



AGENDA REPORT

TO: G. Harold Duffey
Interim City Administrator

FROM: Daniel Hamilton
Director, Sustainability and
Resilience Group

SUBJECT: Informational Report Regarding
Workforce Implications of Building
Electrification

DATE: February 2, 2023

City Administrator Approval

Date: Feb 2, 2023

RECOMMENDATION

Staff Recommends City Council Receive An Informational Report Regarding Workforce Implications Of Building Electrification.

EXECUTIVE SUMMARY

On December 16, 2020, City Council adopted Ordinance No. [13632](#) C.M.S., mandating that all new construction be all-electric, fulfilling the first major policy step of phasing out fossil fuels in Oakland's building sector. A just and efficient building electrification transition will require a trained, skilled, and stable local workforce. Existing research shows that the transition will create a net increase in employment opportunities in California. Intentional strategies are needed to ensure growth not only in new positions and tasks, but also in well-paying career pathways that equitably benefit the City's local workforce and frontline communities (those most at-risk from the impacts of climate change and a shifting economy, and with the most to gain from equity-based interventions). This Informational Report provides background research and community insights about the potential workforce impacts of building electrification policies; describes the City's stakeholder engagement process and results thus far; and highlights potential actions to achieve an equitable workforce transition.

BACKGROUND/LEGISLATIVE HISTORY

The City of Oakland (City) is a leader in ambitious and equity-driven climate action. Resolution No. [82129](#) C.M.S. (2009) directed staff to develop the City's first climate strategy, the 2020 Energy and Climate Action Plan, with greenhouse gas (GHG) emissions reduction targets of 36 percent (36%) below 2005 levels by 2020 and 83 percent (83%) by 2050.

Public Works Committee
February 14, 2023

In 2016, the California Legislature enacted Senate Bill (SB) 32, which built on the 2006 California Global Warming Solutions Act by requiring Statewide GHG emissions to be reduced to 40 percent (40%) below 1990 levels by 2030. In 2018, Oakland City Council adopted Resolution No. [87183](#) C.M.S., establishing a GHG emissions reduction target of 56 percent (56%) below 2005 levels by 2030. That same year, City Council adopted Resolution No. [87397](#) C.M.S., declaring a climate emergency and calling for regional collaboration and a “citywide just transition and urgent climate mobilization effort to reverse global warming ... as quickly as possible towards zero net emissions.”

In July 2020, through Resolution No. [88267](#) C.M.S., City Council adopted the 2030 Equitable Climate Action Plan (ECAP), a comprehensive plan responsive to the abovementioned targets. The ECAP details 40 Actions within the City’s regulatory and legal spheres of control to improve Oakland’s climate resilience, advance equity, and reduce local GHG emissions on a path projected to exceed Council’s adopted targets. Alongside the ECAP, City Council adopted Resolution No. [88268](#) C.M.S., creating a 2045 full carbon neutrality target.

Achieving the City’s GHG reduction targets and carbon neutrality will require complete decarbonization of Oakland’s buildings: eliminating on-site fossil fuel combustion and ensuring that all mechanical systems run on clean electricity. On December 16, 2020, City Council took the first step by adopting Ordinance No. [13632](#) C.M.S., mandating that all new construction be all electric, thus prohibiting new buildings from connecting to natural gas infrastructure, effective immediately. The ordinance fulfilled ECAP Action B-1 (*Eliminate Natural Gas in New Buildings*). It also directed staff to assess the implications of building electrification in specific areas of concern, including “Just Transition Employment Programs for Natural Gas Construction and Delivery System Workforce,” and “Possible Application of Skilled and Trained Workforce Standards as Part of the Implementation” of the new requirements. This aligns with the Oakland Municipal Code section 2.29.170, which directs City departments to intentionally integrate the principle of “fair and just” to achieve equitable opportunities for all people and communities. This Report addresses these two topics together. It will also inform the forthcoming Existing Building Electrification Roadmap mandated by ECAP Action B-2 (*Plan for All Existing Buildings to be All Electric by 2040*).

ANALYSIS AND POLICY ALTERNATIVES

Implementing the City’s ECAP meets the Citywide goals of fighting the climate crisis, reducing racial and economic disparities among Oakland residents and communities, improving public health, and increasing community resilience. Implementing the ECAP also addresses the City Council’s call to apply a Just Transition lens on climate action, by prioritizing benefits to frontline communities; increasing good, local, sustainable jobs; and nourishing circular economies.

Building electrification is the modification of buildings to ensure that all mechanical systems run on electricity rather than gas or other fossil fuel-based sources of energy. Buildings with all-electric mechanical systems can achieve carbon-free operations when powered with renewable energy (i.e. *decarbonization*). East Bay Community Energy (EBCE) committed to delivering 100% carbon-free renewable electricity by 2030, creating the potential for all Oakland buildings to eliminate all GHG emissions.

Given the ECAP’s focus on equity and attention to a just economic transition, Oakland’s path to building electrification must include steps to ensure a skilled, stable, and fairly-compensated

local workforce. The ECAP's Racial Equity Impact Assessment and Implementation Guide highlights the importance of living-wage jobs in energy audits and installation of electrical infrastructure and appliances, to increase local economic development and guard against inequitable financial burdens of electrification falling on low-income people of color.

Initial data on the workforce implications of building electrification show that the transition will increase net employment. Overall employment growth notwithstanding, action is needed to ensure quality amidst the quantity, and to ensure that benefits accrue first and foremost to frontline communities. Frontline communities are those most at-risk from the impacts of climate change and a shifting economy, with the most to gain from equity-based interventions; they are disproportionately low-income, BIPOC (Black, Indigenous, and People of Color), immigrant or refugee, and/or experiencing multiple overlapping risk factors. The City, training partners, employers, and others can help ensure growth not only in new positions and tasks, but also in well-paying career pathways that equitably benefit the local workforce. More local resources are needed, but many already exist. Potential next steps in this regard are discussed below.

Employment Impacts of Building Electrification in Oakland

According to statewide analysis by UCLA's Luskin Center for Innovation and Inclusive Economics (see **Attachment A** for a list of sources), the primary areas that will experience job creation due to building electrification will be:

- Construction (efficiency, building modifications, equipment installation);
- Manufacturing of electric equipment and appliances; and
- Infrastructure operations and maintenance for the growth, modernization, and viability of the electricity grid.

California imports 90 percent (90%) of the natural gas it uses, and Oakland itself does not have a significant workforce in fossil fuel extraction. The predominant local sectors likely to face job losses are therefore those related to gas distribution:

- Plumbers and pipefitters whose work extends natural gas lines and connections;
- Construction workers who upgrade or maintain natural gas hookups and piping infrastructure in buildings and the public right-of-way;
- Contractors employed to install and maintain natural gas appliances; and
- Gas utility workers.

The Luskin analysis finds that 100% electrification of buildings in California by 2045 will require 100,000 construction jobs, 4,900 manufacturing jobs, and 12,400 electricity generation and distribution jobs, while losses are projected to total 5,400-6,800 positions. **On an annual basis, building decarbonization in California is anticipated to support a net gain of 64,000-104,100 additional jobs after accounting for gas industry job losses.**

More analysis is needed to understand whether the loss of gas industry and pipefitting/plumbing jobs will happen slower than, faster than, or on pace with the natural rate of retirement in these professions. Some employers or policies may pursue early retirement pathways for workers near the end of their careers. It is therefore unclear what the demand will be for retraining and other supports to help those transitioning away from the gas industry and into related fields.

Depending on the building, decarbonization can require energy efficiency and weatherization; electric service upgrades; adjusting and removing plumbing; improving or moving ductwork; and

replacing or installing appliances. Complementary technologies include solar energy, battery backup, and building automation systems. Some training will be required for these activities, though much of the same construction knowledge will still apply, supplemented by targeted technical training and a stronger emphasis on electrical work. Once new systems are installed, there will be continued demand for maintenance and upkeep, especially in larger buildings.

An Oakland-specific building stock analysis is needed to understand how the above figures apply locally. Per Action B-2 of the 2030 ECAP, the City's Sustainability and Resilience Division will complete a Building Electrification Roadmap in 2023, which will include this analysis.

A Just Transition

The Just Transition Framework first arose in cross-alliance organizing between laborers in polluting industries and environmental justice advocates in the 1990s. It came to refer to fossil fuel worker transitions in the context of climate action strategies. Fossil fuel industry jobs have often been higher paying, longer-term, and accompanied by better benefits than traditional "green jobs." Advocates are therefore vocal that decarbonization must not "force workers to choose between a good job and a green job."

This integration of job *quantity* and *quality* is especially critical for the construction sector. Small-scale construction in particular operates within a highly competitive, price-driven market. There are high rates of unpermitted work, low barriers to entry, and rapid firm turnover. Compensation is often undercut. Residential construction workers earn 33% less per year than non-residential construction workers – a disparity even more prominent when only single-family home retrofit workers are considered. By contrast, jobs in large-scale construction are generally more able to gain a competitive advantage based on qualifications, skill, and expertise, with better paying and more consistent employment opportunities.

The High-Road Framework

"*High-road*" refers to a model of economic development that optimizes climate policies to support workforce equity for frontline communities. UC Berkeley's Labor Center identified three core needs for high-road policies: job quality (safety, living wages, stable schedule, long-term career pathways, and benefits); job access (remediating patterns of discrimination that concentrated People of Color in low-wage, unhealthy, dangerous job positions); and job numbers (effective labor market analysis that enables optimal workforce development policies).

High-road pathways benefit everyone. Investments in a well-trained and well-compensated workforce result in higher-quality work, which in turn increases the GHG reduction impacts of installed technologies. Well-paying and well-benefited positions attract and retain skilled workers, thus developing human capital for the benefit of the climate, clean energy providers, and community resilience.

Different sectors have varying levels of high-road potential. Three out of five jobs required for building electrification are estimated to be in high-road sectors (large scale commercial, manufacturing, and multifamily residential), while the remainder are traditionally low-road (small scale construction). Policy interventions can reform the competitive dynamics in traditionally low-road industries to improve job quality and compensation, and to engage more highly skilled workers. Addressing the low-bid model of small-scale construction will entail specific policy and public education interventions within the framework of a broader strategy.

The California Workforce Development Board developed a High-Road Framework that joins equity, climate, and jobs to produce opportunity and mobility, a stronger economy for high road employers, and more sustainable and resilient environments and communities. It underlies the High-Road Training Partnerships (H RTP) Initiative, which convenes stakeholders to shape training partnerships and workforce practices that build workers' skills to respond to needs identified by industry leaders. Oakland's Rising Sun Center for Opportunity became a H RTP convener and launched a stakeholder engagement process in July 2021, focusing on residential building electrification, with the City of Oakland as a partner.

Incorporating high-road principles in Oakland's decarbonization strategy will require workforce development and labor partners to be involved in policy and program development from the beginning. Workforce transition supports and budget should be included in all electrification strategies to ensure benefits of the transition flow to frontline communities.

Supply and Demand-Side Strategies

Strategies to integrate job quality and quantity must consider both supply- and demand-side solutions. Past "green job" efforts have been criticized for investing heavily in training for emerging fields (i.e. solar panel installation), but failing to ensure robust pathways to long-term employment. Many trainees found themselves in one-off, low-paying positions that left them seeking work after initial projects. Training alone does not create jobs or ensure job placement. Workforce development strategies must connect directly to labor markets and explicitly address industry needs, such as supply chain efficiency and sustained consumer demand. High-Road frameworks incorporate a nuanced understanding of the whole market ecosystem.

Supply-side strategies prepare the workforce for changes in the labor market, such as those resulting from the transition to a carbon-neutral economy. This is the traditional purview of workforce development, generally focusing on vocational training and education, funded through a variety of state and federal sources (see **Attachment B**). Apprenticeship programs for trade careers are a proven pathway to long-term, high-road positions when positions are available. However, many candidates face barriers related to education level and discrimination. Pre-apprenticeship programs can fill the gap, focusing on workers with systemic barriers (e.g., women or formerly incarcerated individuals), providing the baseline education needed to pass apprenticeship entrance exams, and offering continued mentorship and support. In Oakland, Cypress Mandela Training Center and Rising Sun Center for Opportunity are examples of pre-apprenticeship programs supporting decarbonization. Another important category is on-the-job training, which can be paired with classroom instruction. An increasing number of employers offer in-house training, with tailored instruction in specific skills and technologies, and mentorship among employees. Best practices for supply side strategies include:

- Full assessment of demographics and needs of workers in sun-setting industries, and intentional strategies to bring these workers into emerging fields;
- Retraining programs for younger workers;
- Policy supports to ensure "thriving wages," adequate benefits, and reliable hours;
- Collective bargaining rights;
- Strong career pathways in related industries (e.g. renewable energy generation, energy efficiency, and vehicle electrification);
- Investments in apprenticeship and pre-apprenticeship programs, especially those that operate in or recruit from frontline communities;
- Partnerships between training providers and employers;
- Explicit training in "soft skills;" and

- Assessing program success based on job placement outcomes and improvements in wages and benefits.

Demand-side strategies are directed at employers and the overall market. They inform the kinds of jobs that are created, the skills that are needed, and who employers choose to hire. The chief catalyst is consumer demand for products and services. Investments in consumer education, electrification incentives, and streamlined permitting signal to the contractor market that re-training, refocusing, and investing in workers are worthwhile investments. Market analysis is needed to understand potential job growth. Initiatives like the H RTP can take the next step by supporting employers to provide well-paying wages, and to compete based on the quality of their services and products. Best practices to stimulate demand for high-road jobs include:

- Pre-qualified contractor pools to improve customer confidence;
- Skill certification requirements;
- Enforcement of labor and employment laws;
- Workforce standards for safety and equitable job conditions;
- Wage and benefit standards (e.g., prevailing wage, living wage, or minimum wage);
- Incentives predicated on skill standards or baseline workforce criteria;
- Leading with large commercial, public agency, and related sectors, which generally draw from the registered apprenticeship labor pool; and
- Programs pursuing aggregated community-scale decarbonization.

Many of these strategies are being pursued or planned locally and regionally. The Switch Is On, a statewide electrification outreach campaign funded by the California Energy Commission (CEC) and administered by the Building Decarbonization Coalition (BDC), maintains an online, searchable database of pre-qualified contractors. The CEC, Bay Area Regional Energy Network (BayREN), and East Bay Community Energy (EBCE) administer incentives to stimulate electrification demand. BayREN, Pacific Gas and Electric (PG&E), and local training providers like the Cypress Mandela Training Center provide decarbonization-related classes and certificate programs. EBCE, the Alameda County Healthy Homes Department, and local organizations, leveraging funding from TECH Clean California – a \$120 million initiative to advance carbon neutrality – are innovating to make home electrification accessible to all, regardless of income or “complicating” factors like mold and lead.

To ensure long-term demand for a high-road decarbonization workforce, electrification must be accessible to all. Currently, even with available incentives, building electrification is often cost-prohibitive. Partners must collaborate to ensure that adequate wages and strong benefits do not make electrification even less attainable. Oakland’s forthcoming Building Electrification Roadmap will identify strategies to make healthy, efficient electrification affordable to all.

Local Stakeholder Insights

Many of the best practices noted above can be led or supported by the City, building on existing resources and responding to local needs. To begin identifying priority approaches, in 2021, the City held a stakeholder workshop series in partnership with Rising Sun Center for Opportunity and the Greenlining Institute. Recommendations reflected a mix of supply- and demand-side needs, with important nuances:

Supply-Side: Build on existing resources – To maximize local knowledge, the City should leverage existing education and training providers with proven career trajectories and industry connections, rather than launching ‘boutique’ programs that lack such relationships.

Supply-Side: Focus on frontline communities as a focal point for workforce development – Stakeholders pointed to inequities in jobs related to electrical infrastructure and stressed the potential for decarbonization policies and programs to rectify them. This can be accomplished by supporting workforce training programs in or serving communities that are historically disadvantaged or disproportionately impacted. Programs should demonstrate their ability to train and place workers who have barriers in stable jobs, and leverage local community partnerships.

Supply-Side: Cultivate partnerships among community colleges, training programs, Oakland Unified School District (OUSD), trade groups, the Port, and employers to promote career pathways – The City can cultivate partnership among diverse existing programs and partners to create pathways for high school students, previously incarcerated people, and others to join the decarbonization workforce. Stakeholders suggested scaling programs like Measure N, which funds OUSD to offer hands-on training for students to successfully enter the workforce upon graduation. Such efforts can ensure that workforce pathways are accessible, and that training programs can accept more local applicants. Stakeholders also suggested that the City provide financial support to contractors that offer in-house training for job-relevant skills and tools.

Demand-Side: Promote thrivable wages – Labor leaders and employers alike stressed the importance of “thrivable” wages that “allow people to meet their basic needs, have disposable income to enjoy life today, and enough to save for their future.” Higher wages often result from a high demand for quality workers. This underscores the importance of amplifying regional marketing and incentive programs, but also points to the challenges of promoting broad uptake of services that can be labor-intensive and costly. Promoting local businesses can boost demand for local workforce investments. Specific suggestions included:

- Public procurement policies to reward bids that offer thrivable wages or are committed to wages and benefits that equate to high-road opportunities;
- Incentives for businesses that provide higher wages and supportive benefits;
- Quality assurance requirements for electrification work; and
- Showcasing and promoting businesses that work to provide enhanced benefits.

Demand-Side: Incentivize electrification projects in frontline communities – Incentivizing work in the same historically underserved and disproportionately impacted communities that are targeted for workforce development can give workers the opportunity to invest in their own communities, who in turn experience the benefits of clean energy and increased resilience.

Demand-Side: Center workers in policy implementation through union relationships – The policy development process should incorporate workers’ voices. Labor representatives argued that coordination between cities and unions can help ensure that skillsets can be transferred across fields. They encouraged the City to engage with labor to better understand workers’ needs, identify partnership opportunities, and establish a practice of mutual support. This could help bridge the gap between long-term climate goals and immediate labor goals. Stakeholders cited coordination between the City of Berkeley and the Construction Trades Workforce Initiative (CTWI), the nonprofit partner of the Alameda Building Trades Council. CTWI works to increase participation of underserved populations in the union construction trades, and is assisting Berkeley in the development of labor policies and standards as the city develops its own policy blueprint for electrifying residential buildings. Several stakeholders advocated for the use of Project Labor Agreements to drive demand for highly-trained, fairly-compensated workers.

Demand-Side: Reduce hurdles for contractors to conduct work in Oakland – Stakeholders noted that while some jurisdictions have streamlined processes for certification and permitting, others have bureaucratic challenges and delays. The City should review permitting processes, costs, and inspection timelines from a contractor’s perspective, and advocate that utilities do the same.

Leadership Opportunities

The City can model high-road standards via public projects. Labor standards exist for all City-funded projects; these can be tailored for decarbonization projects to advance the City’s climate equity goals. Potential strategies include workforce agreements, targeted hiring strategies, worker skill requirements, labor standards tied to funding, engagement strategies for workers with barriers to employment, and strategies to mitigate job loss.

Most of the work to decarbonize Oakland’s buildings will occur in the private sector, and therefore require a range of policy levers. As market transformation advances, “niche” technologies will become more diversified and affordable. Increasing demand will nudge more contractors and firms to enter the market, likely lowering prices further. However, affordability and quality for all are not guaranteed.

Building on this report and the H RTP as starting points, and in partnership with the Oakland Workforce Development Board, staff will include targeted strategies to ensure a high-road decarbonization workforce in the Building Electrification Roadmap. The Roadmap will need to address the challenge of ensuring a local, high-road electrification workforce, while ensuring that holistic building electrification is affordable to all. This will entail a complex ecosystem of social and industry incentives and supports, as well as coordinated action across economic development, housing, and related spheres.

Next Steps

By July 2023, staff will draft a Building Electrification Roadmap outlining a framework to electrify all existing buildings in Oakland by 2040. It will include a multi-prong strategy to ensure an orderly and equitable gas phase-out, and a smooth workforce transition. The Roadmap will prioritize widespread and equitable electrification via a high-road workforce. To create robust recommendations, building on this Report, staff are pursuing the following, resources permitting:

- Support the Oakland Workforce Development Board (OWDB) in developing a definition or guiding principles for “quality jobs,” consistent with the definition and guiding principles of high-road jobs as described above.
- Continue leveraging state, regional, and Federal programs that generate consumer demand for holistic electrification, as well as those that support decarbonization workforce programs.
- Continue engagement with those convened in the workforce stakeholder engagement series, through participation in the H RTP, and other avenues.
- Perform a granular assessment of workforce potential, key transition areas, and job loss projections specific to Oakland, including break-downs for specific frontline populations.
- Complete a thorough assessment, in collaboration with the Oakland Workforce Development Board, of the current landscape of training, apprenticeship, and pre-apprenticeship programs; partnerships; and high-road employers in the green economy transition and assess where improved partnerships would advance the work.
- Conduct a building electrification supply chain analysis.
- Assess strategies for creating high-road opportunities in union pathways and with non-union employers.

- Research the potential resource allocation to support small-scale contractors to train or retain workers and provide high-road positions.
- Explore the potential to increase high road workforce standards in the City's municipal building decarbonization efforts.
- Assess retraining and other needs of building operations and maintenance workers.

FISCAL IMPACT

This item is for informational purposes only and does not have a direct fiscal impact or cost.

PUBLIC OUTREACH / INTEREST

Community engagement from the ECAP development process (2019-20) informed this report, as did a targeted engagement process led by the City in 2021. Staff from the Sustainability and Resilience Division (SRD), Economic Workforce Development Department (EWDD), and Oakland Department of Transportation (OakDOT), in partnership with Rising Sun Center for Opportunity and the Greenlining Institute, convened a stakeholder workshop series on the workforce development resources, needs, and challenges of the building and transportation electrification transition. The goals of the three-part series were:

1. Identify needs (social, industry, and economic) and assets in place so to better target existing resources, and efficiently allocate future resources;
2. Disseminate resources and information that validate and support this transition; and
3. Give stakeholders a venue to share needs and resources, building on previous engagement processes including the East Oakland Neighborhoods Initiative and the West Oakland Community Action Plan.

The first session convened 70 participants to identify the concerns and questions most relevant to participants. These topics formed the outline of the remaining sessions. Attendees represented training and vocational programs, contractors, labor, public transit and goods movement, shared and electric mobility companies, grassroots community and environmental organizations, workforce development agencies, faith communities, and more.

The second session, with 50 participants, focused on describing and linking current activities. It included a *Decarbonization in the Community* panel, with presentations from the Bay Area Regional Energy Network, East Bay Community Energy, and Cypress Mandela Training Center.

The third session drew more than 50 participants, including nonprofit representatives, community organizers, utility and energy service providers, contractors, workforce and training providers, and advocates. It featured two panels: *Workers of Decarb* and *Recruiters for Decarb*. Building on themes identified in the first two sessions, Session Three resulted in the set of recommendations described above under *Local Stakeholder Insights*.

COORDINATION

This report and the stakeholder engagement series discussed above were led by CAO-SRD in coordination with staff from OakDOT, Department of Race & Equity (DRE), EWDD, and the

OWDB. Staff in the Planning Bureau of the Planning & Building Department (PBD) provided additional input.

SUSTAINABLE OPPORTUNITIES

Economic: Investing in workforce demand and supply through a just transition framework can improve economic conditions, particularly for BIPOC communities. There is significant potential for high-road building electrification jobs to flow to Oaklanders, including youth, and those who are unemployed, underemployed, or with lower education. Interrelated benefits include more competitive local businesses, a more stable workforce, greater economic mobility for frontline residents, and increased regional economic growth. Oakland's forward-thinking climate policies will increase local demand for electricians, electric appliance retailers, and energy advisors. Contractor training available through the BayREN, local contractors, and others, has already benefitted Oakland workers. Oakland's 2020 Ordinance requiring new construction to be all-electric (13632 C.M.S.) and development of the Zero Emission Vehicle Action Plan sent clear signals that this is a reliable shift. Local workers who stand to gain include electricians, construction workers, roofers, solar installers, and related professions.

Nationwide, in 2017, jobs in the clean energy sector eclipsed those in the fossil fuel industry, despite record fossil fuel exploration and recovery. As more all-electric buildings are built and more Oaklanders transition to electric vehicles, demand will increase for green building expertise and grid reliability. That will accelerate as local and state policies, and the overall market, show a preference for all-electric construction. EBCE continues to expand their local renewable energy generation infrastructure—work that goes hand-in-hand with an increasingly all-electric building sector, and that similarly provides good, green jobs with lower educational requirements. Proactive workforce and economic development strategies can ensure that the decarbonization ecosystem is based on high-road principles benefiting local workers.

Environmental: Natural gas, or methane, is a Short-Lived Climate Pollutant, with 84 times the global warming potential of carbon dioxide over a 20-year period. There is broad consensus among climate scientists that the world cannot limit global warming to 1.5 degrees Celsius without drastically limiting methane emissions, including from buildings. The reduction of greenhouse gas emissions from all-electric buildings will help mitigate climate change and its negative effects such as extreme heat events, droughts, intense storms, flooding, and displacement. The work to fulfill Ordinance No. 13632 C.M.S. along with decarbonization of all existing buildings fulfill Action B-1 in the 2030 ECAP, Eliminate Natural Gas in New Buildings, and B-2, Plan for All Existing Buildings to be Efficient and All-Electric by 2040.

Race & Equity: Job distribution and job quality are both open questions in the decarbonization transition. Economic shifts serve as potential gateways to enact structural remediation for past disinvestment and exclusion – or to reinforce those injustices. Due to systemic racism and historic oppression, BIPOC communities face higher rates of unemployment, displacement, and poverty than white Oaklanders. According to Oakland's 2020 Annual Economic Dashboard: Economic Recovery Issue, low-wage positions have faced the worst employment impacts from the COVID-19 pandemic (24.8% decrease) in comparison to high-wage positions (0.7% decrease). Due to the racial disparities that concentrate People of Color in low-wage sectors, BIPOC Oaklanders face some of the steepest barriers to economic recovery. Other barriers, such as education level and re-entry status, also affect BIPOC Oaklanders at higher rates. Systemic barriers based on racism, sexism, ableism, and other forms of oppression have led to

certain trades and positions being predominantly composed of white, male workers. Legacies of racism in unions have perpetuated these disparities.

An intentional decarbonization transition can include programmatic and policy interventions that work to alter this trajectory by focusing on communities where residents are:

- predominantly BIPOC or low-income;
- underrepresented in the policy setting or decision-making process;
- subject to disproportionate impact from one or more environmental hazards; and/or
- likely to experience disparate implementation of environmental regulations and socioeconomic investments.

These communities, often largely composed of renters, have largely been left out of California's push toward clean energy and climate solutions. Policy, regulation, and collaborative actions taken by the City and its partners can impact who has access to generational wealth-building opportunities via this transition.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Staff has determined that this informational report does not constitute a project under the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15378 since the report will not cause a "direct physical change in the environment" or a "reasonably foreseeable indirect physical change in the environment." The report is for the purpose of providing information to the Council and does not authorize any specific development activity or promote new construction or growth. In addition, pursuant to CEQA Guidelines Section 15061(b)(3), CEQA review is not required because there is no possibility that this report, which does not authorize City action or require discretionary approval, may result in a significant effect upon the environment.

ACTION REQUESTED OF CITY COUNCIL

Staff Recommends City Council Receive An Informational Report Regarding Workforce Implications Of Building Electrification

For questions regarding this report, please contact Daniel Hamilton, Sustainability Program Manager, at (510) 238-6179.

Respectfully submitted,



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Attachments (2):

- A: Research and Data Consulted in Preparing this Report
- B: Workforce Development Resource List

ATTACHMENT A – RESEARCH AND DATA CONSULTED IN PREPARING THIS REPORT

High-Road Workforce Guide for City Climate Action

Inclusive Economics, prepared for the American Cities Climate Challenge, March 2021

https://www.usdn.org/uploads/cms/documents/workforce-guide_4.12.21_form.pdf

Provides statewide projections, best practices, and policy insights for leveraging City-scale climate action to further economic equity through high-road workforce development. Outlines clear steps to develop a high road workforce plan.

Equitable Building Electrification: A Framework for Powering Resilient Communities

Greenlining Institute, September 2019

[https://greenlining.org/wp-](https://greenlining.org/wp-content/uploads/2019/10/Greenlining_EquitableElectrification_Report_2019_WEB.pdf)

[content/uploads/2019/10/Greenlining_EquitableElectrification_Report_2019_WEB.pdf](https://greenlining.org/wp-content/uploads/2019/10/Greenlining_EquitableElectrification_Report_2019_WEB.pdf)

In this report the Greenlining Institute, a key City partner in local equity driven decarbonization, clearly outlines the need for an intentional and planned electrification transition in order to ensure socially, economically and environmentally equitable outcomes that center community empowerment. A broader report scope with one section focused on workforce.

California Building Decarbonization Workforce Needs and Recommendations

Inclusive Economics & The UCLA Luskin Center, November 2019

[https://innovation.luskin.ucla.edu/wp-](https://innovation.luskin.ucla.edu/wp-content/uploads/2019/11/California_Building_Decarbonization.pdf)

[content/uploads/2019/11/California_Building_Decarbonization.pdf](https://innovation.luskin.ucla.edu/wp-content/uploads/2019/11/California_Building_Decarbonization.pdf)

This is the first study to estimate the potential impacts of building decarbonization policies on employment. The scope of the research and quantitative estimates are for the state of California.

Putting California on the High Road: A Jobs and Climate Action Plan for 2030

Carol Zabin & UC Berkeley Labor Center, September 2020

<https://laborcenter.berkeley.edu/putting-california-on-the-high-road-a-jobs-and-climate-action-plan-for-2030/>

Prepared for the California Legislature, describes strategies to help industry, workers, and communities prepare for economic and labor-market changes related to statewide climate goals. Provides leading guidance on the “high-road” framework, with key data on the decarbonization transition and guidance for Just Transition policies.

Advancing Equity in California Climate Policy: A New Social Contract for Low-Carbon Transition

Center for Labor Research and Education, Donald Vial Center on Employment in the Green Economy UC Berkeley, Sept 2016

<https://laborcenter.berkeley.edu/pdf/2016/Advancing-Equity.pdf>

A foundational analysis of the environmental-labor intersection to create a climate equity framework, or an agenda that centers the connections of environmental justice, economic equity and public accountability in climate policy formation and execution.

Building a Statewide System of High Road Pre-Apprenticeship in California: Lessons from the California Clean Energy Jobs Act

California Workforce Development Board: High Road Construction Careers, July 2019

https://cwdb.ca.gov/wp-content/uploads/sites/43/2019/10/HRCC_Building-a-Statewide-System-of-High-Road-Pre-Apprenticeship-in-California_ACCESSIBLE.pdf

Analyzes best practices and lessons learned from the pre-apprenticeship programs of the California Clean Energy Jobs Act to help create a coherent system of training and regional resources and partnerships to better match worker training with employment opportunities.

Pre-Apprenticeship: Advancing Equity & Access to Good Careers

National Employment Law Project, May 2021

<https://s27147.pcdn.co/wp-content/uploads/NELP-Pre-Apprenticeship-Report-5-2021.pdf>

Providing insight on one of the key tools used to create equitable access to high road careers, this report outlines how intentionally crafted pre-apprenticeship programs can powerfully counter patterns of exclusion and discrimination, specifically providing career pathways for those re-entering the workforce after incarceration.

Local and Regional Workforce Data Sources

- Economic Development Department – Labor Market Information Datasets for Oakland Metropolitan Division:
<https://www.labormarketinfo.edd.ca.gov/geography/md/oakland-hayward-berkeley.html>
- EastBay Works Regional Plan Report FY2021-2024:
<https://www.eastbayworks.com/regional-plan/>
- City of Oakland Economic Development Strategy:
<https://www.oaklandca.gov/projects/economic-development-strategy>

ATTACHMENT B – WORKFORCE DEVELOPMENT RESOURCES

Existing resources can be refocused, better supported, and better integrated to support a high-road decarbonization workforce in Oakland. This table outlines resources at the state, regional, and local levels that support decarbonization-related workforce development in Oakland.

	Workforce Development (Supply Side)	Economic Development (Demand Side)
State	<p>CA Workforce Development Board Guides statewide workforce development policy & oversees CA’s workforce development system (Workforce Development Boards and local America’s Job Centers). Publishes the Unified Strategic State Plan. Provides other data analysis and metrics tracking, and awards local grants. Launched the High Road Training Partnerships Initiative to convene regional industry partnerships to cultivate equity, job quality, and climate sustainability in key sectors. Rising Sun Center for Opportunity is a H RTP grant recipient, launching convenings in 2021.</p> <p>CalJOBS California’s official search engine/dashboard with resources for individual workers and employers. Searchable lists of job opportunities, training programs, and other career services; option to search for “Green Job” programs and positions. For employers, provides Training and Education lists, recruitment resources, & labor market data.</p> <p>California Employment Training Panel Supports job creation and retention by funding employer-led training. Reimburses the cost of employer-driven training for incumbent workers and funds key trainings needed for unemployed workers to re-enter the workforce. Also provides funds through ETP Apprenticeship Training Program for apprenticeship, pre-apprenticeship, & journeymen programs.</p> <p>California Community Colleges – Workforce and Economic Development Division The Community College system provides career technical & workforce education. The Division supports career education and entrepreneurial development. It uses labor market research to respond to priority sectors, and is supported by a network of Technical Assistance Providers. Highlighted sectors include Energy, Utilities, & Construction. The California Apprenticeship Initiative supports new apprenticeships & pre-apprenticeship training programs.</p>	<p>Governors Office of Business and Economic Development (GO-Biz) Supports job growth, economic development, and business assistance efforts. No-cost consultation for business development. Other resources:</p> <ul style="list-style-type: none"> • Grants + Financing (including tax credits) • Logistics + Infrastructure (freight) • Permit + Regulatory Assistance • International Trade + Investment • Workforce + Education <p>California Association for Local Economic Development (CALED) 800-member economic development association, including representation from public and private organizations dedicated to advancing economic development through creating and retaining jobs. Provides information, technical assistance, training, education, research, and analysis.</p> <p>California Office of the Small Business Advocate (CalOSBA) Information and support for small businesses to help navigate resources, programs, and regulations. Provides policy representation, advocating for small business interests including access to capital, markets, and networks.</p> <p>CA Economic Development Department (EDD) Manages worker and employer services, and administers CA’s Unemployment Insurance and Disability Insurance programs. Links to other state workforce and employer resources. The Labor Market Information (LMI) Division provides labor market data by City, Occupation, Industry, etc.</p> <p>California Strategic Growth Council (SGC) SGC’s Transformative Climate Communities (TCC) program focuses on the nexus of economic development and climate resilience, identifying local needs and investing in local institutions to meet them. It is funding two Oakland training centers: the West Oakland Job Resource Center & Cypress Mandela Training Center.</p>
Regional	East Bay Works	Alameda County Small Business Development Center (ACSBDC)

	<p>Network of East Bay workforce development boards (Alameda County WDB, Oakland WDB, Contra Costa WDB, Richmond WDB). Regionally coordinates local job centers, economic developers, support system providers, and educational entities. Prepares the East Bay Regional Workforce Development Plan every four years as mandated by the state-level Workforce Development Board.</p> <p><u>Bay Area Apprenticeship Coordinators Association</u> Regional body dedicated to providing an educational and networking environment for educators and professionals in the Apprenticeship training field to share ideas, methods, and information.</p> <p><u>Rising Sun Center for Opportunity</u> Convening local employers, training providers, cities (including Oakland), labor leaders, and others to develop the High Road Training Partnership. The H RTP will identify equitable, wealth-building, and career-advancing strategies in the residential construction sector with an emphasis on building electrification. Rising Sun also provides pre-apprenticeship and other training services (see below).</p>	<p>The local branch of the Northern California Small Business Development Center network. Works with entrepreneurs and business owners through free long-term, in-depth business and start-up counseling. Hosted by the Ohlone Community College District.</p> <p><u>East Bay Community Energy (EBCE)</u> In 2018, the County of Alameda and 11 of its cities launched EBCE as a not-for-profit Joint Powers Authority to provide Community Choice Energy service. EBCE has since been joined by two more Alameda County cities and the City of Tracy. EBCE supports all cities in their service territory with technical assistance, policy support, and grants to support all-electric building reach codes. EBCE also supports electrification and energy efficiency in existing buildings through incentives and grants, including for homes and restaurants. EBCE is leading a robust initiative to build public electric vehicle charging infrastructure throughout their service territory, including for medium- and heavy-duty vehicles. EBCE has contracted for 12 solar, wind, and energy storage projects totaling more than 1,100 megawatts. Almost 400 megawatts are online as of March 2022, and the rest will be in place by the end of 2024.</p> <p><u>Bay Area Regional Energy Network (BayREN)</u> BayREN is a collaborative entity across all nine San Francisco Bay Area counties, providing energy efficiency programs and resources. BayREN works with the supply and demand sides of workforce and economic development for electrification in residential, commercial, and public buildings. BayREN enrolls participating contractors and offers specialized trainings to coordinate a regional workforce, including municipal Building Department staff. BayREN cultivates consumer demand through rebates and informational resources, including the Bay Area Multifamily Building Enhancements (BAMBE) program, rebates for heat pump water heaters, and the Home+ efficiency and electrification program.</p>
<p>Local</p>	<p><u>Oakland & Alameda County Workforce Development Boards</u> The Oakland and Alameda WDBs oversee the local delivery of federally-funded employment and training programs and services, and work as community-based extensions of the CA Workforce Development Board. While Alameda County WDB presides over these programs and resources for the County, Oakland hosts a</p>	<p><u>Oakland Chamber of Commerce + Ethnic Chambers of Commerce (African American; Latino; Chinatown; Vietnamese)</u> Local Chambers of Commerce serve as business networks that can collectively advocate for goals that further the interests of their member businesses, advance economic opportunity and strengthen Oakland’s subsets of business communities.</p>

	<p>separate WDB due to its size and concentration of workers. The local boards are business-led and oversee a network of One-Stop Career Centers (at five locations operated by the West Oakland Job Resource Center, Oakland Private Industry Council, and Unity Council). Funds allocated to local boards support job training, placement, skill development, and business services. The Boards are also responsible for publishing four year Local Plans.</p> <p><u>America’s Job Centers of California in Oakland</u></p> <p>America’s Job Centers are managed through the U.S. Department of Labor. The Centers are designed as “One-Stop Shops” with a full range of jobseeker resources.</p> <p>Oakland Training & Career Centers include:</p> <ul style="list-style-type: none">• Civiccorps• Cypress Mandela Training Center• West Oakland Job Resource Center• Laney College• Merritt College• Oakland Unified School District• Youth Employment Partnership• Oakland Private Industry Council• Unity Council• Lao Family• Swords to Plowshares• Mandela Partners• Success Centers <p>Oakland-Based Apprenticeship and Pre-apprenticeship programs include:</p> <ul style="list-style-type: none">• Building & Construction Trades Council of Alameda County – Apprenticeship Programs• Cypress Mandela Pre-apprenticeship Program• Rising Sun Center for Opportunity Pre-apprenticeship Program	<p><u>Oakland Metropolitan Chamber of Commerce</u> <u>African American Chamber of Commerce</u> <u>Latino Chamber of Commerce</u> <u>Chinatown Chamber of Commerce</u> <u>Vietnamese Chamber of Commerce</u></p> <p>Business Improvement Districts Operated with support from the City of Oakland as well as from participating businesses, BIDs provide important resources and advocacy to support small, neighborhood commercial districts.</p> <p><u>East Bay Economic Development Alliance</u> Partnership of business, municipal, non-profit and public members. Organized into different committees. Helps advocate, shape, and promote core policies that promote regional economic development. Published East Bay Forward in 2021, describing how the East Bay must advance in the post-pandemic world to reduce wealth disparities and support a resilient, just transition to a regenerative economy.</p> <p>Oakland-Based Incubators Incubators serve as spaces for supporting and accelerating local entrepreneurs, thus helping generate demand for workforce labor. Some, like Oakland’s Powerhouse, focus specifically on energy and green jobs, while others are aligned around target populations or service territory. Exemplary Oakland-based incubators include:</p> <ul style="list-style-type: none">• Powerhouse• ICA Fund Good Jobs• Pacific Community Ventures
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