



**Emerald Cities Collaborative**  
**The Building Electrification Equity Project**  
**April 2020**

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## ACKNOWLEDGEMENTS

The Building Electrification Equity (BEE) Project was initiated by Emerald Cities Collaborative (ECC) and implemented in partnership with numerous national organizations and individuals aligned with ECC's mission.

### **Emerald Cities Collaborative**

ECC is a national multi-stakeholder coalition dedicated to building high-road - sustainable, just and inclusive - regional economies working at the intersection of environment, economy and equity. ECC national and local coalitions in San Francisco and Seattle are specifically working to actively engage environmental, climate and economic justice organizations on justice-centered building electrification policies. The BEE team included:

- Denise G. Fairchild, Emerald Cities Collaborative - President & CEO
- Steve Gelb, Emerald Cities Seattle - Local Director
- Avni Jamdar, Emerald Cities San Francisco - Local Director

### **NAACP - Environmental and Climate Justice Program**

NAACP co-hosted BEE's national convening at its Centering Equity in Sustainable Buildings summit in Virginia Beach, Virginia in October 2019. Critical support was provided by:

- Jacqueline Patterson, NAACP - EJ/CJ National Director
- Mandy Lee, NAACP - Manager, Centering Equity in the Sustainable Building Sector

### **National Convening Facilitator**

- Anthony Giancatarino, Just Community Energy Transition Project

### **Webinar Partners**

- Bruce Nilles, Rocky Mountain Institute
- Merrian Borgeson, NRDC
- Carmelita Miller, Greenlining Institute
- Rich Chien, San Francisco Department of the Environment
- Jenna Tatum, Building Electrification Initiative

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# THE BUILDING ELECTRIFICATION EQUITY PROJECT

## EXECUTIVE SUMMARY

The Building Electrification Equity (The BEE) Project was a 6-month organizing and planning process to engage and inform the environmental and climate justice community on the building electrification movement, and to ensure equity issues and strategies are incorporated in state and local policies. This report summarizes the results of a series of webinars, and an in-person convening of environmental justice and energy democracy advocates and practitioners. The report begins with key findings and principles and then highlights: 1) Building Electrification (BE) Background, 2) The BEE goals/objectives/methodologies, 3) Major Issues, and 4) Recommendations.

### KEY FINDINGS

The following high-level take-aways summarize the key findings from this assessment of community perspectives on the equity dimensions of building electrification policies.

1. **Climate and Public Health Impacts.** Upon learning more about building electrification, environmental and climate justice advocates appreciated the impacts of building electrification on reducing carbon, climate change and indoor air pollution.
2. **Limited Information and Research.** Given the nascent state of the building electrification field, there is a fair amount of uncertainty about the full range of positive and negative consequences. Broader community engagement is needed for a deeper two-way information channel. Also, deeper level of research was requested to address unanswered questions, including:
  - ✓ Create best practices for on demand-side utility programs that incorporate equity within building electrification policies.
  - ✓ Landscape analysis examining the upcoming and current policy, programs, and large projects around building electrification.
3. **Increase Sensitivity to the Cultural Dimensions of Electrification.** Participants expressed the need for a holistic framework to develop policies, strategies and programs that: 1) support a ‘human rights’ framework and that do not foster the commodification of the clean energy sector, 2) recognize electrification not just as a technological solution to climate and public health but to position it to explicitly work at the intersection of environmental, economic and social justice; and 3) incorporate cultural differences, such as: a) some indigenous cultures valuing off-grid vs. electrified lifestyles, b) defining electrification within whole body/whole life and environment frameworks, or c) recognizing the significance of gas stoves in family rituals and traditions.
4. **Recognition of Regional Differences.** Geography matters with respect to the applicability/appropriateness of electrification. It was determined, for example, that the technology



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does not yet adequately address subzero Midwest weather conditions. The technology is not yet proven for all conditions.

5. **Cost Factors.** A major concern involves the impacts of fuel switching on household budgets. Electricity typically costs more. Families often use gas stoves to heat their homes due to the high cost of electricity.
6. **Legacy Factors.** Building electrification policies should prioritize the needs of low-income housing and communities, and proactively fix legacy challenges including poor housing conditions, toxic communities.
7. **The Resilience Factor.** What happens when the grid goes down? Energy resilience is compromised without built-in redundancy in energy solutions and must be considered in building electrification policies.
8. **Economic impacts.** The impact of electrification on jobs and businesses is undefined. There is limited information or certainty among participants about the potential economic opportunities and dislocations on existing and new workers.
9. **Capacity Issues.** The multiple demands on community groups to address a wide variety of environmental, economic and social justice issues limit their capacity to effectively participate in the building electrification conversation.
10. **Engagement & Collaboration.** There is a need to create a platform where community stakeholders, EJ/CJ advocates, technical experts, and regulatory experts can come together to ask questions and provide feedback around building electrification pilots and policies happening within their community.

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## BUILDING ELECTRIFICATION AND ENERGY DEMOCRACY PRINCIPLES

The majority of participants in the national convening also collaborated on the development of the Energy Democracy Scorecard<sup>1</sup> and used these principles and values to filter electrification policies. Accordingly, building electrification policies need to be tested against four core energy democracy standards related to: a) shared governance/decision-making, b) social equity, c) regenerative energy systems, and d) a moral economy.

This overarching energy democracy framework offers several specific actionable guidelines for local electrification policy formulation including:

### 1. Governance/Decision-making:

- Equity-centered electrification policies need to be community-driven and defined. This requires investments in electrification literacy to foster informed decisions. There is a general lack of awareness and knowledge among both community advocates and consumers about what electrification is and what it means for their communities. City and state governments should set aside funds to allow for community informed decisions and planning processes (See Attachment A: San Francisco Case Study).

### 2. Social Equity:

- Equity Impact Assessments of electrification policies should be required to determine the potential cultural, race and economic burdens on vulnerable communities. Cookie-cutter policies do not take into account unique regional/geographic and cultural differences. Both quantitative and qualitative methods should be adopted.
- Reparation. Electrification policies must address legacy housing, community health, safety, and economic challenges in low-income communities and communities of color.
- Energy burdens must be calculated in an equity-focused electrification policy. This will differ across markets, communities and building classes, but may invariably burden the most vulnerable communities. This must be taken into account in BE policies, including utility shut-off policies and utility subsidies for energy burdened households.
- Community economic impacts are as critical as household impacts. How will it impact community retail and other local businesses? Restaurants, small grocers, and storefronts that use gas stoves or require refrigeration or other gas-powered appliances. Added burdens on these businesses will impact costs of local goods and services, as well as the viability of community enterprises.
- Strong anti-displacement language should be incorporated in all electrification policies that impact low-income renters and owners, as well as assess and address temporary displacement during retrofits.

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<sup>1</sup> <http://emeraldcities.org/about/energy-democracy-scorecard>

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### **3. Regenerative Energy Systems**

- Culturally appropriate/Intersectional policy frameworks are required to not only address climate and public health issues, but also the economic, cultural and social dimensions of electrification.
- Support locally generated and distributed renewable energy sources/systems.

### **4. Moral Economy**

- Proactive investments in equitable workforce and business development strategies to a) protect displaced workers with training programs in new industries, b) target training and hiring programs for individuals with barriers to employment, c) build the technical capacity of minority and women-owned business enterprises (MWBE) and disadvantaged business enterprises (DBE) to access and undertake socially responsible contracting and, d) develop community economic development strategies in areas impacted by decarbonization.

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## RECOMMENDATIONS

### 1. **Research/Education/Civic Engagement**

- a. Develop on-line building electrification and equity resources to increase community awareness and capacity.
- b. Continue to provide informational webinars as new states, cities, and organizations become engaged with the policy efforts to ensure effective community engagement and equity outcomes.
- c. Support additional BE basic research to deepen understanding of community economic impacts, cultural issues, best practices policies
- d. Fund effective community engagement in design/planning of local building electrification policies, and
- e. Support applied research to better understand electrification costs and outcomes for different building types and regions.

### 2. **Policy & Program Planning Tech Support**

- a. Strengthen the development and wide-spread adoption of energy democracy principles in building decarbonization with specific attention to intersectional and cultural solutions.
- b. Fund “Equity First” building electrification pilots that target vulnerable communities in various markets and building types to assess climate, health, wealth and income disparities, leading with building electrification measures, but incorporating home repair, energy efficiency, renewable energy and water conservation.
- c. Create and/or identify an online platform in which community stakeholders, EJ/CJ advocates, technical experts, and regulatory experts can engage in equity-first building electrification efforts.
- d. Support national EJ/CJ/ED networks to participate in national BE discussions and strategies to strengthen the equity dimension of BE policies, including national and regional/local convenings with each other and the larger building electrification movement. The support includes legal and policy experts to provide policy analysis model legislation, code standards, and utility commission strategies.

### 3. **Building Electrification Workforce & Contractor Diversity**

- a. Position workers for building electrification work through HVAC training for under-employed, immigrant, formerly incarcerated and other community members with barriers to employment.
- b. Increase women and minority owned contractor’s capacity to perform clean energy and building electrification work.
- c. Build requirements for diversity, training, pre-apprenticeship, and apprenticeship, actions and funding into BE policies.



**RECOMMENDATIONS RELEVANT TO KEY STAKEHOLDER GROUPS<sup>2</sup>**

Recommendations		Foundations	Local Government	Utilities
<b>Research/Education/Civic Engagement</b>	On-line resources/webinars/best practice models/policies to assist in the development of equity-centered electrification policies	✓		
	Applied research-cost/effectiveness/impact		✓	✓
	Support for frontline orgs to participate in national & regional BE meetings/networks/convenings	✓		
	Fund effective community engagement in design/planning of local building electrification policies		✓	
<b>Policy/Program Planning &amp; Support</b>	Support Frontline Orgs Energy Democracy Planning and Organizing	✓		
	Support Equity-first pilot projects/applied research		✓	✓
	Support a national Building Electrification and Equity network of community groups	✓	✓	
	Provide specialized technical assistance for city engagement	✓	✓	
<b>Workforce &amp; Contractor Diversity</b>	Embed economic inclusion policies in Building Electrification Policies		✓	
	Build MWDBE capacity to undertake building electrification work		✓	✓
	Fund HVAC training for disadvantaged workers		✓	✓

<sup>2</sup> Support for these recommendations is not exclusive to any stakeholder group and, in fact, should be collaborative to ensure desired impact and scale.

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# THE BUILDING ELECTRIFICATION EQUITY (THE BEE) PROJECT

## SUMMARY REPORT

This report summarizes the results of a series of webinars, an in-person convening/focus group, and community meetings during the Fall 2019 to center environmental and climate justice issues in the emerging building electrification movement. The report highlights: 1) the background, 2) goals/objectives, 3) webinar & convening outreach results, 4) major issues, and 5) recommendations.

### BACKGROUND

#### The Climate Challenge

Climate change is a game changer. It is redefining how we live our lives in fundamental ways. Our food, transit, water, and energy systems are being re-engineered and rebuilt to eliminate the use of fossil fuels (coal, gas, oil) in our economy. Burning these fuels produce carbon emissions that are creating imbalances in our ecosystem, producing extreme weather events (wildfires, tornadoes, hurricanes, floods, etc.), and compromising our water and food supply, biodiversity and survival as a species.

The Paris Climate Agreement signed in 2015 signaled a global recognition of a carbon problem and a need to fix it. The U.S. for its part invested in energy efficient buildings, solar and wind generation and public transportation. Most significant of all was a national movement spurred by the Sierra Club to shut down coal plants. But, according to scientists, this is not enough. We are losing the battle. The chemistry in our atmosphere is now beyond 440 ppm of carbon, well above the 350 ppm levels that sustain life as we know it.

The urgency to do more was signaled by the October 2018 report, Global Warming of 1.5 C, issued by the Intergovernmental Panel on Climate Change (IPCC) that warned that limiting the long-term, worst effects of global warming "would require rapid, far-reaching and unprecedented changes in all aspects of society."

Specifically, The U.N. IPCC report, revealed that the best path to limiting warming to an increase of 1.5 C by 2100 involves cutting net human carbon dioxide (CO2) emissions 45% by 2030 (12 years after the report was published) and then cutting emissions further to net zero by 2050.

Cities and states across the U.S. are playing their part towards becoming a net zero economy. The State of Washington has plans to transition to 100% clean electricity and to reach net zero emissions by 2050. NY recently vowed to reduce carbon emissions by 85% by 2050 with Massachusetts and California committing to 80% by 2050. Illinois is moving legislation to be 100% clean energy. Some suggest an even more aggressive timeline is needed to beat the climate clock.

These state efforts are buttressed by a larger environmental and climate movement pushing other cities and states towards 100% clean energy, including mainstream and justice-centered nonprofits and activists.

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Attaining these goals require economy-wide changes in agriculture, transportation, the power sector and the building sector.

### **The Building Electrification Movement**

The building electrification movement is nestled within this larger climate context. The building sector has an important and distinct role in addressing the climate challenge. According to the US Energy Information Center, nation-wide the building sector is responsible for as much as 40% of total energy consumption; 28% of emissions come from building operations (lighting, heating/cooling, cooking, etc.), and 11% are ‘embodied carbon’ from the construction process (manufacturing, transporting and construction). In NYC it is as high as 71% of greenhouse emissions and 95% of electricity usage.

In September 2019, the Committee on Energy and Commerce held a congressional briefing on the relative importance of the building sector in achieving a 100% clean economy given that as much as half of the floor space in US buildings use systems that burn fossil fuels on site. The short answer is that if we are to meet our carbon goals, significant effort is required to decarbonize our building stock.

A building electrification movement is emerging to create the political will and momentum to move beyond building efficiency to electrify our residential and commercial buildings. Similar to the successful anti-coal movement a few years ago, major environmental groups are working towards policies that would require new buildings to go ‘gas-less’. According to the Sierra Club, over 25 California cities are among the early adopters of building de-gasification policies; but new green building codes of various types are being developed throughout the country. As many as 8 cities as different as Boston, Salt Lake City, Boulder, Burlington, VT and NYC are part of the Building Electrification Initiative (BEI) testing and sharing building electrification models. While most focus on “stretch” green construction codes and standards for new construction, efforts are underway to retrofit existing residential and commercial properties with electric appliances, heat pumps and other new energy efficient and green technologies.

### **Building Electrification: The Public Health Benefit**

Beyond the climate outcomes electrification revealed significant health benefits. Research suggests:

- Cooking with gas is associated with increased risk of childhood respiratory illnesses, including asthma. Specifically, children living in a home with a gas cooking stove have a 42% increased risk of current asthma and a 24% increased lifetime risk of asthma;
- The burning of gas in our buildings contributes to ozone (smog) and particle (soot) pollution in our communities;
- Gas cooking produces dangerous levels of indoor pollution;
- Gas is highly explosive;
- Gas causes fires especially after earthquakes;

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- Most gas is from fracking causing local safety and transport issues.

### **Building Electrification: The Equity Dimensions**

Advancing building electrification policies checks both the climate and public health boxes. This undoubtedly supports climate and health vulnerable populations. Questions regarding other equity issues related to this emerging policy agenda are not sufficiently addressed. The equity questions are unanswered for one simple reason: the equity advocates and communities are not yet in the ideation, planning and decision-making processes.

This assessment of the equity dimensions of building electrification is a direct result of Emerald Cities Collaborative finding itself in the uncomfortable position of being the solo EJ/CJ voice at the national convenings on this issue. It was clear that the train was leaving the station. The sense of urgency around building electrification is palpable. The rationale and policy frameworks are emerging. The technologies are maturing. Major public and private investments are underway. Though, without broader engagement of the justice community, its success will either be limited and worse, reproduce the inequities of past well-intended policy initiatives.

Subsequently, Emerald Cities Collaborative (ECC), with the support of several foundations<sup>3</sup>, engaged environmental and climate justice advocates and other partners in exploring equity in the building electrification movement.

## **THE BUILDING ELECTRIFICATION EQUITY (THE BEE) PROJECT**

The Building Electrification Equity (The BEE) Project was established to better understand the costs and benefits to low-income, communities of color and to make certain that these communities are active participants in this major policy arena. They have most to gain and lose.

### **Goal:**

Increase the capacities of Environmental Justice (EJ)/Climate Justice (CJ) communities to engage and advance equity issues in building electrification policies/programs.

### **Objectives:**

1. Introduce and increase the knowledge and information within EJ/CJ communities about building electrification and how it might impact low-income communities and communities of color.
2. Identify major equity issues to develop strategies and identify challenges EJ/CJ groups may have in responding to program and policy initiatives in building electrification.

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<sup>3</sup> The Kresge Foundation, The Heising Simons Foundation and The Heinz Foundation.

3. Review the organizing strategies of Big Greens and contemplate strategies for EJ/CJ groups to either align with or form a counterbalance to them in order to ensure equity issues into planning and development of the building electrification movement.
4. Seek to develop a common perspective that can be used to continue to advocate for equitable building decarbonization as it becomes an issue in various cities and states throughout the United States.

### **Approach/Methodology:**

ECC engaged in a six-month collaborative planning project that entailed four components: 1) information and educational webinars, 2) an in-person planning workshop, 3) consensus planning & development, and 4) marketing and dissemination.

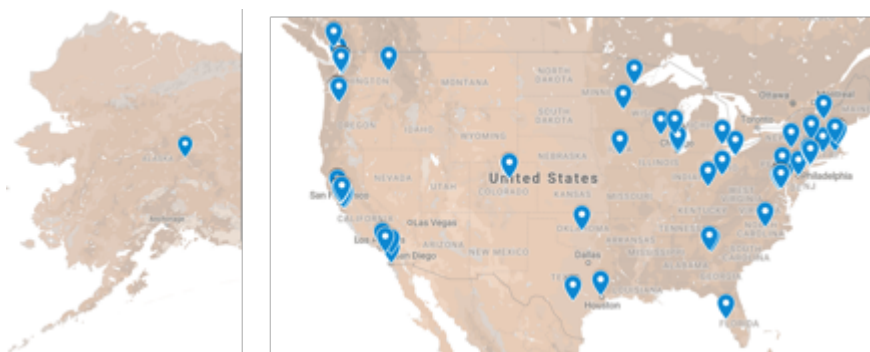
**Webinar Series:** ECC developed and hosted public webinar series to reach EJ/CJ communities and policymakers about the benefits and challenges of the movement towards building electrification. The series entitled ‘Spotlight on Equity & Inclusion in the Building Electrification Movement Series’ featured subject matter experts from the Rocky Mountain Institute, NRDC, Greenlining Institute, PODER, and the Innovation Network Four Communities.

The first webinar, ‘**Cutting Carbon Emissions via Building Electrification: Implications for Vulnerable Communities**’, described the reasons for building electrification, the technologies involved and explored the potential impacts of the climate crisis and the building electrification movement on low-income communities and communities of color.

The second webinar, ‘**Policy & Program Design for Building Electrification: Centering Advocacy on Equity and Inclusion**’, focused on providing a deeper understanding of the community impacts of electrification as a response to climate change, case studies of responses to date, and a model for engagement of community groups that puts grassroots organizers and activists in conversation

### *Building Electrification Webinar Analytics Report*

### *Webinar #1 Map & Analysis: Cutting Carbon Emissions via Building Electrification: Implications for Vulnerable Communities*



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*Webinar #1 Map can found at this link: <https://bit.ly/2BpBPnL>*

The registrants in the first webinar included a total of 172 total registrants representing 111 different organizations from 27 different states. Webinar participants were located in dense clusters on the Eastern (D.C) and Western Coast (CA/WA). Participants were from 2 Countries: Either the U.S. or Canada.

*Webinar #2 Map & Analysis: [Policy & Program Design for Building Electrification: Centering Advocacy on Equity and Inclusion](#)*



*Webinar #2 Map can be found at this link: <https://bit.ly/31mjsu4>*

The second webinar included 202 total registrants, from 140 different organizations representing 26 different states. Webinar participants were located in dense clusters on the Eastern (D.C) and Western Coast (CA/WA).

**Overall:** There were a total of 374 participants. 105 registrants attending the first workshop also participated in the second one, representing a retention rate of 61%. Participants ranged from high-level executives to entry-level staff and grassroots organizers, and represented different sectors including government, non-profit, and industry.

*NAACP Webinars:* ECC conducted two additional webinars for members of NAACP’s *Centering Equity in the Sustainable Building Sector* on December 3<sup>rd</sup>, 2019.

**National In-Person Convening:** ECC, as a co-facilitator of the NAACP’s Centering Equity in the Sustainable Building Sector Virginia Beach convening, leveraged this event to host a one-day post workshop meeting for a focused multi-stakeholder dialogue on equity in building electrification. A total of twenty-six (n=26) energy democracy and environmental justice advocates joined a handful of mainstream environmental organizations resulting in a full range of racial, ethnic and geographic diversity from Hawaii to Alaska, to Indigenous communities, rural communities from Appalachia to Mississippi, Northeast and Midwestern rural towns (see Attachment B: attendance list).





The BEE convening started with a dinner meeting on October 29<sup>th</sup>, followed by a day-long convening on October 30<sup>th</sup>. The dinner conversation allowed participants to get acquainted with each other and to introduce the idea of building electrification. After an overview of electrification each participant was asked to reflect and respond to this question: *“what gas-powered equipment/facility would you hate or would be happy to get rid of and why?”*. This brought closer to home the idea of building electrification and generated an introspective and dynamic exchange that helped to personalize the benefits and challenges to the everyday person.

The day-long convening began with an overview of the convening goals and objectives. This was followed by a shortened version of the webinar series to provide a primer on electrification, including technical and policy trends, the benefits (health) and challenges (transition and operating costs) with a particular focus on energy democracy issues.

During the second half of the day participants shared their perspectives to illuminate the current challenges they see, the strategies that might be employed and the resources and alignment necessary to center equity in the Building Electrification movement.

## **BEE: MAJOR ISSUES**

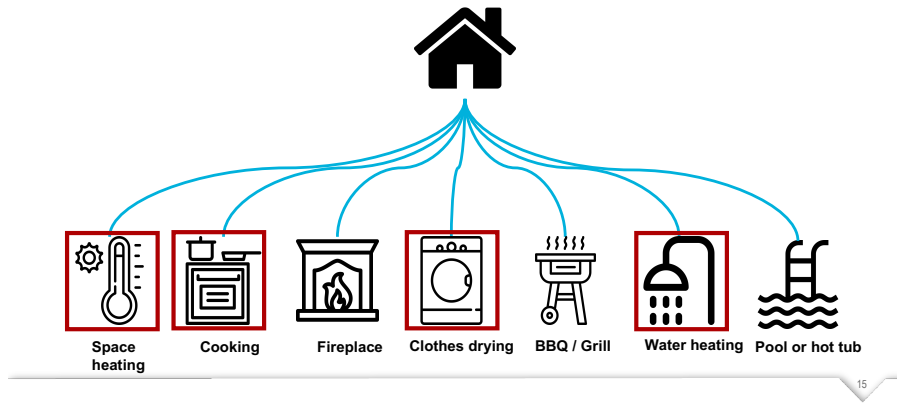
### **Dinner Discussion: Personal Reflections on Electrification**

The topic of discussion: *“what gas-powered equipment/appliance would you hate or would be happy to get rid of and why?”*.

This dinner session was an informal discussion to introduce the idea of building electrification and to explore its meaning in our daily lives. The intent was to open up equity issues that might be cured or exacerbated by building electrification. The fact is, as seen in the graph below most of us use gas appliances that are so commonplace that we never thought about how they affect our lives – positively or negatively – or that they are gas powered, or what it would mean to not have them.

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The most common uses of natural gas in buildings are for space and water heating, clothes drying, and cooking



The question proved challenging. It opened up an unfamiliar cognitive and emotional pathway. Participants initially took the simple route of identifying the environmental and climate benefits of changing their fuel source from gas to electric. The conversation became more engaging, however, when prodded and provoked to dig deeper and think about how they use gas appliances. The responses were varied, but they conjured up personal stories and feelings. The narratives informed the importance of community engagement and education about electrification, what the personal impacts might entail and demonstrating viable alternatives for wide-spread buy-in.

*I love my gas stove. It is partly about the food – how it tastes and the aromas. But more so it is about the kitchen-centered rituals and traditions – holiday meals, family meals. The kitchen is the heart of the home and the gas stove is the heart of the kitchen.*

*I would be so happy to get rid of my “boiler”. I am so sick of checking my pilot light*

*I don’t trust the technology to keep me warm in minus 42-degree weather.*

*I love my radiant heat...*

*When I was growing up we used gas stoves to stay warm. On cold days and nights my mother would turn on and open the door to gas oven to heat the house. To save money on electric bill. It was expensive to heat our house*

*We lost our family home from an electric fire. The house was a gift; my mother inherited it from my grandmother. We lost everything when it burned because we did not have enough money to buy insurance*

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## Working Group 1: Reparations

Participants in working group one addressed the following question: *How can electrification address the needs and legacy challenges of low-income, vulnerable communities?* The discussion explored ways that building electrification could be a tool to solve/fix legacy challenges such as poor housing conditions, energy burdens, health and climate vulnerabilities. Discussion probes included:

- What are the benefits and challenges that electrification can create in addressing our current crises - such as housing, energy burdens, in-home health, or climate vulnerability?
- Which sectors and building-types should be prioritized in electrification efforts addressing current crises, so frontline communities are not ignored?
- What solutions do you propose to ensure equity is central in any implementation?



The priority issues included:

**Retrofitting Old Housing Stock.** Building electrification policies should offer resources and programs to address the poor housing stock in low-income communities, including poor electrical wiring. Prioritize investments in this building stock so as to not create energy ghettos.

**Utility Shut-off Policies.** The high energy use in inefficient homes leads to energy burdens with many families experiencing unjust utility shut offs. Electrification may exacerbate energy burdens and utility shut offs. Two recommendations offered included: 1) requiring whole-building energy retrofits for low-income housing as part of building electrification; and 2) develop equity-based utility shut-off policies.

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**Use of Unregulated Heating Oil.** The use of unregulated heating oil is already an issue, particularly in rural communities. Electrification does not ameliorate this legacy challenge and may accelerate it if the costs are prohibitive or not accessible.

**Air Pollution in Industrial Areas.** Building electrification policies should prioritize facilities in communities in and adjacent to industrial areas and especially near coal fired power plants. It is well established that these communities are largely low-income, communities of color that have disproportionate rates of asthma and other pollution related illness.

**Health Disparities.** Building electrification policies should explicitly address how it will address in specific ways (geographic and population specific) health disparities and not just climate, with specific incentives for high risk families to reduce both indoor and outdoor air pollution, especially asthma related to local air and housing quality.

**Utility Incentive Programs.** Currently utility incentive programs are often not accessible for low-income families. It is weak for natural gas. Electrification incentive programs must be targeted and appropriate for the needs of low-income families.

**Wealth and Income disparities.** Building Electrification policies should not exacerbate existing wealth and income disparities. This includes differences in home valuation, job displacements, dislocation and gentrification.

### **Working Group 2: Implications for Widespread Adoption**

Participants in working group 2 focused on the following core question: *How will large-scale electrification impact the cost of transition and potential displacement of communities?*

Discussion probes included:

- What are the risks of systemic, large scale electrification efforts?
- What strategies can communities use to intervene at system-scale electrification efforts? Which sectors or positions of power should we be prioritizing to demand equity in planning/implementation?
- What solutions do you propose to ensure equity is central in any implementation?

This group identified a far-ranging set of questions as opposed to answers on the unintended and intended consequences of large-community-wide scale adoption of building electrification policies. The concerns to address include:

1. ***Just Transition*** includes deliberate consideration of:

- Corporate, government or community control of energy resources. A just transition entails democratizing energy. This includes who owns and controls the energy; valuing electrification for its use as opposed to its value as a commodity. Where does the economic benefit accrue?

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How do we democratize renewable energy and the supply chain in the building electrification industry?

- Electrification should be seen in terms of access to energy as a human rights issue;
- What happens to fossil fuel industry jobs on pipelines, in refineries, etc.
- What strategies and programs are needed to create new jobs and business opportunities for current workers? How do we ensure diversity and inclusion of historically excluded populations from the energy/construction sectors in the new building electrification sector?
- Priority investments for low-income communities and homes to be front and center in the new energy future

2. ***Housing and Land:*** What to do with old housing stock in the push for de-carbonization? What if solar is not an option, how are renters protected? What are the strategies to ensure that we don't create the potential for displacement?
3. ***Energy Resilience:*** If we electrify everything, what happens when the utility companies have emergency shut offs? How do we integrate resilience into electrification? Would this actually create more benefit to utilities (natural gas plants, nuclear) with widespread adoption if we go heavy into electrification? How much will gas prices increase for those stuck with gas?
4. ***Waste:*** What happens to waste from retrofits and other efforts?
5. ***Community education and outreach.*** Provide access to information in multiple languages.
6. ***Cultural Values and Change:*** Local indigenous and cultural perspectives reflecting from different ethnic groups, cultures, nations and regions became a major area of discussion. This involved addressing the opportunity to make a cultural transition, along with a transition to renewable energy sources and smart building technologies. The concern is that the wholesale shift to 100% renewables and decarbonization has not yet provided the cultural foundation needed to address the larger ecosystem and economic imbalances that are driving climate change. Simply changing our fuel source and technologies while maintaining our consumption patterns; or harvesting the sun to accumulate wealth for a privileged few are simply new forms of extraction. The urgency behind building electrification—to rebalance our environment to stave off catastrophic human impacts needs a new narrative. The underlying narrative of the current BE policies is that electrification is a technological solution that is needed to help us retain western cultural lifestyles. The new narrative must be rooted in traditional and cultural beliefs and practices that respect mother earth and embrace conservation and prudent use of limited natural resources. The most compelling unanswered question asked during this discussion was: ***what part of this is advancing the whole body/life and environment?***



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### Working Group 3: Economic Implications

Group 3 explored the question: *What are the Economic/ Just Transition and Workforce Development opportunities and challenges in electrification?* The guiding probes included:

- What are the economic and just transition opportunities and challenges regarding electrification?
- What are the workforce strategies frontline communities should prioritize to ensure equity in job creation and transition?
- What other solutions do you propose to ensure equity is central in any implementation?



Group 3 identified the economic and workforce challenges and solutions that building electrification could bring:

- Systemic Racism: Communities of color have not benefited from transition to clean energy economy. There needs to be a multi-faceted solution to bring low-income communities into economic opportunities in the green building sector. Solutions include:
  - Invest in education – pre-K to STEAM
  - Support MWDBE contractor training and capacity to increase their skills to implement high quality green building technologies
  - Entrepreneur training across sectors.
  - Require utilities to provide workforce development programs.
- Lack of diversity in some building trades unions.
  - Solution: Require community workforce agreements on all project labor agreements to reflect local demographics



- Formerly incarcerated are excluded from opportunities in the clean energy economy.
  - Solution: Prison rehabilitation and education programs would open up career opportunities for returning citizens.
- Language barriers for ESL populations. Language is a barrier to workforce training and jobs opportunities (as well as adoption of clean energy opportunities)
  - Solution: Ensure ESL clean energy literacy programs for communities

### **Final Group Discussion: Go Forward Needs & Strategies**

The final session was a group discussion to sketch out a go-forward strategy. Given the overwhelming momentum by mainstream environmental organizations, local governments and funders towards building electrification, what can the justice community do to ensure a justice centered approach to the emerging policies? What are the core strategies and resources needed?

The guiding questions included:

- Based on the solutions from the priority areas, what interventions should frontlines prioritize?
- Who is currently positioned with the power to implement changes?
- What shifts are needed for frontlines to be in a position of power, OR who do you need to build relationships with to build power to implement?
- What resources do you need to advance this solution?



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**The ten priority strategies include:**

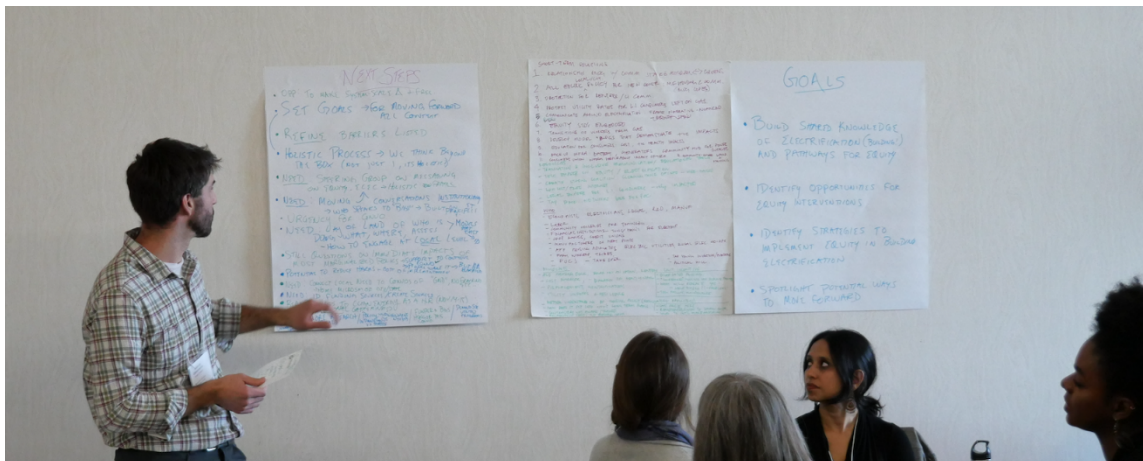
1. Raise awareness and community education on building electrification technology, impacts on energy burden, health, housing, displacement, and other areas of work;
2. Support labor and workforce development efforts to ensure a just labor transition in this work (in particular among contractors of color);
3. Build out a narrative that is rooted in holistic re-thinking of our energy system.
4. Create tools for and develop relationships amongst community stakeholders to move the environmental organizations, policies and government.
5. Protection for low-income residents, renters from price increases and those left on natural gas after substantial transition.
6. Develop model buildings that demonstrate impacts and pilots to plant pictures of the possible.
7. Develop backup infrastructure for resilience that could include batteries, generators, and community hubs for power outages.
8. Create a People's power plan through community conversations to incorporate energy democracy into the transition.
9. Prioritize communities with greatest need with targeted benefits including community benefits agreements.
10. Engage Rural electric cooperatives, electric utilities, and regulatory authorities on shifts and equity impacts.

**Resource needs: The most critical needs (in addition to funding) included:**

1. Data and Modeling: Economic and technology models; prioritization for EJ/CJ/frontline communities;
2. Communications/Narrative training and development;
3. Legal analysis and interventions to limit the bad.
4. Technical experts on equity/electrification to support local advocacy efforts.

## Who to engage: Sectors and groups that need to be engaged in the development of equitable building electrification strategies?

1. Labor (unionized and non-unionized workers of color) and small contractors;
2. Financial Institutions like cooperatives and credit-unions;
3. Manufacturers of electrification equipment/infrastructure;
4. Rural community - including farmers;
5. Indigenous communities and tribal governments;
6. Hospitals (community benefit agreements)
7. Foundations
8. Electric Utilities

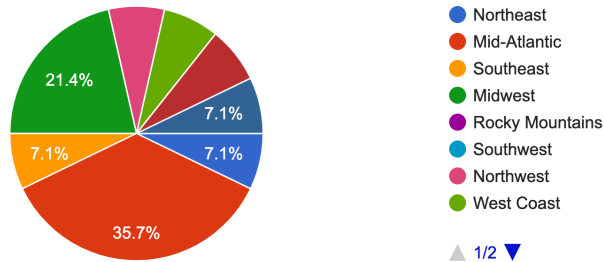


## Community Dialogue

On May 19th, 2020, Emerald Cities Collaborative (ECC) hosted an online dialogue to provide an overview of conclusions drafted in our Building Electrification & Equity (BEE) Project Summary Report and to gather input and to address comments to provide context and guidance for the BEE Projects moving forward. Approximately 20 people attended this dialogue, including those who participated in our Virginia Beach Convening. 80% of our attendees worked for nonprofits that focus on equity/justice (86%) and energy (80%). The rest of our participants worked in the buildings sector and the environment generally. About a third of participants were from the Mid-Atlantic region, 21% from the Midwest and others equally divided between the rest of the nation.

In what region are you located?

14 responses



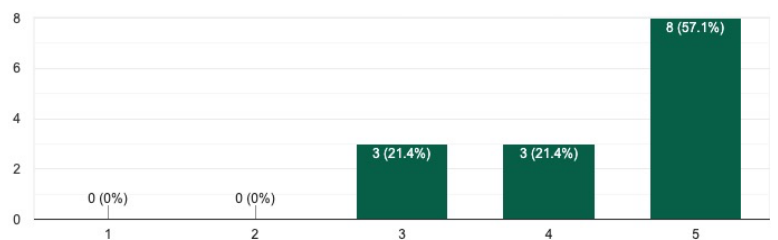
The first phase of the dialogue included an overview of the draft BEE Project summary report and was followed by a conversation, in which participants raised questions and considerations. A few of our participants emphasized community concerns about safety and health, which alluded to questions about indoor air quality and pipeline safety.

Some shared newly released reports on these subjects. Participants also raised significant concerns that electrification would increase the energy burden on LMI (low-moderate income) households due to the price of electricity. The conversation involved ensuring protections against short term negative impacts for low socioeconomic communities and the long-term impacts on LMI tenants and homeowners of increasing gas costs if these households are mandated to transition off gas at an unpragmatic rate. As we addressed issues around gas prices, the theme of resiliency surfaced and the conversation transitioned to moving towards resiliency that centers solar and battery storage as a tool to protect vulnerable communities in case of electrical outages. The conversation concluded with the need for access to solar energy through community solar or similar policies.

The second half of the dialogue focused on gathering input regarding the capacity of EJ and CJ groups and the needs for national resources to support their efforts. First, we conducted an online poll to measure the interest and capacity to engage in building electrification. Almost all participants indicated that there was a high level of interest in building electrification in their area and almost as much in their organization.

What is the level of interest within your organization for engagement with Building Electrification & Equity?

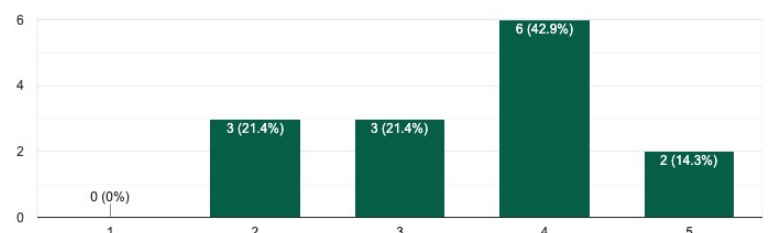
14 responses



However, when asked about their capacity to engage in the Building Electrification and Equity project the responses were spread over a broad spectrum.

What capacity does your organization have to engage in Building Electrification & Equity?

14 responses



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Our survey indicated that the following was needed to pursue Building Electrification and Equity:

1. More engagement and collaboration between energy and building electrification organizations and local environmental justice groups.
2. Resources and funding for staff capacity
3. Equity and justice centered organizations seek more engagement and collaboration with local groups in Building Electrification.
4. Greater understanding of the equity issue(s) relating to Building Electrification.

When coupled with the breakdown of participants, it can be concluded that most of the organizations focused on energy/environment need more connection with groups focusing on environmental justice. During our dialogue, environmental justice groups emphasized the resource shortages they are facing for multi-focused groups for more engagement. Resource and networking limitations, as illustrated below, seem to contribute to these challenges around the lack of collaboration around groups focused on equity, justice, energy, buildings, and the environment.

In the final segment of our dialogue, participants were grouped together and were asked to answer the following prompt: “What resources are needed at the national or coordinated level to advance equity in building electrification?” Each facilitator of the groups used a white board platform to capture and group inputs. Major takeaways from the breakout discussions were as follows in general order of most mentioned:

1. Regional coordination of efforts and information. Regions often share similar political, energy and climate characteristics.
2. Information sharing of both policy efforts and technical details regarding the impacts of building electrification.
3. Shared best practices from other cities that represent different geographical regions.
4. Needed resources for staff and general capacity building for organizations expressing this need. Participants from more mainstream organizations and felt they have sufficient resources.
5. Research regarding the impacts of electrification on low-income communities and communities of color.
6. Relationships with utilities to advocate for a positive impact on low-income communities, incentives, rate structures, and utility assistance programs.
7. Investment in community dialogue to understand community issues.
8. A community building electrification plan that tackles energy burdens, distributed energy systems, substandard housing, health, and safety.
9. Relationships with building trades unions and workforce development organizations.

The feedback we received from the online dialogue has been integrated into the report findings and recommendations and will be utilized in planning collaborative work going forward.

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## RECOMMENDATIONS & NEXT STEPS

It is broadly recognized that the voices and participation of communities of color and low-income communities are essential to do this work successfully. And while the environmental and climate justice communities are being invited to discuss the equity dimensions of building electrification, it is without adequate baseline knowledge, or collective engagement and strategy development by these communities to inform the movement. To date, it is a nascent, unrecognizable concept for communities that may most benefit or be unfairly burdened by emerging policies.

As Building Electrification efforts develop in cities and states there will be a continual need to provide information and share best practices with CJ/EJ and local community groups working on centering equity in clean energy strategies. As this is a new frontier in fighting the climate crisis neither national collaborative organizations like Emerald Cities nor regional/local EJ/CJ groups currently have the capacity to continue to deeply engage in this work. We suggest that support will be needed for continued and expanded coordination efforts and for local groups to stay in front of Building Electrification efforts rather than react to their potentially negative impacts in their communities.

### **Equipping Community Groups with Assets to Facilitate Effective Community Engagement**

The key components of future efforts need to include: 1) research and education, 2) policy & planning technical support, and 3) economic inclusion strategies.

#### **1. Research/Education/Civic Engagement**

- a. Develop on-line building electrification and equity resources to increase community awareness and capacity.
- b. Continue to provide informational webinars as new states, cities, and organizations become engaged with the policy efforts to ensure effective community engagement and equity outcomes.
- c. Support additional BE basic research to deepen understanding of community economic impacts, cultural issues, best practices policies.
- d. Funding for effective community and multi-stakeholder engagement in the design/planning of local building electrification policies, and
- e. Support applied research to better understand electrification costs and outcomes for different building types and regions (see 2.b. below).

#### **2. Policy & Program Planning Tech Support**

- a. Strengthen the development and adoption of energy democracy principles in building decarbonization policies with specific attention to intersectional and cultural solutions.



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- b. Fund “Equity First” building electrification pilots that target vulnerable communities in various markets and building types to assess climate, health, wealth and income disparities, leading with building electrification measures, but incorporating home repair, energy efficiency, renewable energy and water conservation.
  - c. Create a platform in which BEE Project affiliates can engage with community stakeholders, EJ/CJ advocates, technical experts, and regulatory experts on equity-first building electrification pilots.
  - d. Support national EJ/CJ/ED networks to participate in national BE discussions and strategies to strengthen the equity dimension of BE policies, including national and regional/local convenings with each other and the larger building electrification movement. The support includes legal and policy experts to provide policy analysis model legislation, code standards, and utility commission strategies.

### **3. Building Electrification Workforce & Contractor Diversity**

- a. Position workers for building electrification work through HVAC training for under-employed, immigrant, formerly incarcerated and other community members with barriers to employment.
- b. Increase women and minority owned contractor’s capacity to perform clean energy and building electrification work.
- c. Build requirements for diversity, training, pre-apprenticeship, and apprenticeship, actions and funding into BE policies.

For our electrification equity platform to be successful, we need the political will and the political consensus to have an equitable and just 100% electric transition. Therefore, city officials and community organizations must form partnerships to protect its residents, and together we can equitably reduce our carbon footprint and become part of a just climate solution.

By increasing the information available to EJ/CJ organizations, providing resources for collaboration, rallying around a set of energy democracy principles, and creating new opportunities, low-income communities and communities of color can begin to remedy past injustices, prevent unintended consequences from building electrification, and move towards cleaner, healthier and more resilient communities. This is the vision for the future of those convened by Emerald Cities and is attainable with sustained leadership and investment.