Mitigating Climate Change and Advancing Equity

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A Local Climate Justice Report From

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THE PROBLEM

Without a movement powerful enough to win bold solutions to the climate crisis, over the coming years low-income communities of color will bear the brunt of a tremendous and avoidable disaster. Each day brings a devastating new story of climate change's disproportionate impact on low-income people of color and these impacts will intensify as time goes on. If low-income communities of color are to develop adequate crisis resiliency and if we, as a society, are to change course to mitigate the worst impacts of a changing climate, progressive elected officials and the powerful, social change organizations deeply rooted in climate's frontline communities must play a central role in urgently advancing solutions to the crisis.

Beyond just mitigating the most catastrophic of climate impacts, however, the work of progressive elected officials and allies should be to seize the unparalleled opportunity presented by the climate crisis to fundamentally rebuild society in a more just and equitable fashion. With social infrastructure reliant on fossil fuels, to mitigate the impacts of climate change is to address how all of the systems of modern life – our buildings, housing, transportation, energy, food, and more – are powered and structured. If we are to avert the worst of the climate crisis, we must rebuild these systems in ways that promote equity and justice.

With opportunities to advance meaningful policy stuck at the federal level and in many states, cities have a critical role to play in passing cutting-edge initiatives to simultaneously address both climate and inequality. The municipal initiatives profiled in this policy brief provide an overview of many of the opportunities available to address climate while also advancing equity in low-income communities of color – the communities most disproportionately affected by both the drivers and impacts of the climate crisis. Pushed aggressively in cities throughout the country, these policies can help light an urgent, national fire on climate, forcing action at the scale and at the rate truly needed to address the crisis.

HOW TO TAKE ACTION

Green Jobs

Green jobs are a central pillar of climate justice. Climate solutions demand innovation and change, and these solutions can create new opportunities and jobs in our economy. By encouraging the development of renewables, implementing weatherization and energy efficiency programs, expanding public transit, and investing in countless other initiatives, cities can create and support green jobs.[i] During the Great Recession, green job growth was nearly double that of traditional job growth in the nation's 100 largest metropolitan centers.[ii] A 2014 report found that the number of green jobs in California grew by 5 percent that year to a reach a total of 431,800 new jobs, and projected that the Golden State will add another 70,000 green jobs in 2015.[iii]

Moreover, these jobs can be *good* jobs. A study in 2011 found that the green economy offers more opportunities and better pay for low- and middle-skilled workers than the national economy as a whole. Median wages in the clean economy are 13 percent higher than median U.S. wages. Moreover, a disproportionate percentage of jobs in the green economy are staffed by workers with relatively little formal education in moderately well paying "green collar" occupations.[iv]

Cities can and must go further to ensure that these jobs not only improve the environment and health of residents, but also provide workers with sustainable, livable wages and benefits, safe working conditions, and the ability to act collectively. A report by Green Jobs First found that the only two predictors of a good green job are (1) if the job is unionized or (2) if it is covered by a job quality standard.[v] Local governments can use job quality standards to require companies receiving "green" subsidies and contracts to meet certain criteria, including wage levels, availability of health insurance, and full-time hours. Further, clawback provisions can provide insurance that subsidized companies comply or else repay all or part of the subsidies awarded to them.

Cities can also require businesses that benefit from public money to reserve a percentage of jobs for local residents. This policy of "local hire" ensures that tax dollars are invested back into the local economy, reduces the environmental impact of commuting, fosters community development, and preserves local employment opportunities in construction. Additionally, cities can advance diversity in the traditionally exclusive construction industry by setting a requirement or goal for publically funded projects to source MBEs (minority business enterprise) as suppliers.[vi]

The Clean Energy Works Oregon program embodies this "high road" approach. Clean Energy Works offers all-encompassing services for consumers seeking whole-house efficiency retrofits. It also includes requirements that contractors provide higher wages and benefits to employees than weatherization contractors typically offer. During the initial pilot project launched in **Portland**, OR city officials brought together organizational and business partners as well as local stakeholders and advocates to draft a "Community Workforce Agreement" that established guidelines for job training, sound labor practices, and local participation. This agreement was revised and updated when the program expanded to the rest of Oregon. The program has been very successful at providing quality jobs and increasing racial and gender diversity in the green construction industry. As of 2012, the median wage for all workers was $18.34 per hour, the average wage was $21.92, and more than 84 percent of prime contractors offered employer-subsidized health insurance. Furthermore, 57 percent of the project work hours were performed by women and people of color, 12 percent of the project dollars went to minority or women-owned small businesses, and 44 percent of new hires were women and people of color.[vii]

Training and community partnerships are also critical components of efforts to increase climate resiliency and create quality jobs.[viii] One exemplary city-sponsored training program can be found in **Richmond**, CA. The program, RichmondBUILD, is a public private partnership that provides community residents with a variety of training and counseling services to develop talent and skill in the high growth, high wage construction and renewable energy fields. Through a partnership with the non-profit organization Solar Richmond, participants receive four weeks of classroom and hands-on training in solar installation. The City of Richmond also provides several incentives for the installation of solar panels that promote both solar panel installation and the hiring of RichmondBuild participants, including rebates for solar installations when recipients employ program graduates.[ix] All of RichmondBUILD participants come from low-income households. Ninety-five percent are of color and over 30 percent have a criminal history of some sort. The program places 80 percent of its graduates at an average starting wage of $18.33 an hour.[x]

Renewables and Energy Democracy

Renewables are a critical part of the effort to reduce greenhouse gas emissions and address climate change, and cities can play a huge role in their development. Across the country, cities are committing to plans to reduce their emissions by switching from carbon-intensive fossil fuels to renewable energy. The cities of **Burlington**, VT, **Greensburg**, KS, and **Aspen**, CO already run on 100 percent renewable energy through a mixture of local generation and power purchase agreements.

The development of renewables is closely intertwined with building equity. The current energy system fails our most vulnerable communities. Low-income and of color communities bear the social and economic costs of illness caused by dirty fossil fuel power generation. Households in the bottom 20 percent of the income distribution spend 6 percent of their income on home energy costs,[xi] and many struggle just to keep the heat on in the winter. These communities are also likely the last to have power restored after an outage and the least likely to have generators. The local development of renewable energy would offer clean power and healthier neighborhoods, lower energy costs, and a more democratic and responsive energy system.

Cities and local governments have the power to transform the production and supply of energy in this nation. On the one hand, cities can use their collective political and purchasing power to demand utilities invest in energy efficiency and renewable sources. At the same time, local governments can enact policies that support the development and utilization of renewable energy sources within their own communities. Community scale renewable energy projects can be more efficient, economical, and resilient than remote or large-scale renewable energy systems. The key is that utilities need to be accountable to their customers, and community residents need to be the ultimate decision makers in both using and creating local renewable energy. There are countless ways that cities can promote this goal of energy democracy. The sections below highlight a just a few of the possible policy options.

Municipalization

Municipalization involves a city or county taking control of its electric or gas system from an Investor Owned Utility (IOU) or Rural Electric Cooperative (Coop). Municipal utilities typically establish rates, operate the local power grid, bill customers, and purchase energy for delivery to the local distribution system. Currently, there are more than two thousand municipal electric companies in the United States serving more than 43 million people.[xii] On the whole, they enjoy lower and more stable rates, higher reliability, and greater responsiveness to residents. Municipalization is also a strategy for cities to respond to consumer demand and provide more energy from renewable sources. Following two public referendums, officials in **Boulder**, CO are taking active steps towards creating a public utility as a way to increase energy efficiency, local renewable energy, and democratic control of the city energy system.[xiii]

The prospect of municipalization can itself be a powerful and mobilizing force. In **Minneapolis**, MN a group of activists put forward a proposal to create a municipal power company, advocating for a citywide referendum coinciding with the expiration of the city's contracts with two investor-owned utilities. This pressure led to the creation of the first of its kind "clean energy partnership" between the utilities and the city of Minneapolis. The partnership included the creation of a board of public and utility officials to push for energy efficiency and renewable energy programs, including efforts to create "green zones" to improve energy conservation in high risk neighborhoods.[xiv]

Community Choice Aggregation

Established by law in seven states thus far,[xv] community choice aggregation (CCA) is a fancy name for group purchasing of electricity.

CCA allows local governments to pool their electricity load in order to purchase power on behalf of their residents, businesses, and municipal accounts. Together, the pooled group is able to leverage their combined demand to lower rates, increase the supply from renewable sources, establish local control over the utility, and generate local jobs.

In the CCA model, local governments work in partnership with the region's existing utility to determine rates and energy sources. The utility continues to deliver power, maintain the grid, provide consolidated billing, and other customer services. Like municipal utilities, CCAs offer cost efficiencies, flexibility, and local control, but they do not face the same financial and operational burdens of owning their own utility. The most successful CCA agreements are usually "opt-out," in which all citizens are enrolled in the program collectively when legislation is passed, but they have the choice of switching back to utility service at any time.[xvi]

As of 2013, approximately 2.4 million customers were participating in CCAs that source renewable energy, totaling more than 9 million MWh of renewable energy.[xvii] In **Cleveland**, OH, around 65,000 residents and small businesses participate in the city's community purchasing program that uses 100 percent renewable sources. Participants receive a 21 percent electricity bill savings off the market rate.[xviii] The Cape & Vineyard Electric Cooperative, Inc. (CVEC) in **Martha's Vineyard,** MA has successfully installed 28 MW of local solar projects photovoltaics and set a goal of no fewer than 20 local wind turbines contributing to their supply over the next 5-10 year.[xix] Recently, energy advocates in **Westchester**, NY successfully lobbied the state to allow them to implement a CCA program in the county.[xx] The details are still being worked out, but this program could serve as a model for the rest of the state.

Microgrids

Microgrids are a powerful instrument for facilitating the local generation and distribution of power. In the traditional energy model, power is generated at a giant power plant and then distributed across miles of transmissions lines before it reaches its ultimate user. This centralized model embodies some economies of scale, but it ultimately leaves communities vulnerable to power failures, utility monopoly power, and an aging and crumbling transmission infrastructure. Microgrids, as their name suggests, are smaller, local grids that can incorporate multiple local power sources to supply power in its area. These localized systems are completely customizable, and can generate power from a variety of sources including solar cells, wind farms, geothermal, and fuel cells. Microgrids typically operate parallel to the central grid, alternately feeding the central grid extra energy produced or buying energy when it needs to. Many of these microgrids can also switch to function independently as islands, completely separate from the central grid.[xxi]

The concept and development of microgrids goes back decades, but the idea has gained increasing attention in the past ten years as a way to reduce carbon emissions and provide reliable, secure power to communities. The benefits of microgrids are multifold. The first is reliability. With a microgrid, a community will be more energy independent and can continue to provide power even if the central grid fails. For example, **New York City's Co-Op City** is one of the largest housing cooperatives in the world and the largest residential development in the United States. Additionally, it is home to a community microgrid that includes a 40-MW combined heat and power plant that serves 14,000 apartments in 35 towers. During Superstorm Sandy, when power outages blanketed the Northeast, the microgrid continued to provide electricity, heat, hot water, and air conditioning for 60,000 residents.[xxii] This independence is especially powerful for low-income and minority neighborhoods that are often the last to see power restored after a storm or other crisis. Additionally, in power outages, microgrids can be selective in cutoffs in order to protect vital usages like hospitals and communications.

The flexibility of microgrids allows communities to use more local, renewable sources, including sources that might otherwise be too small or unreliable for traditional grid use. A pilot project in **Hunters Point in San Francisco** aims to prove that local renewables can supply a significant amount of total electric energy consumption, while maintaining or improving power quality, reliability, and resilience. Hunters Point is a community that has struggled for decades with poverty, unemployment, and toxic waste following the closing of a shipyard. The community's microgrid will generate at least 25 percent of the local electric energy consumption by deploying 50 MW from solar installations on rooftops or parking lots, serving about 20,000 residential and commercial customers. The project designers estimate that the microgrid will reduce greenhouse gas emissions by 78 million pounds and save 15 million gallons of water annually.[xxiii]

Microgrids are also good economic policy. Low-income communities on microgrids benefit from increased energy efficiency and lower energy costs. With local production, less energy is wasted through long transmission lines, and local siting of power generation allows users to capture the heat produced from energy production to heat water and buildings. Microgrids are also less costly than building new substations or transmission and distribution lines. In addition to jobs created through local power production and management, microgrids can create more local jobs by attracting industries through lower energy costs and increased reliability. The Hunters Point Community Microgrid, mentioned above, would not only add a significant amount of renewable energy to San Francisco. It is predicted to contribute $233 million to the regional economy and avert $80 million in transmission related costs over 20 years.[xxiv]

Shut Down Dirty Power Plants and Landfills

As cities increasingly develop and utilize renewable energy, they can and must shut down carbon polluting industries in their city limits. In the United States, 70 percent of sulfur dioxide emissions, 13 percent of nitrogen oxide emissions, and 40 percent of carbon dioxide emissions from the combustion of fossil fuels are caused by fossil-fueled power plants. Moreover, the pollution generated by coal combustion, oil refineries, and waste incinerators has been linked by extensive research with asthma attacks, cardiovascular disease, and premature death.[xxv] A 2010 study by the Clean Air Task Force estimated that more than 13,000 premature deaths, 20,000 heart attacks, and 1.6 million lost workdays in the U.S. each year are caused by air pollution from coal-fired power plants.[xxvi] These health burdens are disproportionately borne by primarily low-income and minority neighborhoods. Sixty-eight percent of African-Americans (compared to 56 percent of whites) live within thirty miles of a coal-fired power plant. People who live within three miles of a coal power plant have an average per capita income of $18,400 (compared to the national average of $21,587) and 39 percent are people of color (compared to 36 percent nationally).[xxvii] African Americans are three times more likely to be hospitalized for asthma, and three times more likely to die from asthma related causes than whites.[xxviii]

The burning and landfilling of waste is also a significant contributor to air pollution and global climate change. When organic waste breaks down in landfills, it produces methane, a greenhouse gas with an impact at least 25 times greater than CO2 over a 100-year period. Nationally, landfills account for 18 percent of methane emissions.[xxix] Despite increased standards and regulations, landfills emit an array of toxic fumes and pollute the groundwater. The siting of dirty power plants, waste incinerators, and landfills in predominantly low-income and minority areas drive down property values and take a heavy toll on the health of residents.

San Francisco has become a national leader in combatting climate change, in large part due to its efforts to replace fossil-fueled power plants with renewable energy and to become a zero waste city. The southeastern San Francisco neighborhoods of Potrero Hill and Bayview-Hunters Point used to be the home of two fossil-fuel burning power plants: the Potrero Generating Station, a natural gas and diesel burning electricity generating station, and the Hunters Point Power Plant, a coal power plant that was one of the oldest and dirtiest power plants in the State of California. Driven by pressure from environmental and community activists, the City took aggressive steps to shut these plants down. After a battle over a proposal to open up new fossil-fueled plants in the area, the City was ultimately able to replace the energy from these shuttered plants through upgrades to the City's transmission and distribution lines and the development of additional renewable energy systems, ending decades of pollution in an area suffering from high rates of poverty, disease, and crime.[xxx]

Additionally, in 2002, San Francisco set a goal to become a zero waste city by 2020. Through ordinances and regulations, the City encouraged residents and businesses to waste less and recycle and compost more, and it has been remarkably successful. In 2010, San Francisco landfilled half as much waste compared to 2000. The City partnered with its newly reinvented private garbage company, Recology, to develop innovative new programs, including a "pay as you throw" system. The less waste residents put in the landfill bin, the less they pay for curbside collection. Recycling and compost collection are free. In 2009, San Francisco became the first city in the U.S. to require food composting, and it now diverts 600 tons of organic waste per day. In addition, these waste reduction efforts have created many well-paying green collar jobs. In its contract agreement, San Francisco required Recology to fill entry-level jobs first through San Francisco's Workforce Development System. These new jobs go to economically disadvantaged people from the city and offer a starting pay of $20/hour plus health benefits.[xxxi]

Transportation

Transforming city public transportation systems offers clear solutions to reduce emissions while improving the health, mobility, and economic well-being of city residents, but it requires a new way of thinking. To this day, transportation planning and design is dedicated to moving people in cars. The most recent federal transportation bills have allocated 80 percent of funds to highway expansion and only 20 percent to mass transit. Meanwhile, emissions from vehicles account for 27 percent of greenhouse emissions in the United States.[xxxii] The issues of climate and health intersect most strikingly in low-income communities. The people least likely to own cars and most dependent on public transportation tend to live in neighborhoods with the worst air quality caused, in part, by nearby highways and major roads. Additionally, the spatial mismatch between housing and jobs for low-income, and especially African American and Latino workers, has a huge impact on their commutes. More than 75 percent of low- and middle-skill industries in cities would take the typical metropolitan commuter more than an hour and a half to reach by public transit.[xxxiii] Further, a study of the working poor in **Chicago,** IL found that Black, low-wage workers spend, on average, an extra 70 minutes commuting compared to their white counterparts.[xxxiv] Transportation justice has a long civil rights history,[xxxv] and the provision and accessibility of public transportation play a key role in fighting social injustice and climate change today.

The first and most obvious step is to make public transportation accessible. One of the main problems with our current system of public transit is that it does not connect to the neighborhoods where it's most needed. In New York City, the subways and buses are the lifeblood of the city, and yet, poor and minority residents are largely underserved by public

transportation. As housing costs rise, those who are unable to keep up are increasingly pushed into transit deserts, making it even harder to get to work, school, and health care services. In the city with the most extensive public transportation in the United States, 28 percent of public housing residents live more than one-half mile from the nearest subway station.[xxxvi] A recent proposal by a coalition of environmental and labor groups aims to address this inequity of access and reduce greenhouse gas emissions by expanding the New York Bus Rapid Transit (BRT) system. The proposed project would extend BRT lines 50 miles to increase service in underserved neighborhoods, create more than 72,000 jobs, and result in 3,000 tons of fewer CO2 emissions each year.[xxxvii] At a fifth of the cost of light rail, BRT systems can increase transit ridership, reduce pollution, and provide a transit safety-net for residents who rely on public transit to connect to jobs and educational opportunities.

It is equally important that public transportation is affordable. Transportation is an indispensable public service, and it should be open to all city residents, no matter their income. Roughly 40 U.S. cities and towns, including **Missoula**, MT, **Indian River County**, FL, and **West Memphis**, TN, offer free public transportation. A recent report found that free-fare public transit systems were most successful in small urban areas, large rural areas, resort communities, and college towns.[xxxviii] In a number of large urban areas, community groups and activists have long advocated for free and reduced passes for low-income riders and other transit dependent groups, and they are meeting with some success. In the past two years, **San Francisco** has begun offering free access to it public transportation system for students, seniors, and the disabled. Also, a years-long campaign in **Portland**, recently won a 30-minute increase to the time-based fare. The new policy is especially beneficial to “trip-chaining” riders (predominantly women, immigrants, and caretakers), who use public transportation to take care of their everyday needs.

Reliable and affordable public transportation also creates opportunities to design revitalized, healthy, and connected neighborhoods. Transit-oriented development (TOD) is a type of community development that focuses on developing mixed-use, pedestrian-oriented development around public transit stations. TOD is increasingly recognized as a successful smart growth policy that combines environmental, land use, transportation, and housing goals, but revitalization often results in the displacement, and city planners need to carefully and consciously integrate social equity goals into TOD projects.

One of the largest current urban redevelopment projects in the U.S., the **Atlanta,** GA BeltLine, employs many of the best TOD social equity practices. The BeltLine, a 22-mile corridor of public parks, multi-use trails, and transit circling downtown, aims to create 5,600 units of affordable housing over twenty-five year, with 15 percent of net bond proceeds dedicated to an affordable housing fund to provide down payment assistance to homebuyers and incentives to developers. The City Council also agreed to community benefit requirements including first source hiring for residents of BeltLine neighborhoods, apprenticeship programs, and prevailing wage requirements. Perhaps most importantly, community members were engaged at each step of the planning and development process.

A fundamental part of transit justice is including leadership from low-income communities and communities of color in transportation decision-making processes and making the planning transparent and accountable to the public. Advisory committees can provide an important opportunity for community residents to inform and guide transportation planning to be healthier and more equitable. In **Portland**, the fourteen member Transit Equity & Access Advisory Committee, representing a diverse community leaders, meets monthly to advise the City on issues ranging from environmental justice and budget choices to improved service for transit-dependent populations. Additionally,

in **Nashville**, the regional transit authority consults with its Citizens Advisory Committee on community and equity interests related to its proposed bus rapid transit.

Housing

Affordable housing has a huge role to play in cities' climate justice efforts. As noted above, affordable housing is critical to operating successful and inclusive public transportation systems. It also has a more direct impact on greenhouse gas emissions. In 2013, residential buildings accounted for 37.4 percent of total electricity sales[xxxix] and emitted a whopping 1,070 million tons of carbon dioxide.[xl] At the same time, many American families were struggling to pay their electricity bills. Cities can reduce residential carbon emissions as well as low-income household utility bills through energy efficiency programs, green construction of affordable housing, and expanded solar panel programs to multifamily housing.

Increasing energy efficiency is one important way of reducing residential carbon emissions and improving economic equity. Energy bills can be a huge chunk of income for lower income households. In 2014, hundreds of thousands of New York families spent more than 40 percent of their household income on energy bills. Lower-income households are likely to be older, poorly insulated, and have less efficient appliances and systems. Weatherization programs can help lower these utility bills by making homes more energy efficient. By sealing doors and windows, upgrading appliances, and adding insulation, homes can reduce their total energy consumption by about 20 percent. Ultimately, these programs can help homeowners maintain homes and avoid foreclosure. Cities can play an important role by bridging the gap in funding between the need and available funding for low-income energy efficiency and weatherization programs. For example, in **Portland** there are about 20,000 low-income households living in older homes with little or no insulation and inefficient heating systems, but state and federal programs are only able to provide free weatherization to about 400 homes a year. Portland's Block-by-Block Weatherization Program uses door-to-door recruitment and energy fairs and serves about 120 low-income households every year.[xli]

Multi-family homes are also an important part of this story. Public housing authorities spend, on average, 30 percent of their total budget on utility expenditures, according to the Department of Housing and Urban Development.[xlii] Cities could save millions of dollars and significantly reduce greenhouse gas emissions by investing in new energy-efficient equipment. **New York City** also recently announced a $100 million public housing energy savings initiative, and the savings are expected to pay for themselves. The program is expected to create around 400 union jobs, and the public housing residents will be given priority in hiring. Additionally, cities can promote "shared solar" or "community solar" projects. Currently, local solar energy is largely inaccessible to renters or residents in multi-family buildings. Shared/community solar allows people to join together to buy into a shared local solar farm and to reap the benefits directly on their own energy bill. In 2013, **Washington, D.C.** enacted the Community Renewables Act reducing regulatory barriers to allow renters, homeowners with shaded roofs, tenants of apartment buildings, and others access to solar. Now, community solar participants can use virtual net-metering to subscribe to a solar installation and receive credit on their monthly electric bill. The details of the program are still being worked out, but the project represents a huge opportunity to expand renewable energy sources and help more low-income residents lower their energy bills.

Local Progress is a national municipal policy network of local elected officials and partners who want to create more just and equitable cities. Our purpose is to build a broad network to support and learn from each other, share best practices and policies, and develop strategies for advancing shared goals.

The **Center for Popular Democracy** promotes equity, opportunity, and a dynamic democracy in partnership with innovative community-based organizations, elected officials, local and state networks, and progressive unions across the country. We work with our allies to design, pass, and implement cutting-edge state and local policies that deliver tangible benefits for working families.

[i] For more ideas on how cities can create green jobs, see Local Progress' brief, "Creating Green Jobs." http://localprogress.org/wp-content/uploads/2013/09/creatinggreenjobs-ID-31656.pdf

[ii] http://www.brookings.edu/~/media/research/files/reports/2011/7/13-clean-economy/0713_clean_economy.pdf

[iii] http://info.aee.net/ca-jobs-report-14

[iv] http://www.brookings.edu/~/media/research/files/reports/2011/7/13-clean-economy/0713_clean_economy.pdf

[v] This same report lays out a policy menu for federal, state, and local governments to ensure green jobs that includes project labor agreements, buy American requirements, job quality standards, and community benefits agreements. http://www.goodjobsfirst.org/sites/default/files/docs/pdf/gjfgreenjobsrpt.pdf

[vi] http://action.naacp.org/page/-/Climate/JustEnergyPolicies%20Compendium%20FINAL%20DECEMBER%202013%20UPDATED%20%28Corrected%20ToC%29.pdf

[vii] https://cewo.org/wp-content/uploads/2012/09/HighRoad_Short_090612.pdf

[viii] For a more detailed explanation about the role of proper training and workforce development in the green sector, please see a series of reports developed by COWS at http://www.cows.org/greener-jobs.

[ix] http://ellabakercenter.org/sites/default/files/downloads/making-green-work.pdf

[x] http://www.ci.richmond.ca.us/1243/RichmondBUILD

[xi] http://www.eia.gov/todayinenergy/detail.cfm?id=10891

[xii] http://www.nepower.org/who-we-are/public-power/

[xiii] http://communitypowernetwork.com/node/990, https://bouldercolorado.gov/energy-future

[xiv] http://midwestenergynews.com/2014/10/17/minneapolis-utility-fight-ends-with-unique-clean-energy-deal/

[xv] CCA is statutorily enabled in CA, IL, OH, MA, NJ, RI, and most recently, NY.

[xvi] http://www.leanenergyus.org/what-is-cca/

[xvii] http://apps3.eere.energy.gov/greenpower/markets/community_choice.shtml

[xviii] http://www.sustainablecitiesinstitute.org/cities/cleveland-ohio

[xix] http://www.cvecinc.org/

[xx] http://www.capitalnewyork.com/article/albany/2015/02/8563054/state-approves-westchester-power-experiment

[xxi] A recent publication, " Community Microgrids: A Guide for Mayors and City Leaders," can provide local officials with more detailed information about creating and operating a microgrid. You can download the guide at http://microgridknowledge.com/microgridknowledge-com-releases-guide-on-community-microgrids-for-mayors-and-city-leaders/.

[xxii] http://w3.siemens.com/topics/global/en/sustainable-cities/resilience/pages/microgrid-infrastructure.aspx

[xxiii] http://www.clean-coalition.org/site/wp-content/uploads/2012/10/HPP-Benefits-Analysis-Summary-21_gt-26-Mar-2014.pdf

[xxiv] http://www.clean-coalition.org/site/wp-content/uploads/2012/10/HPP-Benefits-Analysis-Summary-21_gt-26-Mar-2014.pdf

[xxv] http://www.stateoftheair.org/2013/health-risks/infographic/

[xxvi] http://www.catf.us/resources/publications/view/138

[xxvii] http://action.naacp.org/page/-/Coal percent20Blooded percent20Report percent2011.15.2012.pdf

[xxviii] http://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=15

[xxix] http://www3.epa.gov/climatechange/ghgemissions/gases/ch4.html

[xxx] You can read about the role of advocates and city officials in shutting down the Hunters Point Power Plant here: http://reimaginerpe.org/cj/arce.

[xxxi] http://www.no-burn.org/san-francisco-zero-waste-by-2020-on-the-road-to-zero-waste-blog

[xxxii] http://www3.epa.gov/climatechange/ghgemissions/usinventoryreport.html#overview

[xxxiii] http://www.brookings.edu/~/media/research/files/reports/2011/5/12-jobs-and-transit/0512_jobs_transit.pdf

[xxxiv] http://www.citylab.com/commute/2014/02/commuting-penality-being-poor-and-black-chicago/8457/

[xxxv] For more history on transportation justice, see http://equity.lsnc.net/lessons-from-the-history-of-transportation-justice/.

[xxxvi] http://prattcenter.net/sites/default/files/pratt_rockefeller_brt_nyc_whitepaper_for_web.pdf

[xxxvii] You can read the full report, Climate Works for All, authored by ALIGN, New York City Environmental Justice Alliance (NYC-EJA), the New York City Central Labor Council (NYCCLC), BlueGreen Alliance, and the AFL-CIO, here: http://www.alignny.org/wp-content/uploads/2014/12/ClimateWorks_Report_R5_LowerRes.pdf.

[xxxviii] http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_syn_101.pdf

[xxxix] http://www.eia.gov/electricity/monthly/epm_table_grapher.cfm?t=epmt_5_01

[xl] http://www3.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2015-Chapter-Executive-Summary.pdf

[xli] More information about Portland's Block-by-Block program is available at http://www.smartcommunities.ncat.org/success/block.shtml

[xlii] http://w3.usa.siemens.com/buildingtechnologies/us/en/public-housing/pages/public-housing.aspx