



Climate Equity LA Series

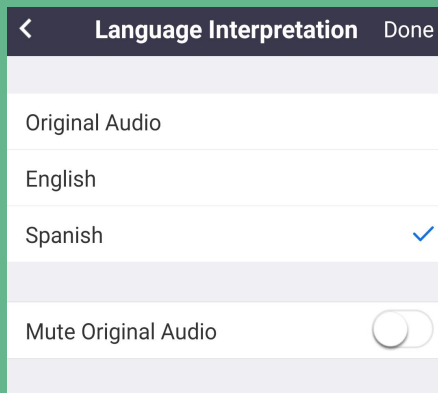
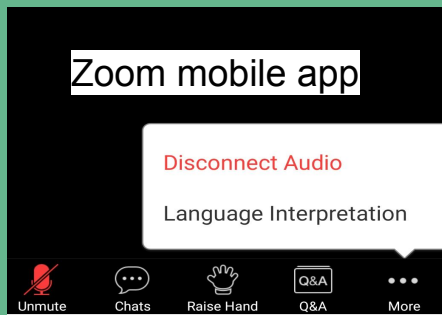
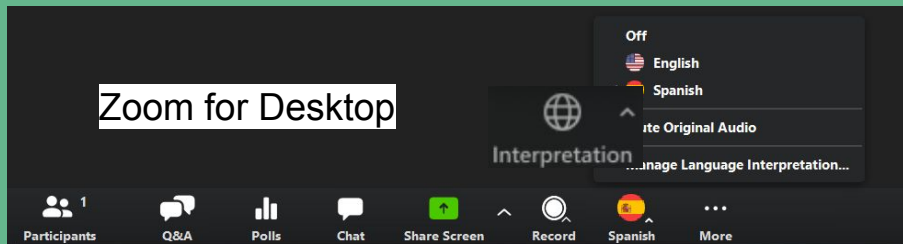
Part I: Equitable Building Decarbonization

Workshop #3: Building Decarbonization & Economic Justice: Green Workforce and A Just Transition

March 24, 2022



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All participants // Todos los participantes

Click on the language interpretation button & **select English or Spanish** 🌐

Haga clic en el botón de interpretación de idiomas y **seleccione inglés o español** 🌐

If you are choosing Spanish, make sure you select **“Mute Original Audio”** so you will only hear the Spanish audio

Si elije al Español, asegúrese de seleccionar **“Silenciar audio original”** para que sólo escuche el audio en Español



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Director of CEMO, Marta A. Segura, M.P.H.

- **Founding Director of the Climate Emergency Mobilization Office (CEMO)**, Board of Public Works (BPW), City of LA
- **Executive Director of the Climate Emergency Mobilization Commission (CEMC)**
- *Former LA City Planning Commissioner*: As LA City Planning Commissioner, spearheaded the passing of Clean Up Green Up, Plan for a Healthy LA, re:code LA, the City's first Sustainability Plan, and its first Equity Day
- *Community Engagement Practitioner for Equitable Strategic Partnerships*
- *EJ Leader and Advocate since 1995*



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CEMO Vision

Dedicated to building collaborative, innovative, intersectional, and equitable climate solutions to support community resilience, and limit the climate-related health burdens for all, with a laser focus on frontline communities.



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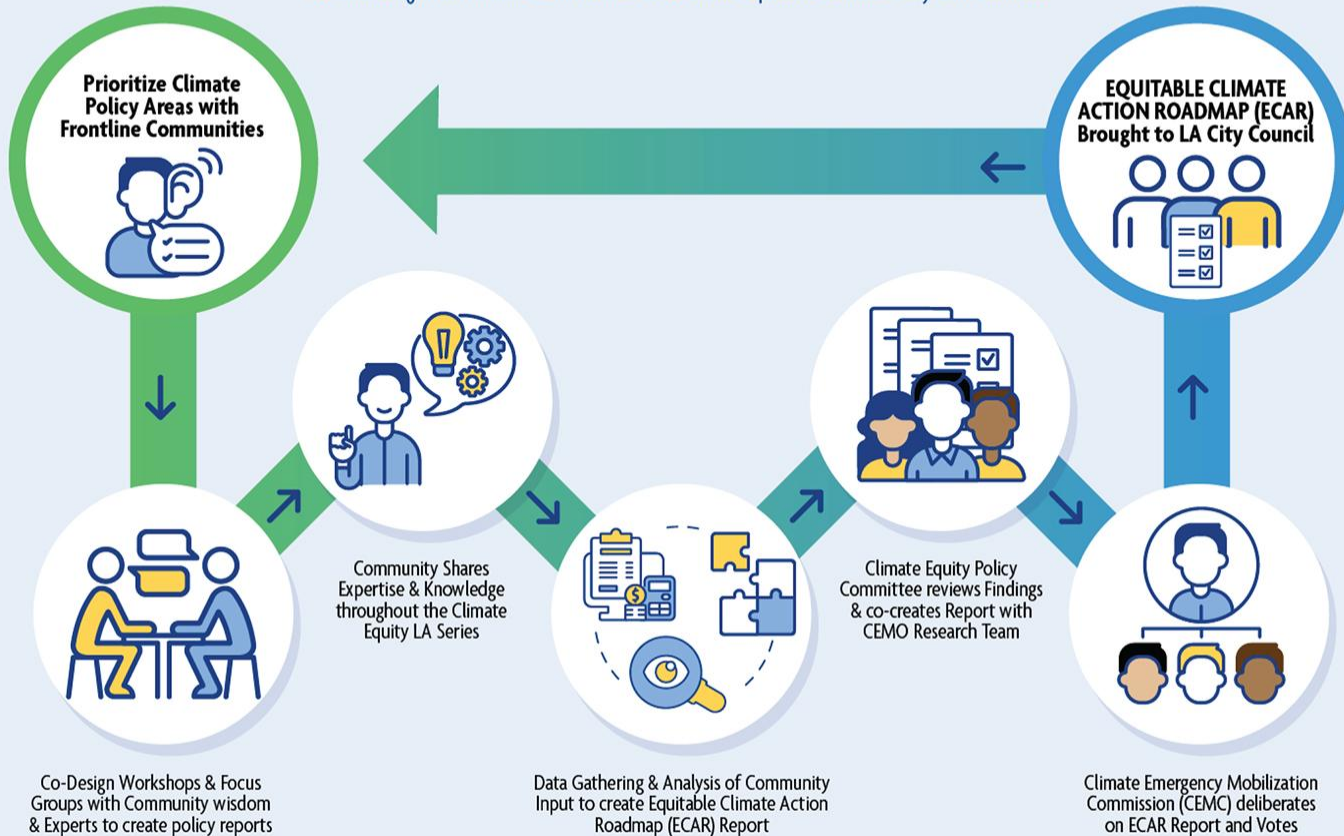
CEMO Overarching Purpose

- ***Innovation of governance model*** via the Commission, assemblies, and mobilization efforts, are all key goals of CEMO, through the mobilization of community in climate advocacy.
- CEMO will work with City leaders to ***identify and enact equitable strategies and policies*** to prevent, mitigate, and undo impacts from pollution burdens and disinvestments from our historically technocratic/economic decisions, to ensure that frontline communities have ***a strong voice in policy*** and decision-making in the City of Los Angeles.



CLIMATE EQUITY INNOVATIVE GOVERNANCE MODEL

Collaborating with Frontline Communities to Co-create equitable Climate Policy & Investments





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Climate Equity LA

- **Create meaningful engagement and civic-led** governance strategies for equitable climate policies & investments
- **Shape recommendations for equitable** climate policies as per environmental equity metrics
- **Coordinate & collaborate** with City leaders to bring an equity lens to LA's Green New Deal, and engage and mobilize community to innovate governance
- **Deliver** an Equitable Climate Action Roadmap via Commission
- Bring report to **City Council**



LOS ANGELES BUILDING DECARBONIZATION

EQUITY CONCERNS
EMPLOYMENT IMPACTS
OPPORTUNITIES



 INCLUSIVE
ECONOMICS
June 2021

Inclusive Economics is a small, mission-driven consulting firm working at the intersection of climate change, equity, and labor.

We provide economic research, technical assistance, and strategic support to community and labor partners in order to build durable capacity and broad-based political will for climate action.

REPORT OUTLINE

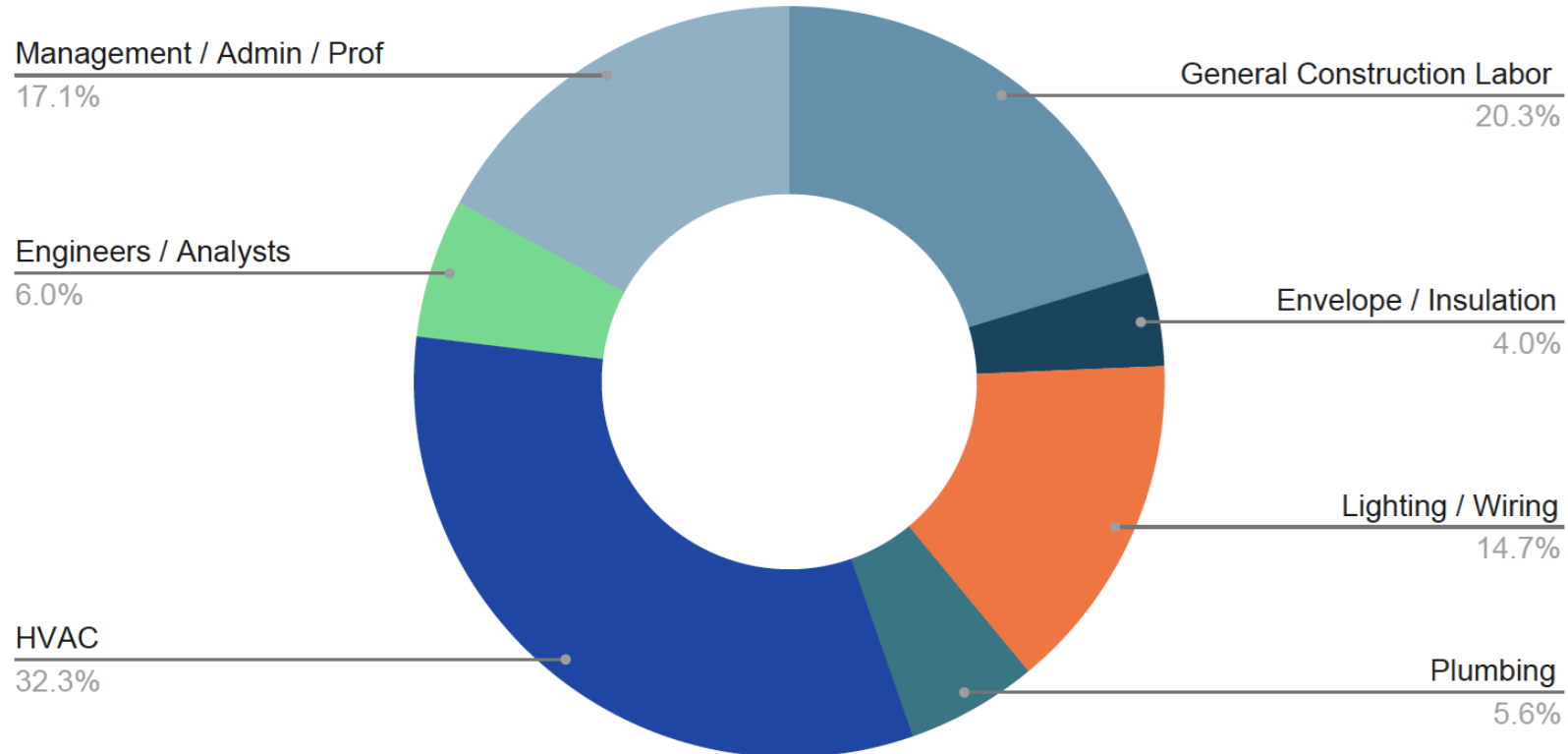
- Principles for Building Decarbonization Policies and Programs
- Summary of Concerns and Potential Solutions
- Employment Impacts of Building Decarbonization in Los Angeles
- Job Loss Methodology and Data
- Solutions, Strategies, and Recommendations

SUMMARY OF JOBS POTENTIAL

Sector (Existing Buildings)	Deep Efficiency + Electrification Job Years	Upfront Investment Required	Decarbonization Policy or Program Lever
Schools	2 - 3 thousand	\$0.6 - 0.8B	Direct public investment and consolidate available funding (i.e., AB 841, DWP programs, local bond, federal funding, etc.)
Affordable Housing (Deed Restricted)	8 - 12 thousand	\$2 - 7B	
Affordable Housing (Naturally Occurring)	38 - 62 thousand	\$9 - 16B	Incentives with rent control requirements and eviction prevention
Universities & Hospitals	3 - 5 thousand	\$1 - 1.2B	Direct public or utility investment in district energy systems
Large Commercial (>50,000 sq ft)	28 - 37 thousand	\$8 - 10B	Mandate GHG reductions through BPS and other regulations, requiring apprenticeship and quality inspection standards
Large MF* Residential (>50,000 sq ft)	21 - 29 thousand	\$5 - 8B	
Small & Medium Commercial (<50,000 sq ft)	42 - 54 thousand	\$13 - 16B	Voluntary targets, neighborhood district energy pilots technical and financial assistance for low-income homeowners
Small MF* Residential	63 - 109 thousand	\$14 - 25B	
Single Family Residential	177 - 251 thousand	\$37 - 50B	

BUILDING DECARBONIZATION DISTRIBUTION OF JOBS BY TRADE

Total Deep EE + Electrification (All Buildings)



JOB QUALITY CONCERNS

- Continuous investment in building energy performance could support 8,820–12,270 new, full-time workers in LA’s construction industry for 29 years (2021–2050).
- Without policy action to change course, however, 85 percent of these jobs will be in traditionally “low-road” market sectors, where firms compete by undercutting each other
- Firms who do invest in a skilled and trained workforce have trouble competing and may get out of residential work altogether.
- Without efforts to evaluate and ensure work quality in the residential and small commercial sectors, on behalf of consumers, work quality and job quality will remain, at best, highly variable, which is problematic for market transformation.

RESEARCH KEY PRINCIPLES

- (1) public funding should not subsidize the wealthy
- (2) building investments must be coupled with anti-displacement measures
- (3) building investments must be coupled with labor standards to support quality jobs
- (4) comprehensive building investments are necessary to support health and resilience
- (5) policy and regulation without equitable programmatic investments will leave people behind in the clean energy transition
- (6) both efficiency and fuel switching are necessary to achieve decarbonization goals
- (7) flexible pathways and concurrent infrastructure investments can mitigate job loss for gas workers

CONCERNS AND MITIGATION MEASURES

Concern	Mitigation
High upfront investment costs of building retrofits could mean that low-income consumers will be left stranded with inefficient, unhealthy appliances and buildings.	Provide public financing to accelerate decarbonization of affordable housing. Leverage funding streams like Measures HHH, JJJ, and M in addition to state programs like CAMR, LIWP, ¹⁰ and SOMAH.
While reducing emissions from buildings is important, improving the health and safety and general quality of housing is also important, and sometimes more urgent than climate change goals.	Create a “one-stop-shop” for whole home upgrades that address health and safety repairs and rehabilitation, efficiency and weatherization, electrification, grid-interconnectivity, and resilience.
Landlords who make investments in building and energy improvements will seek to recoup such investments with high rents, triggering displacement.	Tie public financing, subsidies, and incentives to restrictions on rent increases and property sales and eviction protections for a specified period of time, ^{11,12,13} and undertake other proactive measures to preserve and expand affordable housing. ^{14,15,16}
Reduced gas throughput resulting from economic and environmental electrification will increase gas rates, thus exacerbating energy burden for remaining gas customers.	Rate design and increased bill support for energy-burdened customers, while avoiding using public resources to subsidize wealthy property owners.
Displacement of good-paying union jobs associated with gas infrastructure and delivery, particularly for utility workers and plumbers and pipefitters.	Protect jobs through dual piping code, VRF systems, district energy, or other solutions.
In the private construction market, there are no assurances that the jobs created will be high-road jobs.	Adopt skilled and trained workforce, apprenticeship standards, and other high road labor standards.
Investing in efficiency and beneficial electrification may not result in the anticipated energy savings and performance improvements.	Adopt rigorous performance and inspection standards to track, evaluate, and ensure high quality workmanship.
Jobs and business opportunities created to respond to growing demand for building rehabilitation and retrofits may not be accessible to disadvantaged workers or small women and minority-owned businesses.	Include in any publicly funded program both targeted hire and supplier diversity metrics. Support high-road construction pre-apprenticeship programs for targeted populations and capacity building for WMBEs.
Community stakeholders do not have the time, resources, or capacity to meaningfully engage on building decarbonization issues, but without their engagement, policies and programs will not be responsive to their needs.	Ensure broad, inclusive community engagement, education, and capacity-building especially in frontline communities through the CEMO and in partnership with community-based organizations.
Electrification of buildings and transportation puts new demands on the grid and the workers charged with maintaining grid reliability while accelerating the development of carbon-free electricity.	Promote smart appliances, grid-responsive buildings, and pursue district energy solutions to tap into alternative energy sources like geothermal and waste heat.

DECARBONIZATION OPPORTUNITIES FOR GAS WORKERS

- Technology-neutral Building Performance Standard
 - Dual-plumbing
 - Variable Refrigerant Flow (VRF) systems
 - District Energy / Geothermal / Infrastructure-scale solutions
 - Planned pruning/decommissioning
-
- [Also need support for just transition measures, i.e. pension security, bridges to retirement, retraining and job placement for younger workers, etc. in case of worker displacement.]

AFFORDABLE HOUSING JOBS

A robust incentive fund for deep decarbonization of LA's affordable housing over 10 years, could create 4600–7400 FTE union construction jobs per year, securing affordable housing, improving indoor air quality, and reducing energy burdens for low-income renters, while ensuring that low-income residents will not be left behind as LA leads city efforts to address climate change.

	Basic Efficiency 10–14%	Mid-Efficiency 15–30%	Deep Efficiency >30%
Affordable Housing (deed restricted) Jobs	1,400 - 2,400	2,500 - 3,500	4,400 - 7,000
Sum of Work Hours	2.6 - 4.3M	4.5 - 6.3M	7.9 - 12.5M
Total Investment Cost	\$160 - 270M	\$470 - 660M	\$1.3 - 2.0B
Affordable Housing (naturally occurring) Jobs	7,100 - 11,800	10,300 - 14,500	25,800 - 40,900
Sum of Work Hours	12.8 - 21.2M	18.5 - 26.1M	46.4 - 76.6M
Total Investment Cost	\$810M - \$1.3B	\$2.3 - 3.2B	\$6.0 - 9.5B
10-Year Careers Supported	850 - 1,420	1,280 - 1,800	3,020 - 4,790

	Space Heating & Cooling Electrification	Water Heating Electrification	Whole Building Electrification*
Affordable Housing (deed restricted) Jobs	2,800 - 3,000	100 - 200	3,500 - 4,500
<i>Incremental Jobs</i>	<i>600 - 700</i>	<i>100</i>	<i>1,100 - 1,800</i>
Sum of Work Hours	5.0 - 5.4M	250 - 400K	7.9 - 12.5M
Total Investment Cost	\$640 - 690M	\$50 - 70M	\$860M - 1.1B
<i>Incremental Cost</i>	<i>\$130 - 160M</i>	<i>\$20 - 30M</i>	<i>\$300 - 490M</i>
Affordable Housing (naturally occurring) Jobs	8,900 - 10,400	900 - 2,000	11,900 - 21,200
<i>Incremental Jobs</i>	<i>1,500 - 2,300</i>	<i>400 - 1,100</i>	<i>4,000 - 10,600</i>
Sum of Work Hours	16.0 - 18.6M	1.7 - 3.7M	21.4 - 38.1M
Total Investment Cost	\$2.3 - 2.7B	\$280 - 610M	\$3.3 - 6.1B
<i>Incremental Cost</i>	<i>\$390 - 610M</i>	<i>\$120 - 320M</i>	<i>\$1.3 - 3.6B</i>
New/Additional 10-Year Careers Supported (Incremental Work)	210 - 300	50 - 120	510 - 1,240

SCHOOL JOBS

An \$80M annual investment for 5 years could fully decarbonize and upgrade all of LA's public schools, supporting 400–500 full-time equivalent (FTE) union construction jobs per year, improving the quality and safety of school HVAC systems and redirecting energy spending to learning. Measure RR allocates \$3 billion to retrofits and upgrades, providing a funding source to support this work.

	Basic Efficiency 10–14%	Mid-Efficiency 15–30%	Deep Efficiency >30%
K-12 Schools Jobs	300 - 500	600 - 900	1,600 - 1,900
Sum of Work Hours	520 - 850k	1.2 - 1.5M	2.9 - 3.4M
Total Investment Cost	\$40 - 60M	\$130 - 170M	\$490 - 590M
10-Year Careers Supported	30 - 50	60 - 90	160 - 190
Universities & Hospitals Jobs	300 - 500	800 - 1,000	1,800 - 2,200
Sum of Work Hours	590 - 960k	1.4 - 1.9M	3.2 - 3.9
Total Investment Cost	\$40 - 70M	\$140 - 190M	\$560 - 670M

	Space Heating & Cooling Electrification	Water Heating Electrification	Whole Building Electrification*
K-12 Education Jobs	200 - 600	30 - 40	300 - 700
Sum of Work Hours	390K - 1.1M	60 - 70k	580K - 1.3M
Total Investment Cost	\$50 - 150M	\$11 - 13	\$90 - 200M
<i>Incremental Jobs</i>	70 - 230	10 - 15	140 - 350
<i>Incremental Cost</i>	\$20 - 60M	\$3 - 4M	\$40 - 90M
10-Year Careers Supported**	20 - 60	3 - 4	30 - 70
Universities & Hospitals Jobs	1,500 - 2,200	30	1,600 - 2,300
Sum of Work Hours	2.7 - 3.9M	50 - 60k	2.8 - 4.1M
Total Investment Cost	\$360 - 520M	\$7-9M	\$390 - 570M
<i>Incremental Jobs</i>	300 - 500	10	300 - 600
<i>Incremental Cost</i>	\$80 - 130M	\$4 - 5M	\$90 - 160M



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Thank you for joining us!



Contact information

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We want to hear from you!

Workshop #3 survey: bit.ly/CELA-Survey3

Please complete the brief post-event survey to help us improve our events & gather the community's input as part of the CEMO Blueprint model to co-create equitable climate policy.