

SAN FRANCISCO BUILDING DECARBONIZATION & EQUITY MEETING #1
Workforce opportunities and challenges in the transition to 100% electric buildings

Contractors Assistance Center, 150 Executive Park Blvd #1300, San Francisco CA 94134
 November 19, 2019

Co-hosted by Emerald Cities San Francisco, PODER, and SF Environment

2:00 – 2:30 pm	Introduction and Context Setting <i>Purpose and Intention:</i> Rosa Gonzalez (Movement Strategy Center) <i>Climate and Equity:</i> Antonio Diaz (PODER) and Avni Jamdar (Emerald Cities SF)	Speakers Rich Chien , SF Environment richard.chien@sfgov.org , 415-355-3761
2:30 – 3:00 pm	Framing Climate Action, Electrification, and Job Creation <i>SF Climate Action Strategy update:</i> Rich Chien (Department of the Environment) <i>California Building Decarbonization Workforce Needs and Recommendations:</i> Betony Jones (Inclusive Economics)	Antonio Diaz , People Organizing to Demand Environmental and Economic Justice (PODER) adiaz@podersf.org Rosa Gonzalez , Movement Strategy Center rosa@movementstrategy.org
3:00 – 3:50 pm	Discussions: Opportunities, Challenges, Recommendations <i>Instructions:</i> Rosa Gonzalez <i>Small breakout groups:</i> Contractors, labor, workforce training providers <i>Large group sharing and discussion</i>	Avni Jamdar , Emerald Cities San Francisco ajamdar@emeraldcities.org Betony Jones , Inclusive Economics Betony@InclusiveEcon.com
3:50 – 4:00 pm	Closing and Next Steps	

SAN FRANCISCO BUILDING DECARBONIZATION & EQUITY FUTURE MEETINGS

Meeting # 2. Equity impacts: Transitioning San Francisco’s deed-restricted affordable housing to 100% electric buildings. *Tuesday, December 10th, 2019, 2 to 4 PM*

Meeting # 3. Equity impacts: Transitioning San Francisco’s single family & multifamily housing (focus on low-income and communities of color) to 100% electric buildings. *Tuesday, January 14th, 2020, 2 to 4PM*

Meeting # 4. Preliminary findings & recommendations: review and collect stakeholder feedback for equity impacts and San Francisco’s transition to 100% electric residential buildings. *February 2020*

Meeting # 5. Final findings & recommendations for equity impacts and San Francisco’s transition to 100% electric residential buildings. *March 2020*

CONTRACTORS BREAKOUT DISCUSSION

Opportunities	Challenges	Recommendations
<ul style="list-style-type: none"> ● Acknowledge that we are at the front end of the adoption curve ● Attracting skilled “high road”-type workers into the small contractor market (how?) ● Provide contractor training to ensure quality work ● New financial incentives coming on-line ● Think about mandates, e.g. if you are already replacing a system, then electrify it ● Value propositions such as health, comfort and safety ● Target PV and EV “early adopters” for electrification projects (already have done electrical work, probably have newer panels, and are going “green”) ● Start with water heaters: need to be replaced regularly, lower cost than space conditioning ● Shared infrastructure solutions: neighborhood-scale approaches, “shared mindset” - get the whole street to ask for gas removal instead of house-by-house 	<ul style="list-style-type: none"> ● Contractor technical requirements and know-how associated with heat pumps/HPWH’s are higher than gas furnaces and water heaters. ● General contractors can install gas equipment where heat pumps require multiple licenses (B and C20), need some engineering to do load calculations etc., potentially coordinating different trades ● Residential (single family) market is driven by lowest cost; makes it harder for heat pump technologies to compete in the low bid environment ● Cost of doing business in SF is high ● Adding new electric loads may trigger discussion or need to upgrade electrical panels ● Long time delays for PG&E sign-off on electric service upgrades ● Perception and reality that construction leads to displacement of tenants etc. ● Gas cheaper than electricity (makes customer sale challenging) - use different value propositions such as health, comfort and safety ● All the fees (permit, HERS test) ● Current (lack of) incentives ● SF homes lack air conditioning which would make switching to heat pumps more cost-effective than switching from gas furnace to heat pump. ● EE + electrification is still a very small percentage of the total market (incl. emergency replacements, home renovation market) ● Zoning requirements (property line setback requirements for outdoor condenser units etc.) 	<ul style="list-style-type: none"> ● Train DBI building plan checkers and inspectors to know what to expect from simple electrification change-out’s ● What can the city do to help or facilitate with utility regarding elec. service upgrades/interconnections? ● Help increase visibility of contractors who are doing electrification work ● Leverage very knowledgeable and experienced pool of local electricians ● More financial incentives, especially for those who lack available/low-cost capital ● Create an electrical rate/tariff that makes it more cost effective to use electricity for heating and water heating, that is also grid friendly ● Provide a clearinghouse of information for homeowners, building inspectors, contractors ● Make it simple and streamlined for the owner and the contractor ● Every homeowner needs a long-term electrification/ decarbonization plan

LABOR BREAKOUT DISCUSSION

Opportunities	Challenges	Recommendations
<ul style="list-style-type: none"> • Labor are not climate deniers and want to do the work • solidarity with labor needs and climate policy <ul style="list-style-type: none"> >needs skilled workers • replace upon burnout to reduce waste (but this conflict with district basis) • start with low income to avoid increased cost burdens and increase affordability • burdens on people who cannot afford it if market-driven the only measure • Synergies between district energy system, thermal energy storage, equitable impacts to gas system • long-term planning is multi-beneficial • City can ask for a minimum volume of appliances which can drive improve quality (ie longer and better service guarantees) • City policy can drive demand (opportunity to work with manufacturers) • public agencies have a lot of control over workforce (see DBI process) • certified for residential work 	<ul style="list-style-type: none"> • Green people delivering messages to trades is not best way to communicate • labor movement has its own challenges to deal with outside of climate <ul style="list-style-type: none"> >residential is both most challenging technically and largest potential volume of work > work with apprenticeship programs to get residential workers certified and then incentivizes their selection • MUSH sector focus might not result in change fast enough • need to address that gas prices shift have impacts • electricity challenges with power shut offs and wildfires • pre-qualify contractors • District Energy System • Local load management • workers with barriers can be trained • 17K contractor years over 25 years • Fighting with labor unions • conditions will change a lot in 25-year transition period • Lowest costing work can be lower quality • Market solution perspective • technology failure creates a disproportionate burden to low-income • engagement process that is robust main nots result in people using it (ie CAPSS) 	<ul style="list-style-type: none"> • Direct subsidies/individual approach versus district-scale approach • also looking at carbon pricing through an equity lens <ul style="list-style-type: none"> >resource from supervisor Mar report available in a few weeks • Community can push supervisors on legislation • City agencies adopt High Road resolution • Federal program: electric grid • manufacturer minimum volume Q. C. long warranty • Rising Sun, Richmond Build, City Build > green buildings program <ul style="list-style-type: none"> • make low road jobs high road • train sales people • utilities as partners and Workforce • be sensitive to historical and or current tensions between labor and green economy • Growing market share for people of color and low-income <ul style="list-style-type: none"> • need to investigate block-by-block versus district-scale approach • market-driven solutions have the potential to meet certain types of goals (and not all equity goals) • education for residents needed to result in lower bills • optimization of electrical system can reduce cost to customers • work with schools, certain apprenticeships programs (ie Richmond Build and City Build) • look into Ames House in Providence for training for people with barriers to employment <ul style="list-style-type: none"> • need more diversity, use this as an opportunity to engage with people who have barriers to employment (might not need more total workers) • partner with utilities for career pathways • look at disparities in how people advance

WORKFORCE TRAINING PROVIDERS BREAKOUT DISCUSSION

Opportunities	Challenges	Recommendations
<ul style="list-style-type: none"> • Community Level <p>Block by Block Approach (Economies of scale/ Limited Disruption)</p> <ul style="list-style-type: none"> • Use students to retrofit existing buildings • Use public money to ensure that we create high road jobs (State incentives for high road, not low road, i.e., not jobs that go away) • Swap outs could result in increased energy bill --> Opportunity: other work to decrease energy use (improve efficiency) and look at entire building • Funding for low-income communities • Support individuals in low road positions (for residential sector) and help them build skills so they can have sustainable high road positions to qualify for MUSH sector • Could people in low road jobs apprentice in high road work and get their credentials on the way? • Train for retrofits & maintenance of equipment 	<ul style="list-style-type: none"> • Funding for workforce training • Access to construction jobs (need driver's license + no record for cannabis) • High road has higher barriers to entry - need to balance • Electrification is expensive; financial means for communities of color • Make sure training programs result in qualified workers + ensure those workers get opportunities • Trades – 5-year Program (they become experts; high voltage electrification) <ul style="list-style-type: none"> - Hard to give OJT to other workers for work that requires that level of expertise • Emergency- need hot water quickly • Demographics of workforce? Racial inequities? Need data • Don't add to electric burden of households (Higher bills) • Biases in construction trade • Don't want to leave out non-union workers - how do we include them? • Training sometimes doesn't lead to any jobs. Can you build a career? • Multiple licenses required (plumber, electrical, bldg modifications) • Financing: avoid refinancing – could harm People of Color 	<ul style="list-style-type: none"> • Need incentives (like GoSolar SF) — Tiered incentives • Model it with a neighborhood • Pay As You Go Program (come out of utility bills rather than refinancing) • Credential workers to do this work • Workforce labor compliance monitoring to ensure young hires continue to benefit • Targeted hire program • Include energy efficiency as part of package • Bond amendment to fund this and only this • Include childcare provisions for the workers • City work with neighborhoods rather than mandate • Investment for MBE • Look at other job sectors for decarbonization • Need community education on climate change at the neighborhood level – as resident, worker, consumer, etc. (break down information)