



ENERGY DEMOCRACY

SUPPORTING COMMUNITY INNOVATION

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INTRODUCTION

We all want to live in healthy places. That is becoming harder thanks to the combination of dirty, expensive energy and violent weather, droughts, and other problems of global climate change that we helped create. We know that reducing energy consumption and replacing fossil fuels with renewable energy are essential steps to healthy and sustainable places to live.

New technologies like wind, solar, and geothermal generation are promising. They are not only cleaner and will not run out; they can also fuel new economic growth. But we will not avert the crisis and build a bright future unless we make sure that local communities can innovate how to develop and share renewable energy solutions. From farmers in America's heartland, West, and South, to fast-growing city neighborhoods and suburban villages, we need to make sure everyone can participate in clean energy.

People of color can be innovators in a green economy. There can be no effective national solutions that exclude them because a majority of US population will soon be Latino, Black, Asian/Pacific Islander, and Native American. It will take all of us to improve our climate and support our economy. So it is critically important that policies, capacity-building, and engagement around green energy solutions support diverse communities.

Much of our current energy policy focuses on rewarding individuals for lower carbon lifestyles -- conserving energy or switching to alternatives like solar roof panels. Far too small a percentage of Americans can take advantage of these policies. To be effective, energy policies must include all of us, especially our fastest growing populations, which are communities of color.

Energy democracy means tackling climate and energy issues at the community level in ways that meet community needs and create multiple benefits for people, places, and the nation.

People are trying to find solutions every day. And some states and cities are starting to help them. Some energy policies support replacing Big Oil with Big Solar or Big Wind. This is useful too, and we will create more energy independence through a green energy revolution that allows consumers to become producers, owners, and decision-makers around our energy future -- true energy democracy.

Energy democracy is possible, but requires that our nation's political and corporate leaders change how they think about energy policy. This white paper highlights some of these barriers with an emphasis on ways that communities of color can participate fully in creating a sustainable clean energy economy. It identifies barriers that stand in the way and proposes policy solutions.

COMMUNITIES OF COLOR CAN LEAD THE WAY

“California’s Latino and Asian voters are significantly more concerned about core environmental issues, including global warming, air pollution and contamination of soil and water, than white voters,” according to a November 2010 Los Angeles Times/USC poll. “For example, 50% of Latinos and 46% of Asians who responded to the poll said they personally worry a great deal about global warming, compared with 27% of Whites.”ⁱ

Similarly, a Fall 2009 national survey of African Americans by the Joint Center for Political and Economic Studies found that 58% said global warming was a major problem.ⁱⁱ

It should not be surprising that people of color have such heightened concern about environmental issues. Their communities bear the brunt of our unhealthy and unsustainable energy production practices. For example, 75 percent of Black Americans live within 30 miles of a power plant compared to 50 percent of Whites.ⁱⁱⁱ This proximity puts Blacks at greater risk of ingesting polluted air and water, which correlates to higher rates of asthma in Black children and cancer in Black adults compared to any other racial group.^{iv}

Because they live with the consequences of dirty energy, communities of color are eager to find solutions. They are thinking systemically and looking for solutions that truly meet community needs.

An alliance of community groups in San Antonio offers a good example. Responding to plans to make the local utility, CPS, more “green” including purchasing power from a so-called “clean coal” plant, leaders of Southwest Workers’ Union and The Esperanza Peace and Justice Center raised a fundamental but often unasked question: why do we need more energy?

“It is imperative that we continue to ask not just what kinds of energy are more sustainable but also why energy consumption in San Antonio is unsustainable to begin with. This means asking hard questions about the kinds of economic development San Antonio has historically encouraged, in particular within the tourism industry. Offering tax breaks to downtown and Northside developers, the city has actively promoted a kind of economic growth that both relies on dirty energy sources and fights unionization among the low-wage service workers who power its hotels, theme parks, restaurants and retail outlets. The solution is not (just) clean technology, but more fundamentally to build cities for people rather than hotels, tourists or cars. We could then invest even more aggressively in renewables and weatherization for the working households who make the least and pay the most in energy costs.”^v

In Boston, three non-profits are creating a cooperative multi-racial Energy Service Company where the workers who provide weatherization services will also be the owners. Efforts like the Green-Collar Jobs Campaign in Oakland connect two major goals: cutting energy consumption by weatherizing homes and creating jobs that provide pathways out of poverty.

In the South, the Black Family Land Trust is bringing together Black farmers in Mississippi, Alabama, and North Carolina to develop strategies to create cooperative wind farms. In Arizona, the Black Water Mesa Coalition established the Navajo Green Economic Plan. This plan “created a structure

through which tribes control the influx and use of green jobs funding, directing it toward local economy project such as wool mills and farmers markets.”^{vi} The Coalition is also moving towards a solar initiative to transform coal fields into solar arrays owned and operated by the Coalition and its members, providing clean and renewable energy to the greater Southwest.

Lastly, in the Williamsburg and Bedford –Stuyvesant sections of Brooklyn the Broadway Triangle Community Coalition, comprised of 40 community-based organizations, assisted by the Pratt Institute’s Graduate Center for Planning and the Environment, are developing a far-reaching enterprise focused on both energy conservation and generation. Building relationships among developers, private companies, city councilors, planners, and the utility company, the effort has opened the opportunity to create the first-ever energy-plus community, producing more energy than it consumes. The plan is to create jobs in manufacturing energy-efficient goods, create energy through wind and solar installations, and empower a community-run energy service delivery company to negotiate with the utility around distribution and pricing.

These efforts share a commitment to community scale solutions that create energy, health, and economic development. This commitment not only reflects deeply held values; it is also practical and productive for the nation.

COMMUNITY SOLUTIONS WORK

Whether the goal is energy savings or clean and sustainable energy generation, community solutions can be an efficient, beneficial, and inclusive set of strategies that add up to a better environment and economy.

An analysis by the Institute for Local Self Reliance found, for example, that small-scale solar installations (the solar panels you see on a roof) are cheaper than large scale concentrated solar generation.^{vii} Because small-scale solar can utilize smaller land spaces, it requires lower capital costs than large-scale systems that need vast amounts of land, more capital for installation, and may have to rely on the build-out of new transmission or distribution lines costing as much as one million dollars per mile.

At a time when the nation needs jobs, for the last four years the renewable energy sector has had the fastest job growth rate compared to oil and other dirty energy industries.^{viii}

The National Renewable Energy Labs (NREL) reports that local ownership programs can create two to three times as many jobs per megawatt produced.^{ix} And these local jobs keep over three times as much money and wealth in a community compared to big companies.^x

Large-scale utilities and big renewable energy companies are driven by profits and are not always responsive to community interests. British Petroleum (BP) demonstrated that in the Gulf Coast when it devastated the lives of 17,000 workers and destroyed the environment by cutting corners on safety.^{xi} Enterprises that are part of the community in which they are located are better positioned to know the needs, concerns, and how to engage community members.

The lack of planning and involvement in the energy process has left many communities of color isolated and in the dark. Big companies do not always take into account the intricacies of the community, its culture, or its challenges.

For example, both Big Coal and Big Wind companies used the Navajo Nation's land for energy, with low-paying jobs and no shared decision-making process. Nikki Alex, former director of the Black Mesa Water Coalition, stated, "Every community needs to define green jobs for itself, neighborhood to neighborhood, around cultures and lifestyles... Tribes need strong energy policies that focus on helping grassroots people rather than on having huge renewable energy companies come here."^{xii}

BARRIERS TO AND SOLUTIONS FOR A DEMOCRATIC NEW ENERGY ECONOMY

Community solutions hold great promise, but to create jobs, build strong local economies, and support healthy communities, leaders can and must remove barriers to community scale innovation. One-size solutions do not fit all, particularly rural communities of all races and people of color communities. Different communities have different opportunities and face different barriers. For example, the federal production tax credit used to finance residential renewables applies only to homeowners. This shuts out 25 percent of Whites who are renters -- far too many. And it excludes even greater numbers of people of color -- 50 percent of Blacks and Latinos cannot benefit from the tax credit.

Policies that overcome these and other barriers will help all members of our society participate in, and lead, their energy futures.

Limits and Pathways to Community Ownership

Barrier: Focusing on homeowners excludes most people of color.

There are multiple policies that support homeowner efforts to increase energy efficiency and produce clean energy. The *Renewable Energy Production Tax Credit* creates financial incentives for energy. *Energy Efficiency Mortgages* allow homeowners to refinance their mortgages to pay for retrofits. Though the *Property Assessed Clean Energy (PACE)* program is currently "on-hold" because of the housing crisis, it was a popular program that allowed municipalities to provide homeowners upfront loans for efficiency upgrades. Homeowners repay these loans through an assessment on their property tax bills.

As one-quarter of Whites and nearly half of people of color are renters, they cannot take advantage of homeowner status. This problem will only grow as the foreclosure crisis and banks' refusal to restructure mortgages threatens homeownership. Further, renters make up a growing and substantial number of Americans; by 2015, nearly two-thirds of all new households formed will be renters.^{xiii}

To be clear, programs for homeowners are useful and important. But even among homeowners, participation still benefits wealthier homeowners over low- and moderate-income households, a disproportionate number of which are households of color. Of the 6.7 million 2009 federal tax returns that claimed a residential energy credit, 5 million were from households making at least \$50,000, a demographic that is over 75% White.^{xiv} Using tax credits to finance projects is also problematic for low-income communities because it requires up-front cash that many low-income people and people of color do not have.

Refinancing incentives, like energy efficient mortgages, which could produce an average savings of more than \$34,000 over 30 years, are utilized by White communities more than communities of color.^{xv} Research shows that Black homeowners in the same economic class as White homeowners refinance their homes 16% less than their White counterparts.^{xvi} One reason for this is that banks are

not present in communities of color making it difficult to find refinancing opportunities. Some banking and mortgage institutions have targeted middle- and upper-class Black homeowners with subprime loans, making opportunities to refinance less possible.

Solution: Expand production tax credits to support community-scale projects.

In 2010, the state of Washington expanded its production tax credit to include community-scale solar programs. The direct result: a planned 500 member community-solar project in Seattle. The project offers an opportunity for public participation, especially by those who have been excluded, such as renters or lower-income homeowners, who are more likely to be people of color in Seattle. Community projects distribute the costs among participants, lowering the upfront cash demanded from an individual. This offers an opening for people of color to receive a financial incentive for participating in a renewable energy project. If the federal government expanded the production tax credit nationally to community-scale projects, we could see many more projects like this around the country.

Barrier: Communities of color are neglected by most technical assistance programs.

Many communities need technical assistance in order to develop, plan, and site renewable energy projects. Most technical assistance programs are housed in educational institutions or city, state, and federal agencies. Unfortunately, many community projects and groups are not eligible for assistance from these sources. For instance, only local governments and tribal councils are eligible for technical assistance from National Renewable Energy Laboratory (NREL).

However, relying on local governments have not always been effective conduits to meeting needs of communities of color. Many communities of color have a history of being neglected or excluded from the vital municipal planning processes that could help meet their needs. For example, past New York City administrations ignored interests of communities of color when siting hazardous waste systems in low-income, often Black neighborhoods. As communities advocated and organized around more accountability and participation, the city established community boards. And while these boards can facilitate participation, they have no decision-making power, making them advisors the City Planning Department can ignore.^{xvii}

Solution: Technical assistance programs can support community endeavors in low-income communities and communities of color.

The EPA and National Renewable Energy Lab (NREL) offer technical assistance programs around audits, planning, and implementation of energy projects. These programs are integral to helping communities with limited resources move towards an energy sustainable future. The EPA and NREL partnership in the *Repowering America Brownfields'* initiative is a prime example of how technical assistance can aid and support communities looking to utilize their land for local energy production and control. While this does not solve the gaps in the community planning process, we can start building relationships that plant the seeds that connect communities to technical assistance programs.

Barrier: Federal incentives for renewable energy production exclude organizations and institutions through which communities solve problems.

Similar to the problems of accessing technical assistance programs, there are few federal loans and state incentives designed to support the creation of cooperatives or community-owned projects, beyond certain incorporated municipalities. For example, the Recovery Act's 1603 "renewable energy grants," a large driver for renewable projects, were awarded only to tax-paying entities, thereby excluding nonprofits and churches. This particular grant also excludes local governments. These organizations and institutions could be innovators in renewable energy production. This may especially be true of community-based nonprofits and churches, which have historically been the planners and creators of economic opportunities within communities of color. The inability of a nonprofit or church to act as an anchor for a community to access vital grants to pay for upfront costs closes a major door to innovation, participation, and efficiency.

Currently, there are two avenues to bypass this problem. One, nonprofits can form limited liability corporations (LLC), to take advantage of the federal grant. However, this requires access to financing and capacity that is often limited for communities of color. Second, nonprofits and churches could engage with a third-party entrepreneur who can access the funding. While there are potential benefits to such partnerships, not many social entrepreneurs are engaged in this work.

Solution: States can create Energy Improvement Districts (EIDs) in low-income communities and communities of color.

Resembling an enterprise zone, EIDs designate certain tracts of land as special areas for rezoning and investment that allow communities to utilize common and private spaces to meet their energy needs. Like a business improvement district, an EID provides financing options such as bonding or special taxing authority to finance renewable energy projects that will lower the community's energy use and improve its environment. Pareto Energy, an innovative company, pioneered EIDs in collaboration with towns across Connecticut, where local governments established commercial and industrial corridors as districts for renewable energy development. EIDs are tailored to meet the different needs of each community. For example, Bridgeport, CT is using an EID designation to rezone the city's landfill as a space for a solar array, while negotiating with energy service companies to help businesses and residents lower their energy consumption and costs.

Variations of EIDs have also appeared in residential and mixed-use areas in Arizona and Ohio. In Arizona, an EID is an incentive district that allows communities to use vacant or underused properties for renewable energy creation. This version of an EID allows for a streamlined rezoning process and elimination of zoning fees. It requires public hearings and comments by EID residents in the decision and planning processes. In Ohio, EIDs are special districts where property owners can aggregate renewable energy projects to access long-term bond funding and utilize net metering to connect to the grid.

For communities of color, an EID model has the potential to provide a pathway for community-scale energy creation that not only overcomes many of the obstacles they face but also utilizes their assets. Traditional organizing spaces, like churches and nonprofits, for example, can play a leading

role as conduits for community participation and physical locations for energy generation projects. EID designation could be a potential conduit for communities to build partnerships with various technical assistance providers to ensure that their projects receive the vital support to be a success.

To achieve their potential, implementation must be fully inclusive. For example, EIDs should employ racially-explicit equity metrics to identify which communities need investment and to measure the impacts of energy efficiency and production in communities of color. EIDs should ensure that community members, property owners, and renters have a role in the decision-making process.

Barrier: Community energy programs must navigate multiple regulations.

Community energy programs that involve investment by consumers, or that create profit or income for the participants, require approval by the Securities and Exchange Commission (SEC). While regulation is necessary to ensure fair play, for communities without the fiscal and legal resources necessary to navigate the approval process, it can be a barrier too high to climb. Some states also require community generation facilities to register as utilities, while others do not. Both processes require support that is not currently within the purview of many state agencies or the federal Department of Energy (DOE).

Solution: States could create policies supporting cooperatives in navigating regulations.

We need pathways that can help communities navigate SEC and state Public Utility Commission rules and regulations. One solution is a Local Renewable Energy Collaborative (LREC), proposed in the New Jersey Assembly. An LREC would allow “condominium associations, town halls and other community spaces to put together collaboratives and become mini-utilities that produce and sell energy.”^{xviii} LRECs can be a conduit for cooperatives to access state assistance and support in navigating the rules and regulations in the regulatory process of creating and selling energy.

The concept, currently under debate, would be one of the first state-wide policies in the country that sanctions and supports community-scale energy projects, making it more feasible and affordable for people to join together and participate in renewables.

Barrier: Most net-metering rules have cap limits and fail to allow community-aggregation.

Net-metering can allow a household to get payment or a credit on its energy bill for generating some of its own energy and supplying excess back to the grid. In most states the financial reward is capped and limited to a single meter. This means that if a person produces more energy than the limitation, they do not receive any payment or credit. Further, payment through single net-metering limits the development of community projects because it does not allow people to virtually aggregate their electric meters to a shared project; it only rewards individuals.

Solution: States could support cap-free and net aggregation rules.

Aggregate net-metering would allow people to use the Internet to link their meters to a shared energy generation project, so all owners of the system can receive credit and payment. This could work in both urban and rural settings. If multiple farmers wanted to create a community wind project

on multiple plots of land, aggregate metering would allow them to connect their projects together. As wind turbines create energy, each farmer's meter will "roll back" decreasing their energy bill. This type of aggregate metering "would allow neighbors to join together and share both the cost and benefits of a small renewable energy facility."^{xi} Currently, Virginia lawmakers are debating legislation that would realize this exact scenario.

Additionally, removing a cap on credit or payments for excess energy aggregate net meters helps provide communities with meaningful financial incentives to produce clean energy, knowing that they will not be shortchanged for producing too much. In 2007, Oregon permitted aggregation and removed net-metering caps. Participants now receive credits or reimbursements from the local utility company for all the excess energy they generate, not just a specified portion. Allowing aggregation and ending benefit caps can help communities combine capital to invest in energy systems. Though initially used to finance individual projects, feed-in-tariffs are another alternative for community financing. Feed-in-tariffs guarantee a rate of payment from the local utility to a small producer for every kilowatt of energy produced.^x

Restrictions and Openings to Financing

Barrier: Lower salaries limit participation in energy efficiency programs.

In 2010 median income was just over \$34,000 per year for Black households, while Latinos earned over \$40,000 per year, and Whites earned over \$55,000.^{xi} And incomes have remained stagnant since 2000, decreasing slightly for Black Americans. Communities of color have less money for energy efficiency projects. Research shows that even simple ways to be more energy efficient, such as the purchase of energy-star appliances, are more difficult for people of color compared to Whites, thanks to low-income and few assets. Whites outpace communities of color, particularly Latinos, in the purchase and use of such appliances.^{xii}

Barrier: Limited access to credit limits investments in renewable energy production.

The foreclosure crisis ravaged all communities. But it compounds the challenges that Black and Latino communities face in accessing bank loans or lines of credit for entrepreneurial activities. Black households, historically redlined by the lack of access to capital, have now faced abuse by subprime loans twice as often as White households. In the last five years, equity for Black-, Latino-, or Asian-owned businesses plummeted by more than 50%, weakening the ability to leverage assets for private capital, an essential task for entrepreneurs.

Solution: States could support the development of Sustainable Energy Utilities (SEU).

An SEU is a community-governed nonprofit that provides up-front costs for renewable energy projects and energy efficiency alternatives. SEUs were introduced by the state of Delaware as a way to "build community assets, move from a centralized system of energy to a more local and community-based one, and work for multiple scales of energy consumers (commercial, residential, farm)."^{xiii} The SEU fosters the concept of "shared community-assets" where long-term funding is

based on participation from household consumers and household generators. In Delaware, initial funding for the SEU comes from a current utility charge for green energy and municipal bonds.

[SEUs can finance community-scale efficiency](#)

The SEU model provides the necessary capital to purchase energy-efficient appliances or applications, such as smart meters, to those who could not otherwise afford them. Participants who utilize the SEU for energy efficiency upgrades assist in the communal funding through a shared savings model. Participants share 33% of their savings with the SEU over a 3 – 5 year period, thereby providing funds that can be used to help other households.^{xxiv} After the sharing period, participants will reap the full benefits of the investment.

Further, an SEU puts funding into the hands of community Energy Service Companies (ESCO) to deliver retrofits and weatherization projects. Rather than relying on utilities to fund third-party organizations, SEUs provide ESCOs direct funding to produce efficiency. The funding used to retrofit homes and buildings will be paid back through the energy savings over a 10 – 20 year period.

[SEUs can finance community-scale generation](#)

SEU programs can help bring previously disfranchised communities into the renewable energy economy by clearing a large hurdle in access to financing. The Delaware model will provide start-up cash to finance community renewable projects through the sale of Renewable Energy Credits (RECs). The credits are purchased by utilities that are required to supply a certain percentage of their electricity from renewable sources or by companies and individuals voluntarily wanting to support green energy production. For each dollar of RECs sold, the community project generating the power would earn 75 cents and 25 cents would go to the SEU.^{xxv}

[SEUs in action](#)

The Delaware SEU's first achievement was the procurement of a \$72 million bond to finance four energy-efficiency and renewable energy programs in state buildings and at Delaware State University, a Historically Black College and University (HBCU) designated school. The bond allows for financing by private investors and is guaranteed by the savings from the energy improvements made from the SEU funds.

Washington DC and Philadelphia have variations of an SEU model to spur clean energy investments. And an example of this model can be found in the small rural community of Milan, Minnesota. This community is using the SEU model to help address the costs of energy efficient purchases, such as energy-star refrigerators or new windows. The SEU is particularly useful for Micronesian immigrants, who comprise 30% of Milan's population, live in older, less energy-efficient homes and have lower-paying jobs, making it difficult to independently finance such purchases.^{xxvi}

Importance of High Speed Internet and Access to the Grid

Barrier: Communities of color have lower rates of Broadband access.

Broadband is crucial to energy democracy. It is likely to transform the national electrical grid system, creating the potential for more producers and consumers to monitor, control, and contribute to the electricity supply.^{xxvii} But low-income areas, communities of color, and rural communities have the lowest rates of broadband access and use.^{xxviii} While 66% of all adults now have broadband at home, just 56% of Blacks and 45% of those making less than \$30,000 a year do.^{xxix}

Solution: The federal government can make the Internet more affordable, more efficient, and universally accessible.

Available, accessible, and affordable broadband will guarantee that communities have one of the necessary components needed to participate in renewable energy. The federal government should see that the expansion of broadband networks reaches those who need it. This means supporting community-broadband networks where traditional internet companies have failed to reach users.

Barrier: Communities of color are not ensured access to the electrical grid, which gives energy entrepreneurs the ability to sell the energy they produce.

Currently many states have a “first-come, first-served” policy that determines who can connect to the electrical grid. This pits community generators against utility-size generators, which typically have the money and capacity to attain access more readily than community-scale projects.

Solution: The Federal Electric Regulatory Commission (FERC) can develop equitable access requirements for the grid for small-scale producers.

The ability to access the grid is essential to allow consumers to become producers by “selling” the energy they generate. Yet the current first-come, first-served policy stifles community participation by placing small-scale generators in direct competition with industrial-scale generators. In its regulations, FERC should mandate that a certain percentage of renewable energy provided to the grid come from community-renewable projects in order to even the playing field.

Barrier: Data around renewable energy capacity is not reliable or always accessible.

Information on available technologies is not always reliable or complete; one study found that “existing data on geothermal resources in the U.S. and specifically across western states” to be “disjointed, haphazard or unavailable.”^{xxx} In other cases where data is available, it is limited in format. At present, many Department of Energy and NREL technical assistance programs are accessible only via webinars or Internet applications. For example, NREL’s recent renewable energy map is a remarkable source to visualize what parts of the country can capitalize on renewable energy, but it does not provide data to the neighborhood level and it can only be accessed online.

Solution: Improve accessibility to data on the benefits of energy efficiency and the potential for on-site renewable energy generation.

Communities need accessible information and education about the environment, technologies, practices, and policies that will help them participate in conserving and generating renewable energy. Collaborative efforts to share data are growing. City University of New York (CUNY), ESRI (a mapping software company), and the New York City government released a website *NYC Solar Map* that allows communities to ask critical questions such as: “How much renewable capacity could be generated from x number of vacant lots and x number of roofs per year in my neighborhood?” Data should also be made more accessible through mobile technologies, which are often used more readily by people of color. Providing data in a variety of formats will ensure that everyone has a better opportunity to access vital information to help a community determine the possibilities of renewable energy production.

CONCLUSION

The threats of climate change leave our children with an uncertain future. More than ever, we need to start taking action to rid ourselves of dirty energy and become more conscious of how we consume energy. A renewable energy revolution is essential for helping us create a better planet for our children. And we have the tools and technology that would allow communities across the nation to play an integral role in this process, from efficiency to ownership of renewable production.

We can only make our planet a healthy and sustainable place to live if we all participate. However, communities of color, the fastest growing population, are often the ones left behind by policies supporting renewable energy. This is tragic. Unless we can all participate, we will all fail. We need to recognize that communities of color are already leading efforts on the ground and are vital innovators for this renewable revolution. But they lack the necessary support that can help them achieve such impact.

We can develop and support policies that encourage an energy democracy, where communities can actively address the impact of their energy needs by being decision-makers and owners of efficiency and renewable generation efforts. Current barriers limit true energy democracy. But if we work together to find solutions that support all of us, we can build a just and more sustainable future.

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- ^{xxi} Feed-in tariffs are another incentive for individuals and possibly communities to participate in renewable energy production. For more information on feed-in tariffs, please visit ILSR: <http://bit.ly/moQJp>. CSI chose to focus on net metering as a way to draw out the comparison between individual support and community support
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- ^{xxviii} *Federal Communications Commission*. <http://www.broadband.gov/issues/energy-and-the-environment.html>
- ^{xxix} According to the FCC, "between 14 and 24 million Americans lack access to broadband ... [An] additional 80 million people do not subscribe to broadband at home, and 50 million do not use the Internet at all
- ^{xxx} *Center for Social Inclusion* (2010). "The Promise of Community-Scale Models" www.thecsi.org.
- ^{xxxi} Deloitte Development LLC. (September 2008). "Geothermal Risk Mitigation Strategies Report".