updates to the collaborative for these key milestones. A critical component involves assembling and maintaining a long-term stakeholder coalition. This coalition will drive several essential initiatives, as detailed in Tactic A:

- *Vision Development*—Create a unified cross-sector, cross-jurisdictional vision for the next-generation battery innovation and manufacturing hub
- *Organizational* Framework—Establish clear roles, responsibilities, and task delegation structures
- *Resource Mobilization*—Secure funding from federal, state, regional, local, and philanthropic sources while developing sustainable financing mechanisms.
- *Policy Advocacy*—Lead strategic initiatives for policy and systems change

Success Metrics (24-month horizon, through September 2026)

- *Stakeholder Alignment*—Secure two-thirds support from coordination entity member organizations for a unified vision and organizational framework

- *Funding Applications*—Submit a minimum of two grant applications to relevant agencies for Activation Plan components
- *Financial Commitment*—Secure a minimum $50 million implementation funding commitment

6. DEPENDENCIES AND CHALLENGES

Establishing a robust battery manufacturing ecosystem in the Bay Area requires addressing several critical challenges to create a durable foundation and sustainable supply chain:

- *Job Quality, Worker Rights, and Access*—Manufacturing positions must meet high-road job standards, ensuring accessibility for marginalized workers and opportunities for displaced fossil fuel workers, while providing family-sustaining wages and benefits. The Collaborative must promote employers who meet and surpass community and environmental standards and support worker organizing rights. While various community benefits and corporate governance models exist, they require customization to address specific Bay Area sector needs.
- *Regional Leadership and Mega-Regional Collaboration*—The Bay Area lacks a coordinating entity to unite regional stakeholders to develop a cohesive battery manufacturing ecosystem strategy. Essential stakeholders include community organizations, local jurisdictions, regional and state agencies, organized labor, business groups, industry associations, workforce boards, educational institutions, utilities, and research facilities. Additionally, no mechanism exists for coordinating approaches across the Bay Area, Sacramento, San Joaquin, Central Valley, Southern California, and Imperial/Riverside regions.
- *State Leadership*—A successful Bay Area battery manufacturing ecosystem requires guidance from a comprehensive statewide strategy that strengthens California's supply chain and material sourcing network. This state-level framework should establish unified standards, ensure equitable public investment distribution, enhance competitiveness for federal funding and private investment, and coordinate across state agencies and programs. Building institutional capacity at the state level supports long-term stakeholder collaboration for implementation and advocacy.
- *Physical Infrastructure Capacity*—Decades of regional underinvestment have left industrial areas with inadequate water, wastewater, power, broadband, goods movement, and land capacity. Legacy industrial areas require site remediation, parcel assembly, and modernized zoning and building standards. The dissolution of redevelopment agencies has limited local jurisdictions' technical expertise, authority, and funding to address these challenges. However, infrastructure revitalization could drive economic growth and create high-road construction jobs in marginalized communities.
- *Climate Resilience*—Bay Area industrial areas face direct and indirect climate vulnerabilities, including sea level rise, extreme heat, and wildfires. These challenges manifest through flooding, power outages, and disruptions to transportation, water supply, and broadband infrastructure. Enhancing climate resilience while protecting human and environmental health is crucial for attracting private investment. Emergency response and disaster preparedness capabilities must support rapid recovery after climate events.
- *Social Infrastructure Capacity*—Critical components include affordable childcare, early childhood education, workforce development, small business opportunities, and institutional barrier removal. Success requires a coordinated effort across public, private, and nonprofit sectors to develop programs serving workforce needs, particularly for marginalized workers.
- *Funding and Financing Tools and Resources—Implementation* requires both optimizing existing resources and securing new federal, state, regional, local, and private funding streams. California must expand public-private partnerships leveraging federal and state resources while addressing local jurisdictions' fiscal constraints in revitalizing industrial areas. The region needs expertise in combining funding mechanisms for large infrastructure investments while balancing business attraction incentives with development requirements.

- *Environmental Justice and Community Development*—Decades of housing and economic discrimination have resulted in disproportionate environmental and health burdens on low-income communities of color in the Bay Area. Addressing these environmental justice concerns as part of the growth of new industries is essential for community support of redevelopment efforts. California's Assembly Bill 617[4] demonstrates potential collaboration between regulatory agencies and community organizations. The region must also address historical underinvestment in affected communities' economic opportunities, social services, and public amenities.
- *Community and Environmental Health and Safety*—even though next-gen batteries are expected to be safer to handle, manufacture, test, and recycle, batteries are hazardous materials. Addressing the safety considerations is critical to the future growth of the battery industry.
- *Local Regulations and Building Standards*—Diverse jurisdictional requirements can inadvertently discourage investment and redevelopment. Current standards often fail to accommodate modern manufacturing needs that integrate research, development, testing, and production. While ABAG and MTC's Priority Production Area program addresses these challenges, its current scope requires expansion.
- *Commercialization Intermediaries*—California faces gaps in commercialization expertise following manufacturing's overseas migration. Organizations like New Energy Nexus and CEC programs support early-stage companies, but additional capacity building remains necessary.
- *Research and Testing Facility*—The region lacks accessible pilot lines and materials-testing facilities crucial for attracting manufacturers. A comprehensive research facility could accelerate technology development, facilitate researcher-startup collaboration, support commercialization, and integrate workforce training programs. A shared-use cell pilot line at this scale is now funded and under construction: the Electrochemistry Foundry (ECF) in Hayward, backed by a $28 million California Energy Commission award, with first users expected in early 2027. Materials synthesis and materials testing capacity remain outstanding.
- *Community Engagement and Transparency*—Community participation must shape strategy development from inception, supporting community stakeholders in understanding and minimizing the potential impacts of battery facilities and operations, as well as ensuring facilities support the workforce and economic development in communities through safety standards and community benefits frameworks. Philanthropic support should enable sustained community organization participation throughout the process.

[4] In response to Assembly Bill (AB) 617 (C. Garcia, Chapter 136, Statutes of 2017), the California Air Resources Board established the Community Air Protection Program (CAPP). The program's focus is to reduce exposure in communities most impacted by air pollution.

7. TACTICAL WORK PLAN MATRIX

Establishing a next-generation battery innovation and manufacturing hub in the Bay Area represents a strategic, long-term initiative that could span five to ten years. This transformative effort aligns with two core objectives of the California Jobs First Program: creating high-road employment for marginalized workers while accelerating clean energy technology development to support economy-wide decarbonization. This tactical work plan constitutes phase one of a comprehensive multi-year strategy, focusing on building a durable advantage for sustainable battery manufacturing excellence in the Bay Area. The initiative builds upon an existing consortium of engaged stakeholders, including startups, established companies, research institutions, national laboratories, labor organizations, community colleges, business groups, state agencies, and local communities. These entities are already actively involved in various stages of advanced electrochemistry-based energy storage development in the Bay Area, from research and prototyping to testing and commercialization. This ecosystem presents a unique opportunity to develop a cohesive Bay Area-based manufacturing foundation that can progressively expand across California and beyond.

While the Bay Area possesses a robust research and innovation infrastructure, it currently lacks comparable strength in industrial production capabilities. This manufacturing expertise has diminished over three decades as advanced production shifted overseas. Although the region holds significant potential for manufacturing sector growth, fundamental infrastructure constraints present substantial challenges. Consequently, this tactical work plan specifically addresses critical planning and capacity-building elements necessary for developing a next-generation battery manufacturing ecosystem. The collaborative envisions this initial phase as a catalyst for broader inter-regional and statewide collaboration across the complete supply chain. This encompasses material extraction and refinement in the Salton Sea, research and innovation in Silicon Valley, production facilities in the Bay Area, Sacramento region, and parts of the Central Valley, and recycling operations distributed across the state, creating an integrated and sustainable battery manufacturing network.

The primary objective of this tactical work plan is to position the region competitively within the emerging battery manufacturing industry cluster. Upon achieving this foundational goal, the strategy's subsequent phase will focus on attracting large-scale private-sector investment. In the interim, the industry is expected to demonstrate organic growth, leveraging the Bay Area's established strengths in technological innovation, business development, financial resources, and clean energy policy leadership.

This tactical work plan includes the following five tactics:

A. Form a Regional Coordination Entity to Guide Planning and Implementation

B. Identify and Prioritize Critical Infrastructure Projects

C. Design and Build a Research and Innovation Campus

D. Develop Labor Standards, Training Curriculum, Access and Recruitment Programs

E. Align Regulations, Development Standards, and Approval Processes

F. Safeguard Community and Environmental Health and Safety

TACTIC A: Form a Regional Coordination Entity to Guide Planning and Implementation

Purpose and Design Considerations: The establishment of a dedicated regional coordination entity represents a critical imperative for the Bay Area's battery manufacturing initiative. No existing organization currently possesses the comprehensive capabilities required to coordinate this effort at the necessary scale. Given the region's geographic scope and community diversity, a specialized entity focused solely on expanding the battery manufacturing ecosystem will ensure alignment across jurisdictions and sectors, foster cooperation to prevent counterproductive competition, and build political influence for securing major federal and state investments. The entity, structured either as a governing board or policy advisory committee, requires diverse representation across multiple sectors. Its membership should encompass community organizations and labor representatives, business groups and industry associations, local jurisdictions and government agencies, research institutions and higher education partners, public and private workforce development organizations, technical experts and technology specialists, startups and investment partners, commercial and industrial developers, and regulatory agencies. The geographic representation must be balanced across major industrial areas, particularly within Alameda, Contra Costa, Santa Clara, and Solano counties. While maintaining alignment with BAJFC principles, this entity will establish its independent work plan and implementation schedule focused on nine core priorities:

- *Coalition and Consensus Building*—Facilitate inclusive engagement to build broad-based support and alignment across stakeholder groups.
- *Community Engagement*—Maintain transparent communication with communities, ensuring consistent information flow and meaningful opportunities for input throughout the process.
- *Strategic Planning*—Develop and implement cross-sector five-year strategic action plans while serving as a sector intermediary to coordinate diverse stakeholder interests.
- *Legislative Advocacy*—Champion supportive policies at state and local levels, emphasizing the importance of state leadership in advancing the initiative.
- *Economic Development*—Create comprehensive marketing, promotion, and business development programs that support both established companies and small businesses.
- *Research and Assessment*—Conduct economic, financial, and technological assessments to inform decision-making and implementation.
- *Resource Development*—Coordinate funding applications across public, private, and philanthropic sources while optimizing the use of existing resources.
- *Regional Coordination—Align* Bay Area strategy with neighboring regions, particularly the Northern San Joaquin Valley, to create complementary development approaches.
- *Implementation Support*—Coordinate with federal, state, regional, and local organizations to ensure effective strategy implementation.

This entity's central role is to lead a high-road battery strategy for the region: setting labor and community standards as a condition of participation, not an optional add-on. Experience elsewhere in the region shows that this kind of commitment is what brings labor and community organizations to the table and that Bay Area manufacturers are willing to participate on those terms.

The Contra Costa High Road Battery Roundtable offers a working precedent for how this entity can operate: an eight-month, cross-sector process—covering employer needs, workforce strategy, environmental risk, and occupational health and safety—that produced an action plan for a high-road battery hub in the county. Contra Costa is now pursuing a U.S. EDA application to fund the next phase; the open question there, as here, is implementation.

Team: A 12- to 15-member entity could include representatives from community and labor organizations; business groups and industry associations; local, regional, and state governments; research and higher education institutions; workforce training providers; commercial and industrial developers; and regulatory agencies.

Costs: The annual operating cost for an entity of this size could range from $500,000 to $1,000,000. Potential fund sources include philanthropy, federal or state grants, and state budget appropriations. No specific funding source has been identified at this point.

Potential Metrics: The number of organizations that have signed commitment letters to become formal coalition members and the number of sectors represented on the governing board.

Tasks	*Responsible Party*	*Timeline*
Task A.1: Form and operationalize a **Regional Battery Manufacturing Coordination Council**, which will serve as a big tent for stakeholders and partners. Invite, recruit, and secure commitment letters from interested organizations. Create a charter with membership criteria, a decision-making process, and operating guidelines. Adopt a work plan within 3 months of operationalizing the Council.	*Lead*: TBD *Partner*: Funding entities, including public, private, nonprofit, and philanthropic organizations	Years 1 to 2
Task A.2: Develop a **Bay Area Strategy for Next-Gen Battery Innovation and Manufacturing and supply chains** to guide the Council's work over the following 5 years. Include an action plan that identifies projects and programs, a timeline for implementation, and lead/support entities.	*Lead*: Regional Coordination Council *Partner*: Committed consortium members	Years 1 and 2
Task A.3: Engage with other regions and the state to develop a **Statewide Strategy for Next-Gen Battery Manufacturing and supply chains**. Explore short- and medium-term partnerships with other states and overseas manufacturers to secure supply chains.	*Lead*: Regional Coordination Council *Partner*: GOBiz, committed consortium members	Ongoing
Task A.4: Create a **marketing and legislative advocacy platform** to inform public policy at the state and federal levels.	*Lead*: Regional Coordination Council *Partner*: GOBiz, committed consortium members	Ongoing
Task A.5: Advance state and local **procurement policy** for California-manufactured batteries and energy storage products made under high-road labor and community	*Lead*: Regional Coordination Council *Partner*: GOBiz, state legislature	Years 2 to 3

standards. California is one of the largest markets in the world for batteries and storage; procurement preferences are a lever this plan does not yet use.		
Task A.6: Ongoing technical assistance and support to consortium members.	Lead: Regional Coordination Council	Year 2 onwards

SPOTLIGHT: NORTHERN WATERFRONT ECONOMIC DEVELOPMENT INITIATIVE (NWEDI)

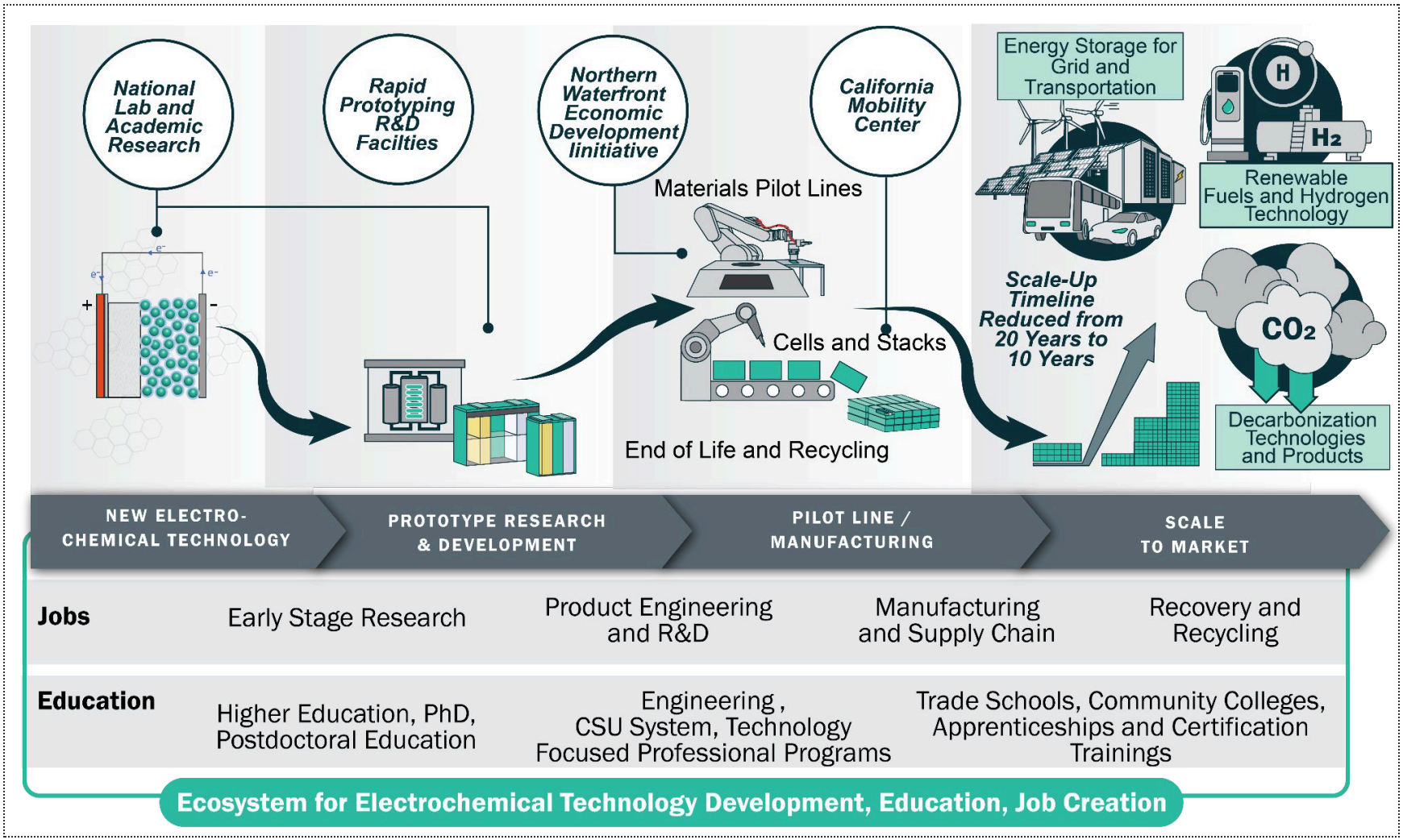
The NWEDI of Contra Costa County is a regional economic development strategy for the legacy industrial area along the 55-mile waterfront along the Carquinez Strait, Suisun Bay, and Sacramento-San Joaquin Rivers to create 18,000 new high-road jobs by 2035. The initiative leverages existing competitive advantages and assets to focus on five targeted industry clusters: advanced transportation, advanced manufacturing, biomedical/biotech, ag-tech and food processing, and clean-tech. The initiative has an opportunity to change health, education, and economic outcomes for all residents of Northern Waterfront communities, as described in the framework for community development. The hallmark of this initiative is the collaboration between the county and seven partner cities to enhance the economic vitality of the waterfront.

Source: https://www.contracosta.ca.gov/4437/Northern-Waterfront-Economic-Development

The Next-Generation Battery Innovation and Manufacturing Supply Chain

This graphic was developed as part of a federal grant application for a California-based next-generation battery innovation and manufacturing cluster and is presented here for information purposes only.

Source: Lawrence Berkeley National Laboratory, Energy Technologies, 2024



TACTIC B: Identify and Prioritize Critical Infrastructure Projects

Purpose and Design Considerations: The Bay Area's industrial infrastructure faces significant challenges following decades of underinvestment. As manufacturing capacity shifted overseas, the region experienced corresponding declines in private investment, technical expertise, and institutional capacity necessary for large-scale production. Revitalizing California's manufacturing sector requires substantial upfront investment across three critical domains: human capital, industrial facilities, and infrastructure systems. While infrastructure represents the most capital-intensive component, California has historically underutilized available federal and state funding mechanisms that could alleviate local tax burdens. The state must examine successful public-private investment models implemented in other states, particularly Texas and Florida.

Essential infrastructure modernization encompasses water and sewer systems, energy distribution, broadband networks, goods movement capabilities, wildfire preparedness, and emergency response systems. While these investments require significant capital, they represent a prerequisite for attracting sustained federal, private, and philanthropic investment. The region must conduct comprehensive assessments of capacity gaps, reliability concerns, and resilience requirements while developing a prioritized project portfolio addressing critical bottlenecks. This initial phase must be complemented by longer-term investment planning to support cluster growth. Several regional planning efforts are currently underway. MTC's pilot PPA Program provides preliminary infrastructure assessment funding for Alameda, Contra Costa, and Solano counties. ABAG secured additional EDA funding in 2023/2024 for two critical studies: the MILLS and industrial energy needs assessment. Additionally, MTC's mandate includes developing comprehensive land use and transportation plans, including goods movement assessment, though the most recent plan dates to 2016.

The Green Empowerment Zone (GEZ) Governing Board has made some progress. In July 2026, the UC Berkeley Labor Center presented findings from employer interviews identifying high electricity costs, long transformer installation timelines, and a lack of turnkey facilities as leading barriers to industrial investment. Growing competition for heavy-power sites from AI and robotics firms adds urgency to addressing this specific bottleneck. That said, employers describe what blocks them at the point of site selection, not what will constrain them at buildout. Solano and eastern Contra Costa have documented water, wastewater, and goods movement constraints that would surface later in that process. This tactic's scope stays regional and multi-system for that reason, while treating heavy-power site readiness as the immediate priority within it.

Pacific Gas and Electric (PG&E), Northern California's energy provider, has prioritized Sierra infrastructure resilience following recent wildfire damage and climate disruptions. This focus has resulted in an unreliable and costly industrial energy supply. Alternative solutions, such as industrial community microgrids, warrant exploration. Similarly, while federal and state broadband initiatives[5] are expanding community access, industrial areas remain underserved. These infrastructure challenges require comprehensive solutions to support manufacturing sector growth.

Team: Utility providers (water, wastewater, flood control, energy, and broadband); transportation infrastructure operators (truck routes, railroads, seaports, and airports); local jurisdictions and regional agencies; state agencies and legislature; labor organizations; community groups; business associations; and industry representatives.

Costs: Infrastructure development requires coordinated funding from multiple sources, including federal, state, regional, local, and private entities. Given the scale of investment required, public agencies will lead design, development, and funding efforts. For example, goods

[5] Broadband Equity, Access, and Deployment is a $42.45 billion grant program authorized by President Biden's Bipartisan Infrastructure Law. BEAD allocated over $1.8 billion for California to deploy or upgrade high-speed Internet networks to ensure that everyone has access to reliable, affordable, high-speed Internet service.

movement projects typically involve local public works departments, county transportation agencies, metropolitan planning organizations, the state Department of Transportation (Caltrans), the U.S. Department of Transportation (DoT), and private stakeholders such as the Port of Oakland. Specific funding sources remain to be identified.

Potential Metrics: Success will be measured against three key deliverables: completion of regional infrastructure assessment, development of a comprehensive industrial area investment plan, and creation of a targeted investment plan addressing critical bottlenecks.

Tasks	*Responsible Party*	*Timeline*
Task B.1: Conduct a **Regional Infrastructure Capacity Assessment** to determine gaps and deficiencies in water supply, wastewater treatment, power/energy, broadband, and goods movement systems that cater to industrial and nearby commercial areas. Sequence the assessment so the heavy-power site inventory is completed first, given it is the infrastructure barrier employers raise most often, within the broader capacity assessment. Coordinate the assessment with neighboring regions and the state. Include an industrial land inventory and development capacity assessment.	*Lead*: Regional Coordination Council *Partner*: Utility and special districts, local jurisdictions (public works departments), and County Transportation Agencies (CTAs)	Years 1 and 2
Task B.2: Develop a **Comprehensive Infrastructure Investment Plan** with a prioritized list of projects to increase capacity, modernize, and upgrade critical infrastructure in the Bay Area. Identify and seek federal and state funding and financing tools to make the improvements. Work with the state to streamline environmental review and approval/permitting. Include projects and programs to build climate resilience. Include a strategic power supply analysis as a named component, covering coordination with PG&E, clean energy microgrids for industrial areas, and site-specific generation and storage.	*Lead*: Regional Coordination Council *Partner and Support*: Utility and special districts, local jurisdictions (public works departments), CTAs, state legislature, federal agencies, and private sector investors, state and federal infrastructure banks and financing agencies	Within 24 months of completing the Regional Infrastructure Capacity Assessment
Task B.3: Coordinate with local, regional, and state regulatory agencies to **secure approvals and permits**. Support utilities and special districts, local jurisdictions, and CTAs on implementation. Work with the state to coordinate major infrastructure investments across regions. Address community and environmental impacts and externalities, especially in marginalized communities.	*Lead*: Regional Coordination Council *Partner*: Local jurisdictions, utilities, and special districts	Over the next 10 to 15 years, a shorter time frame for priority and critical infrastructure to clear bottlenecks

TACTIC C: Design and Build a Research and Innovation Campus

Purpose and Design Considerations: The Bay Area's next-generation battery innovation and manufacturing ecosystem faces a significant capability gap in supporting mid- to late-stage research, development, and commercialization activities. Through extensive engagement with battery startups and manufacturers, five critical infrastructure needs have emerged: advanced facilities for pilot-scale material synthesis and battery fabrication, comprehensive testing and validation capabilities for materials and battery cells, an integrated learning academy supporting workforce development and business incubation, collaborative spaces enabling co-location of academic and private sector research activities to accelerate prototyping processes, and basic machining, tooling, and fabrication for prototyping and testing facilities.

One of these needs now has a direct answer under construction. The Electrochemistry Foundry (ECF) in Hayward—backed by a $28 million California Energy Commission award—is building a 20,000-square-foot open-access, shared-use battery pilot manufacturing facility, the first of its kind in California. Construction is underway, with opening expected in late 2026 and first users in early 2027. This is real progress against the pilot-line need this tactic identifies, though materials synthesis and materials testing capacity remain outstanding, and ECF is not yet operating.

A STATEWIDE BATTERY MANUFACTURING STRATEGY?

The Bay Area can benefit from a statewide approach to developing California's battery manufacturing supply chain, which may include extraction, research and development, commercialization, and full production. Policymakers and stakeholders can collaborate on uniform labor, environmental, and regulatory standards for California, where the policy landscape is most conducive to innovation in clean energy technologies and markets. A self-reinforcing statewide ecosystem may include the following key components:

- Pilot lines for small-volume manufacturing runs, which could potentially be located in the Bay Area;
- System- and subsystem-level testing, also in the Bay Area;
- Pre-commercialization and validation, in the Sacramento area;
- Electrochemical prototyping and cell testing in the North San Joaquin Valley;
- Materials scale-up and recycling in the San Joaquin Valley (North and Central), as well as the "Lithium Valley" in Imperial County;
- Electrode prototyping and component testing in Southern California; and
- Full-scale manufacturing and recycling in the Central Valley and "Lithium Valley."

The State of California is best positioned to take the lead in bringing together multiple regions, stakeholder groups, and sectors to develop and implement a statewide sector strategy that protects all interests while moving the initiative forward without delay or political uncertainty. The appropriate department or agency to lead the work, however, is yet to be identified. But doing so is essential to the success of this initiative, especially if the state is seeking federal support. Leadership by the state is also essential to exploring long-term capacity-building and funding strategies.

The Bay Area can strengthen its position in high-road battery manufacturing by establishing these facilities within or adjacent to its existing research and innovation cluster. This ecosystem encompasses national laboratories, academic institutions, entrepreneurial ventures, established companies, and venture capital resources. Local jurisdictions and business organizations across Alameda, Contra Costa, and Solano counties are

actively evaluating potential locations for either a consolidated facility or an interconnected network of facilities within established industrial zones. The development of these facilities presents several substantial implementation challenges that require coordinated resolution: site selection demands locations with robust existing infrastructure capacity or clear upgrade pathways; funding and financing mechanisms to support facility construction, equipment acquisition, and ongoing programming; an effective operational entity to manage the facility requires nonprofit or similar organizational governance; environmental clearances from state authorities and local building permits require comprehensive planning and coordination; and assembling qualified teams to direct various specialized programs and services demands strategic recruitment and retention efforts. This integrated facility development approach will enhance the region's ability to bridge current gaps between research innovation and commercial manufacturing capabilities while supporting workforce development and economic growth objectives.

SUPPLY CHAIN SEGMENTS FOR BATTERY MANUFACTURING
Source: NAATBatt/NREL Lithium-Ion Supply Chain Database (June 2023)

Upstream Segments	Midstream Segments	Downstream Segments
• Critical Mineral Mining • Raw Material Manufacturing • Battery Grade Component Manufacturing • Other Components and Materials Manufacturing	• Electrode and Cell Manufacturing • Modules and Packs Manufacturing	• End of Life/Recycling • Equipment Manufacturing • Research and Development • Service and Repair • Modeling and Distributors

Progress to Date: The Bay Area High-Road Manufacturing Initiative's Contra Costa High-Road Battery Innovation Hub Strategy (July 2026) has produced the plan's first substantive analytical deliverables. The Employer Assessment Brief and site assessment, including JLL's commercial real estate mapping, advance Task C.2 (Site Suitability Assessment) for the Contra Costa half of the Contra Costa–Solano comparison. The Battery Value Chain Analysis advances Task C.1 (Techno-Economic Analysis) by establishing competitive positioning, though it does not yet cover facility programming. The Environmental Assessment advances Task F.1. These should be recorded as the plan's first substantive deliverables, alongside the range of other efforts underway across the region, including the MTC Priority Production Area grants and the ECF award.

Team: An informal group of partners and stakeholders is currently leading the effort to program, fund, build, and operate the research and innovation campus/facility, including LBNL, CEC, CMC, and GOBiz. Stakeholders working on the workforce development aspect of this initiative include the UC Berkeley Labor Center, Blue Green Alliance, and NEN, which were recently funded through the California Jobs First Catalyst Program. Business organizations interested in participating in this effort include EBEDA, Solano EDC, and BAC.

Costs: A pilot line and research facility in the Bay Area will cost between $15 and $25 million. Land and infrastructure costs could be in the 100s of millions of dollars. While project proponents expect to make the operations cost-neutral, initial startup costs may also be in the millions. Potential funding sources include federal grants and tax incentives through recent clean energy and infrastructure legislation, state climate initiatives, the private sector, and philanthropy. No specific funding source has been identified at this point.

Potential Metrics: Technical assessments and analysis, program design, and nonprofit formation are completed by the end of year 2; construction of the facility/campus begins by year 3.

Tasks	*Responsible Party*	*Timeline*
Task C.1: Conduct a **Techno-Economic Analysis** to understand industry needs and develop detailed programming for the facility, including details on space, laboratory, equipment, circular and shared infrastructure (hazardous waste handling, wastewater treatment, water recycling, and scrap material recovery operated in common across tenants), and other requirements. Focus on the Bay Area's durable advantage in research and development, rapid prototyping, materials pilot lines, and "end of life" use and recycling. Estimate preliminary costs for full buildout, with a phased approach. The Battery Value Chain Analysis prepared for the Contra Costa High-Road Battery Innovation Hub Strategy advances this task by establishing competitive positioning; it does not yet cover the facility programming called for here. Account for capacity already available from the region's contract manufacturers.	*Lead*: LBNL *Partner and Support*: SLAC National Accelerator Laboratory, UC Davis, UC Berkeley, Stanford University, startups and investors, CMC, CEC, and Electrochemistry Foundry, NEN, CALSTART, and overseas partners and investors	Year 1
Task C.2: Conduct a **Site Suitability Assessment** for an innovation hub, comparing candidate sites across Alameda, Contra Costa, and Solano counties before any site is chosen. Shortlist three sites for a detailed analysis. Develop detailed site requirements and a list of evaluation criteria. Ensure that industrial activity is broadly defined as research and development, manufacturing, and warehousing. Ensure businesses have room to grow and are appropriately sited to minimize environmental or community impacts. Consider proximity to the goods movement infrastructure. The Regional Coordination Council makes the final site selection decision, based on the criteria above and consistency with the region's shared strategy. The Employer Assessment Brief and site assessment prepared for the Contra Costa High-Road Battery Innovation Hub Strategy, including JLL's commercial real estate mapping, advances this task for the Contra Costa half of the comparison.	*Lead*: LBNL *Partner*: local jurisdictions, community organizations, property owners, GOBiz, battery startups, investors, and Electrochemistry Foundry	Year 1

Task C.3: Set up a **Nonprofit Organization** for day-to-day management and operations for the facility and associated programs and services. Develop a business plan to sustain the organization over time (including user fees for facilities and services to fund operations.)	*Lead:* GOBiz and CEC *Partner and Support*: LBNL, SLAC National Accelerator Laboratory, UC Berkeley and Davis, Stanford University, startups and investors, NEN	Year 2
Task C.4: Develop a **Learning Academy** co-located with research and development functions to host internships, paid apprenticeships, and workforce training activities. Partner with labor, community colleges, workforce boards, school districts, and industry associations to run programs. Focus on recruitment and training for marginalized communities (both youth and workers). Strengthen partnerships with school districts.	*Lead*: Electrochemistry Foundry *Partners*: Labor, community colleges, workforce boards, adult schools, school districts, nonprofit training providers, industry, LBNL, NEN, CALSTART, CMC, CEC	Year 1
Task C.5: Develop a **Fundraising and Financing Toolkit** for key stakeholders and partners to begin raising resources for building the facility. Seek public, private, nonprofit, and philanthropic funding for various aspects of the project. Develop a marketing and advocacy campaign. Develop information and educational materials for potential funders.	*Lead*: Regional Coordination Council *Partner and Support*: State legislature, federal agencies, private sector (startups, established firms, investors), labor, philanthropy, community organizations, GOBiz and CEC	Years 1 and 2
Task C.6: Develop **Community Benefits and Project Labor Agreement Templates** for the construction and operation of the facility	*Lead:* Labor unions, community organizations, local elected representatives, local jurisdictions, business organizations *Partners:* GOBiz	Year 1

SPOTLIGHT: $125 MILLION FOR TWO BAY AREA ENERGY INNOVATION HUBS

In September 2024, the U.S. Department of Energy (DOE) announced $125 million in funding for two Energy Innovation Hub teams in the Bay Area to provide the scientific foundation needed to seed and accelerate next-generation technologies beyond today's generation of lithium (Li)-ion batteries. These multi-institution research teams, led by Argonne National Laboratory and Stanford University, will develop scientific concepts and understanding to impact transportation decarbonization and clean energy integration into the electric grid.

Source: DOE Press Release, https://www.energy.gov/

TACTIC D: Develop Labor Standards, Training Curriculum, Access & Recruitment Programs

Purpose and Design Considerations: The Bay Area has an expansive system of public, private, and nonprofit workforce development and training organizations, including community colleges, adult schools, private training providers, labor unions, joint labor-management apprenticeships, and workforce development boards. While community colleges and adult schools largely focus on occupations, credentials, and formal degree programs, workforce boards, labor, and private training providers focus on short-term skills training and apprenticeship programs to get workers into available jobs.[6] Each entity plays a critical role in providing training programs to workers, which prepares qualified workers for employers. Short-term training providers are nimbler and can respond faster to market demand, while longer-term training providers help define credentials and career pathways in established industries. In addition, labor and public agencies work with industry to define labor standards and determine what constitutes safe working conditions. For this ecosystem to support the nascent next-gen battery innovation and manufacturing industry cluster, the workforce development and training systems need to work together to define industry requirements, develop training programs, provide access to these programs—especially for marginalized workers—and deliver high-quality programs and services.

Standards and training are necessary but not sufficient. Research presented to the GEZ Governing Board in May 2026 by the UC Berkeley Labor Center and UC Irvine found that productivity gains in manufacturing come from bundling tasks into broader, less routinized roles—a production worker who runs equipment, troubleshoots faults, checks quality, and reports problems to engineering, rather than one who feeds a machine—and that these gains are most pronounced in high-technology manufacturing. Job quality in this sector depends as much on how firms organize production as on the standards and training this tactic sets. That includes how firms move people up. Even in a high-technology subsector, some jobs will be entry-level and pay less. What makes them good jobs is a clear way forward: defined steps from operator to technician to lead or specialist, training during paid hours, and pay that rises as workers build and show new skills. These ladders don't appear on their own. Each firm has to build and maintain them, and many will need help doing it.

Team: Several organizations and stakeholders must be included in implementing this tactic, including workforce development boards (10 in the Bay Area), community colleges (28), the Bay Area Community College Consortium, labor organizations that run apprenticeship programs, school districts and their high school career technical education (CTE) programs, Regional Occupational Programs (ROPs), the California State University system, the UC system, private universities, national laboratories, industry and employers, and state agencies. Different lead organizations would lead the tasks identified below, each with its appropriate process and timeline.

Costs: This tactic will focus on developing programs, standards, and guidelines. While most lead and partner organizations should be able to incorporate the work in their annual work plans, smaller entities may need stipends to offset staff costs to participate in this effort. Given the scope of the work, this tactic may benefit from hiring a technical consultant and a process facilitator. The cost of planning activities might range from $1 to $2 million over 2 years. The most likely sources of funding include GOBiz, workforce development boards, labor organizations, and philanthropy. No specific funding source has been identified at this point.

[6] Some employers partner with labor unions to provide longer-term apprenticeship programs. For example, construction apprenticeships typically include 4-5 years of paid on-the-job and classroom instruction in a specific trade, resulting in an industry-recognized occupational credential (e.g., journeyman electrician). These programs are jointly funded by unions and industry, and the curriculum is co-developed and updated to meet industry needs. These mechanisms help set skills certifications, career pathways, and labor standards.

Potential Metrics: The number of organizations engaged in this process, by task, by organization type (workforce development boards, community colleges, school districts, adult schools, labor organizations, private training providers, industry partners, research institutions, etc.).

Tasks	*Responsible Party*	*Timeline*
Task D.1: Engage with industry to identify **skillsets, certifications, accreditations, and occupations** associated with this sector to support next-gen battery research and development, prototyping, and testing, pre-commercialization, and industrial production activities.	*Lead*: Community colleges, workforce development boards, labor *Partner and Support*: Employers, industry associations, research institutions, Electrochemistry Foundry, Bay Area Community College Consortium, California Federation of Labor Unions, UCB Labor Center	Year 1; every 2-4 years thereafter
Task D.2: Scan **existing workforce training programs** across public, private, and nonprofit providers to identify gaps, overlaps, and opportunities for alignment. Evaluate different models for providing training and support, including employer-provided, on-site training. Interviews across the clean energy manufacturing sector found that firms—especially start-ups and transitional firms—report little difficulty filling positions but are largely unfamiliar with community colleges, apprenticeships, and other training providers: open to partnership but unsure where to begin. Include mapping and consolidating program information for employers as part of this task, alongside the gap analysis. The occupational profile of next-generation battery production specifically still needs to be established separately from the broader clean energy manufacturing sector.	*Lead*: Community colleges, workforce development boards, labor *Partner and Support*: Employers and industry associations, Bay Area Community College Consortium, California Federation of Labor Unions, UCB Labor Center	Year 1; every 2-4 years thereafter
Task D.3: Develop an **occupation-based curriculum** for short- and long-term training programs. Ensure access for marginalized workers. Develop occupational standards and identify wrap-around services needed to support workers and employers. Focus on developing industry-level training to ensure workers are better positioned to advance in multiple industries.	*Lead*: Community colleges, workforce development boards, labor *Partner and Support*: Employers, industry associations, research institutions, Bay Area Community College Consortium, California State Universities, University of California System, private colleges	Year 2; review and update as needed
Task D.4: Develop a **paid internship and**	*Lead*: Workforce development boards, labor, school districts	Years 1 and 2

apprenticeship/pre-apprenticeship program to build a pipeline of skilled and trained workers, especially from marginalized communities. Strengthen ties with high school Career Technical Education (CTE) programs and Regional Occupational Program (ROPs), workforce investment board programs, and vocation apprenticeships. Ensure program participation leads to nationally and sectorally recognized and accredited qualifications, ongoing technical and on-the-job training, and integration with industry-recognized career pathways.	*Partner and Support*: Employers and industry associations, Bay Area Community College Consortium, state legislature, State Department of Industrial Relations, California Federation of Labor Unions, UC Labor Center	
Task D.5: Update the region's workforce development boards' **5-year strategic plans** to incorporate next-gen battery manufacturing as a priority field.	*Lead*: Workforce development boards in the Bay Area *Partner and Support*: Community colleges, adult schools, school districts, labor, and private training providers	Year 2 onwards
Task D.6: Set **industry-wide labor standards and responsible labor practices** that can serve as a template for project labor and workforce benefits agreements with employers (for construction and manufacturing). Ensure employers create high-road jobs that pay family-sustaining wages and benefits, commit to union neutrality, avoid job misclassification, and minimize reliance on contract workers. Incorporate workplace health and safety standards and hiring and procurement policies that overcome institutional barriers for marginalized workers. Incentivize community health and wellness commitments, employer-paid work-based skills-enhancement training, and supply chain reporting (labor and environmental standards). Create career advancement pathways, especially for entry-level jobs. Offer collaborative models for management-labor cooperation. Labor standards work best when paired with technical assistance to firms on work organization so that high-road practice registers as a productivity gain rather than a cost.	*Lead:* Manufacturing and building trades unions, California Federation of Labor Unions, BlueGreen Alliance, UCB Labor Center, *Partner and Support:* Industry, Regional Coordination Council, Workforce development boards, additional community and worker advocacy organizations, California Labor and Workforce Development Agency, U.S. Occupational Safety and Health Administration	Years 1 and 2
Task D.7: Develop guidelines and policies for a **local recruitment and hiring program** for marginalized workers and underinvested communities. Set targets for recruitment into training and paid apprenticeship programs. Address institutional barriers when filling job openings. Ensure that	*Lead:* Labor organizations, worker and community advocacy organizations, elected officials, industry representatives *Partner and Support:* Regional Coordination Council, employers, UCB Labor Center, BlueGreen Alliance, workforce development boards, California Labor and Workforce	Years 1 and 2

workers get a return on investment (time and resources) for participating in these programs.	Development Agency	
Task D.8: Develop an **industrial worker transition program** that moves refinery and other industrial workers into battery manufacturing roles, using a transferable skills assessment followed by bridge training. This operationalizes the plan's just transition commitment, which does not yet have a task attached to it.	*Lead*: Workforce development boards, labor *Partner and Support*: Employers and industry associations, Regional Coordination Council, UCB Labor Center, California Labor and Workforce Development Agency	Years 2 and 3

SPOTLIGHT: THE FEDERAL BATTERY WORKFORCE INITIATIVE (BWI)

The U.S. Department of Energy National Energy Technology Laboratory (*Battery Workforce Initiative | netl.doe.gov*) in coordination with the U.S. The Department of Labor, the Working for America Institute, the Li-Bridge alliance, and other organizations have developed nationally accepted training guidelines to support the rapid development of a globally competitive advanced battery manufacturing industry in the U.S. The BWI is designed to strengthen the domestic economy and clean energy supply chains by helping employers meet the increasing demand for skilled workers spurred by private investment in this emerging domestic industry. The purpose of the BWI is to:

- Develop national training program guidelines for key occupations in the industry.
- Adopt and implement a work-based learning approach that is responsive to the needs of employers and workers.
- Establish programs that combine on-the-job training and classroom instruction in a job training model that resembles an apprenticeship.
- Support training pilots to grow jobs in the domestic battery supply chain.
- Increase worker retention and create career pathways to attract diverse workers to the nation's rapidly growing battery manufacturing industry.

BATTERY MANUFACTURING OCCUPATIONS

Sources: Projecting the Demand for Workers in the Production of LithiumIon Batteries in the United States, W.E. Upjohn Institute for Labor Research; and Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook. EASTBAY*Works* Technician Career Guide: https://www.eastbayworks.com/wp-content/uploads/2026/01/CareerPath-Technician.pdf

Occupations Category	***National Median Wage (2022)***	***Typical Education Needed for Entry***	***Typical On-the-Job Training Needed to Attain Competency***
Production Workers	$34,670 to $60,800	No formal education /	Short-, Moderate-, and Long-Term

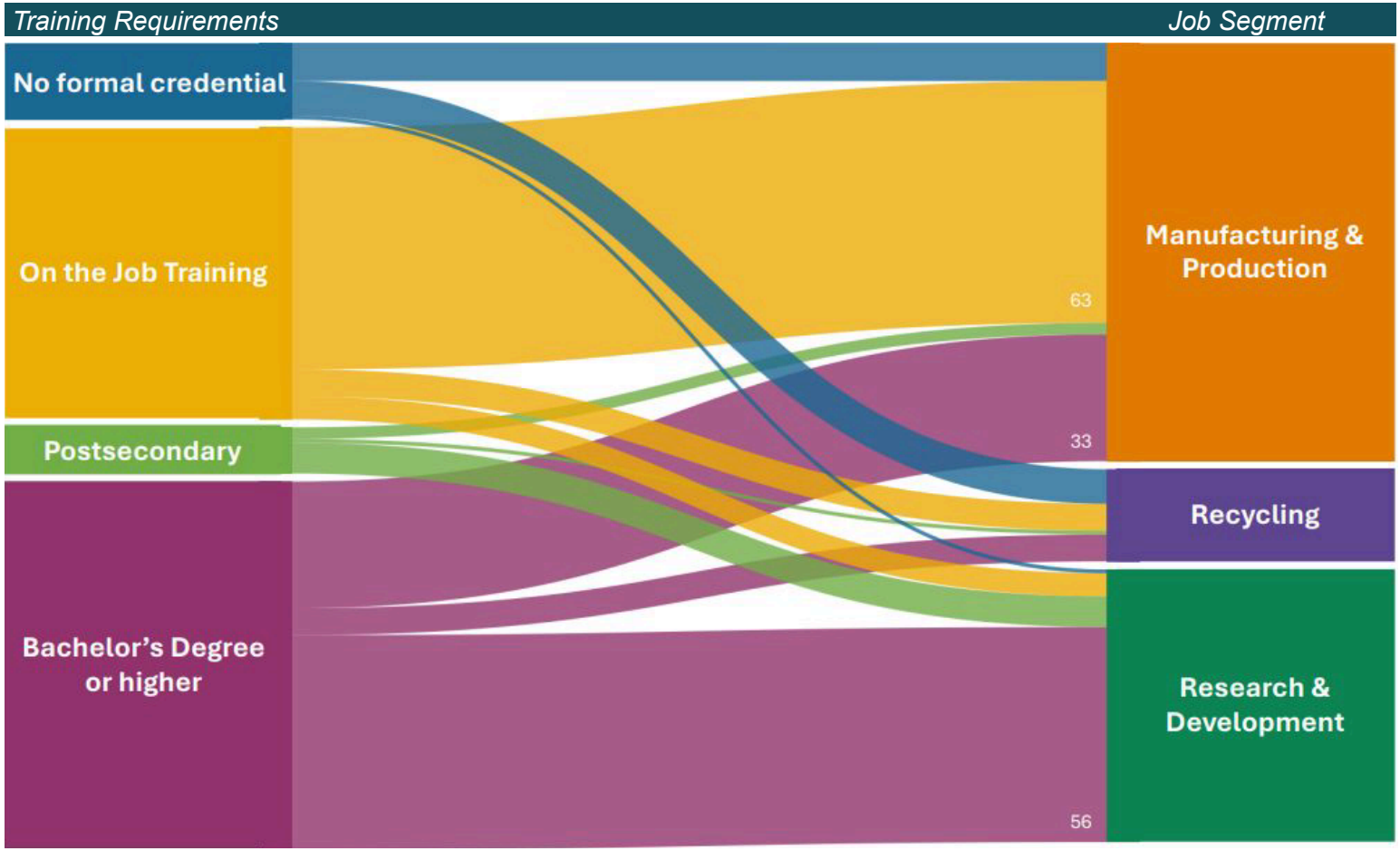
		High school diploma or equivalent	
Production Technicians	$65,000 to $95,000 (Bay Area)*	High school diploma or equivalent, plus a certificate, apprenticeship, or on-the-job training	Long-Term (1–3 years)
Metal and Plastic Workers	$37,050 to $59,800	High school diploma or equivalent	Mostly Moderate-Term
Engineers	$89,940 to $132,360	Bachelor's degree	None
Material Moving Workers	$32,920 to $61,340	No formal education / High school diploma or equivalent	Short- to Moderate-Term
Business Operations Specialists	$63,080 to $95,290	Bachelor's degree	None to Moderate-Term
Other Installation, Maintenance, and Repair	$35,100 to $82,340	High school diploma or equivalent	Short-, Moderate-, and Long-Term
Specialties Managers	$98,560 to $164,070	Bachelor's degree	None
Supervisors of Production Workers	$63,510	High school diploma or equivalent	None
Sales, Wholesale and Manufacturing	$63,230 to $97,710	High school diploma or equivalent / Bachelor's degree	Moderate-Term

*Bay Area pay range from EASTBAY Works, Career Path – Technician (2026). Other rows show national medians.

Training Requirements by Job Postings: Battery Manufacturing

In September 2024, an analysis of 204 battery manufacturing job postings on Indeed.com, an online job posting platform, found around 53 percent were classified as *Manufacturing and Production* jobs, 12 percent as *Recycling* jobs, and 35 percent as *Research and Development* jobs. Around 10 percent of these postings required no formal credentials, 37 percent required on-the-job training, 47 percent required a Bachelor's degree or higher, and 12 percent required a postsecondary education, mostly for Research and Development jobs.

Source: *Projecting the Demand for Workers in the Production of LithiumIon Batteries in the United States*, W.E. Upjohn Institute for Labor Research; and Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook



TACTIC E: Align Regulations, Development Standards, and Approval Processes

Purpose and Design Considerations: This tactic's goal is to increase the supply of permit-ready industrial sites suitable for battery manufacturing and shorten the time it takes a manufacturer to get from site selection to operation, focused on Alameda, Contra Costa, Santa Clara, and Solano counties—the same industrial geography named throughout this plan. The Bay Area has 109 local jurisdictions, each with its own land use and zoning regulations, building standards, approval processes, and fees. In addition, several regional and state regulatory agencies issue permits for industrial activity. The mission of local, regional, state, and federal agencies is not always aligned, although sometimes that is intentional, to strengthen checks and balances. Support for new development and investments in existing communities also varies widely. Under state law, individuals or organizations can delay or halt projects based on direct or indirect environmental concerns.

Given all this, the Bay Area must engage all relevant jurisdictions, regulatory agencies, and communities in the planning process from the start. Engagement and transparency can build trust and strong partnerships among stakeholders as they collaborate on aligning and streamlining regulations, development standards, and approval and permitting processes. Addressing this challenge is critical to creating a predictable and stable business environment that facilitates public and private sector investments. Some of this work is already underway in Alameda, Contra Costa, and Solano counties. Jurisdictions in all three counties received planning grants from ABAG and MTC through the pilot PPA grant program. These projects are expected to be completed by June 2026. However, more must be done to align approval processes across state and local agencies, especially as the industry cluster expands.

Team: Public agencies with regulatory authority include local jurisdictions, the air district, any lead public agency (for the California Environmental Quality Act), and state enforcement departments. Support from community groups, elected officials, labor organizations, and industry associations is also critical. This tactic requires all these entities and groups to work collaboratively, ensuring that permitting streamlining does not undermine community and environmental standards.

Costs: This tactic will focus on developing policies and guidelines for adoption by respective agencies. While most lead or partner organizations should be able to incorporate the work in their annual work plans, smaller entities may need stipends to offset staff costs to participate in this effort. Given the scope of the work, this tactic may benefit from hiring a technical consultant and a process facilitator. The cost of planning activities might range from $2 to $3 million over 3 years, especially for community plans. The most likely sources of funding include GOBiz, the Governor's Office of Land Use and Climate Innovation (LCI), philanthropy, and local and regional planning organizations. No specific funding source has been identified at this point.

Potential Metrics: The number of organizations involved in this process.

Tasks	*Responsible Party*	*Timeline*
Task E.1: Conduct an **assessment of policies, standards, requirements, and regulations** at the local, regional, state, and federal levels to understand the scale and severity of the challenge. Consider the perspective of permitting entities and industry (including commercial and industrial real estate	*Lead*: Regional Coordination Council *Partner*: Local, regional, state, and federal permitting and regulatory agencies, industry, and local community organizations	Years 1 and 2

developers) in developing recommendations. Explore the formation of a trade zone.		
Task E.2: Develop **model language and recommendations** for local, regional, state, and federal agencies to align and streamline regulations, standards, and processes across multiple jurisdictions. Develop a process for reviewing and updating them periodically. Consult with the state legislature to adopt supporting policies and environmental compliance procedures. Include, as model practices, the approaches Fremont, Hayward, and Alameda use to grow advanced manufacturing: by-right or administrative permitting for clean energy manufacturing in appropriate zones and employer concierge programs that assign a single point of contact to move a project through the city's permitting process.	*Lead*: Regional Coordination Council *Partner*: Permitting and regulatory agencies, industry, state legislature, and local community organizations	Years 1 and 2
Task E.3: Develop and implement an **education and engagement campaign** to engage communities early enough in the process to help shape where and how battery manufacturing facilities get built, especially in marginalized communities and workers who live/work in or near legacy industrial areas. Fund community organizations to participate in the process. Develop model practices for occupational health and safety and emergency response, since the primary risk from next-generation battery manufacturing is in hazardous materials handling rather than community exposure. Site higher-risk facilities away from residential populations. Work with the Bay Area Air Quality Management District (BAAQMD) to require and enforce facility-level pollution controls.	*Lead*: Various local community organizations *Partner*: local jurisdictions, regulatory and permitting entities, public health departments	Years 1 to 3
Task E.4: Develop **community benefits plans** for each impacted community in partnership with local organizations representing marginalized communities, especially those who have experienced long-term disinvestment and environmental impacts. Consider a community benefits ordinance model alongside project-by-project agreements: an ordinance is a city council action that sets a binding, enforceable floor applying to all qualifying future projects, and it survives changes in political leadership rather than needing	*Lead*: Various local jurisdictions and community organizations *Partner*: Community organizations, industrial and commercial developers, employers and investors, and state legislators	Years 2 to 3

renegotiation each time. The EPA's community benefits calculator (maintained through the Kansas State technical assistance program) and a community benefits ordinance hub with model language and advisory board guidance are useful starting references. Consider attaching a project size or investment threshold so that requirements fall on large facilities rather than on small manufacturers and start-ups scaling out of the pilot stage—a design consideration suggested by Josh Sonnenfeld, UC Berkeley Labor Center.		

TACTIC F: Safeguard Community and Environmental Health and Safety

Purpose and Design Considerations: While any new industrial activity will comply with strict state and federal community and environmental health and safety standards, guidelines, and protocols, the Collaborative must prioritize the safety of disadvantaged communities that have historically borne a disproportionate health burden from legacy industrial activity. And while next-gen batteries are expected to be far safer to handle, manufacture, and maintain, the Collaborative must work with regulatory agencies, local communities, industry partners, and emergency response entities to develop additional precautions through independent verification. Accidents happen. So, public agencies and the private sector must develop community-centric plans, procedures, and protocols to mitigate harm, compensate for damages, and expedite recovery. These efforts must prioritize and safeguard community and environmental health and safety.

Team: Local, regional, state, and federal agencies with regulatory authority over environmental quality and public health, local community-based organizations, nonprofit advocacy organizations, local jurisdictions, industry experts, labor organizations, and research institutions.

Costs: The qualitative portion of the assessment work is partly funded through the Catalyst Program. A detailed assessment could cost $500,000 to $1 million over 18 months. Implementing the monitoring and notification system in local communities may range from $5 million to $10 million over 10 years. Regulatory agencies like the Bay Area Air District (BAAD) could fund the assessment and monitoring work. The U.S. Environmental Protection Agency (EPA) and the California Department of Toxic Substances Control (DTSC) could fund planning and implementation activities. No specific funding source has been identified at this point.

Potential Metrics: A hazard mitigation and emergency response plan is developed before breaking ground on the research and innovation campus, and the number of endorsements from community organizations for the plan.

Tasks	*Responsible Party*	*Timeline*
Task F.1: Conduct a **sector- and facility-level assessment** of potential impacts/externalities from material handling, manufacturing, and testing operations and processes on neighboring communities and environmentally sensitive resources. Start from the PSE Healthy Energy assessment already prepared for BAHRMI and the GEZ and scope any additional work to what it does not cover, rather than commissioning a study that substantially repeats it.	*Lead*: Regional Coordination Council, LBNL, regulatory agencies *Partners*: Local, regional, state, and federal regulatory agencies, industry, local community organizations, fire departments, emergency response agencies, BlueGreen Alliance, county public health agencies	Years 1 and 2
Task F.2: Develop a **hazard mitigation, disaster response, and emergency coordination plan** for battery research, manufacturing, and storage facilities. Identify any evacuation procedures, routes, and protocols. Engage local communities through education and information dissemination. Develop best practices and industry standards for safe industrial operations. Begin with a review of how Fremont and Hayward	*Lead*: Regional Coordination Council *Partners*: Local, regional, state, and federal regulatory agencies, industry, local community organizations, fire departments, emergency response agencies, BlueGreen Alliance, county public health agencies	Years 1 and 2

administer hazardous materials permitting for manufacturers in-house—Fremont retains specialist consulting support—before designing anything new.		
Task F.3: Develop a **community partnership model** that ensures the regulatory framework requires and enforces facility-specific controls; adopts occupational health and safety practices that protect workers from hazardous chemical exposure and limit community risk; sites higher-risk facilities away from residential populations; makes site-specific monitoring and reporting publicly available; and accounts for cumulative impacts in permitting. Community monitoring, including sensors and alert systems, stays in the plan as an option to be scaled to facility type and size, rather than as a blanket commitment.	*Lead*: Community-based organizations *Partners*: Industry experts, emergency response agencies, regulatory agencies, county public health agencies	Years 1 and 2
Task F.4: Develop a **worker health and safety framework** for battery research, manufacturing, and testing facilities, covering shared safety training, emergency response planning, worker voice, and cross-company learning. Tasks F.1 through F.3 address community and environmental exposure; this task addresses safety for workers inside the facility.	*Lead*: Manufacturing and building trades unions, industry *Partner and Support*: Regional Coordination Council and Sector Coordinator, BlueGreen Alliance, UCB Labor Center, U.S. Occupational Safety and Health Administration	Years 1 and 2

PATH FORWARD

An economy-wide decarbonization will require advanced battery technologies with much higher energy density, longer charge cycles, operating lives, and uncompromised safety and durability even in harsh operating conditions. Significant research and development of this technology is already underway in national labs, universities, select startups, and established firms in the Bay Area. However, the scientific capacity is not matched by an equally robust ecosystem of advanced testing and manufacturing facilities, reliable materials sourcing, workforce training programs, and supportive infrastructure. Industry outreach has confirmed the need and urgency for developing testing, prototyping, manufacturing, and commercialization capabilities in the Bay Area.

Next-generation battery manufacturing presents a one-in-a-lifetime opportunity for local communities to leverage federal and state investments to revitalize underutilized legacy industrial areas into job centers for clean energy industries. Given the projected global market demand, one or more global hubs for next-generation batteries will emerge over the next two to five years. The Bay Area and California must act to capture at least a part of the resulting economic benefit for local communities, marginalized populations, and workers at risk of displacement from the evolving energy industry, especially since California is the largest market for clean energy products and services and boasts a supportive public policy and legislative environment.

ACRONYMS

ABAG	Association of Bay Area Governments
BAAD	Bay Area Air District
BAJFC	Bay Area Jobs First Collaborative
BIL	Bipartisan Infrastructure Legislation
Caltrans	California Department of Transportation
CEC	California Energy Commission
CEDS	Bay Area Comprehensive Economic Development Strategy
CHIPS Act	CHIPS and Science Act
CMC	California Mobility Center
CTA	California Transportation Agency
CTE	Career Technical Education
CTWI	Construction Trades Workforce Initiative
DCD	Contra Costa County Department of Conservation and Development
DoC	U.S. Department of Commerce
DoE	U.S Department of Energy
DoT	U.S. Department of Transportation
DTSC	California Department of Toxic Substances Control
EBEDA	East Bay Economic Development Alliance
EDA	U.S. Economic Development Agency
EPA	U.S. Environmental Protection Agency
EJ	Environmental Justice
EV	Electric Vehicle
GEZ	Green Empowerment Zone
GOBiz	California Governor's Office of Business and Economic Development
LCI	California Governor's Office of Land Use and Climate Innovation
IRA	Inflation Reduction Act
LBNL	Lawrence Berkeley National Laboratory
LLNL	Lawrence Livermore National Laboratory
MILLS	Climate Resilient Manufacturing, Industrial Lands, and Logistics Strategy
MTC	Metropolitan Transportation Commission
NEN	New Energy Nexus
NSF	National Science Foundation
NWEDI	Northern Waterfront Economic Development Initiative
OSHA	U.S. Occupational Health and Safety Administration
PG&E	Pacific Gas and Electric
PPA	Priority Production Areas
ROP	Regional Occupational Program
SVLG	Silicon Valley Leadership Group
Solano EDC	Solano Economic Development Corporation
UC	University of California