



# Comprehensive Building Blocks

**for a Regenerative  
& Just 100% Policy**

**By experts from impacted communities to create  
a shared vision and movement for change**

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**The 100% Network** is a national network for frontline communities, environmental groups, and intermediary organizations who are invested in working to identify, share, and promote solutions that will advance the transition to a 100% clean, regenerative energy future that is equitable and just. Nearly 100 organizations strong, we are building alignment around a shared vision that centers community-based knowledge and solutions that are lasting, and equitable. Together, we envision transformed, healthy, thriving communities across the country, powered 100% by community-based, clean, renewable energy sources. Our workforce thrives from a Just Transition to a clean energy economy grounded in secure, safe, and sustainable jobs. People of low income and people of color are empowered to lead the movement for equitable clean energy and advance racial, economic, and environmental justice.

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# Executive Summary

**A**round the country activists are taking action on climate change and clean energy, in particular the push to transition to 100% clean energy is growing in momentum and policy makers are acting. This call for change is getting louder and for that we should feel hopeful. Yet while communities disproportionately impacted by pollution and climate change—Black, Indigenous, people of color, and frontline—are transforming their communities and tackling problems put on them by our collective, insatiable need to consume, they are often not included in discussions about solutions and their needs go unrecognized.

In order to support organizations and advocates in Black, Indigenous, people of color, and frontline communities who are exploring or actively engaged in designing a 100% regenerative policy, we gathered policy construction, ideas, and aspirations from leaders like them. The hope is by pulling together a comprehensive approach we will deepen understanding and expand the perspective of what it will take to transition to a 100% regenerative energy future that is just and equitable.

Environmental organizations and allies that are engaged in designing 100% regenerative policies are a secondary audience. This Building Blocks for a Regenerative & Just 100% Policy document does not supplant the intentional collaborative work between environmental organizations and frontline communities necessary to create and pass good policy. Although this document brings together justice-based “building blocks” of designing a 100% policy, there is no “one size fits all” solution and this should not supercede the interests and self-determination of local frontline communities.

The Building Blocks for a Regenerative & Just 100% Policy document is authored by frontline, Black, Indigenous, and people of color leaders across the nation. The recommendations to achieve a 100% policy are grounded in principles of justice, equity, and Just Transition. The recommendations put people over profits and put community over corporations, and they are based on frontline and Indigenous historic experiences of the fossil fuel industry as one that is extractive and profit-driven.

The following is a comprehensive approach to achieving 100% regenerative energy that is centered on justice:

**Ensure 100% Transition Off of Fossil Fuels.** 100% regenerative policies should make a clear statement of the ultimate goal to transition the entire economy completely off of fossil fuels. This transition should be all-inclusive of transportation, buildings, and homes.

**Set Aggressive Targets.** The 100% targets should be aligned with the Intergovernmental Panel on Climate Change Report that indicates a 100% regenerative electricity target in the 2035 to 2045 period. Frontline communities envision a 100% regenerative pathway that is just and equitable, and that moves away from carbon-free 100% frameworks that have the potential to include fossil fuels and market mechanisms.

**Impose a Comprehensive Scope of Coverage.** Renewable energy goals and mandates should be applied to all Investor Owned Utilities (IOUs), Publicly Owned Utilities (POUs), Community Choice Aggregation (CCAs), Rural Electric Cooperatives, and Tribal Owned Utilities, as well as independent power producers, in both regulated and deregulated markets. Each entity will have its own governing body and accountability model, and

thus may already have their own set of renewables targets. Advocates will need to determine the nuances in targets among the IOUs, POU, CCAs, rural co-ops, and Tribal owned utilities.

**Define What is Renewable.** 100% regenerative energy policies should clearly define what constitutes renewable energy or what is “RPS eligible.” Energy sources should be divided into primary sources (such as solar photovoltaics, solar thermal, and wind intermediate sources such as energy storage) and energy sources that do not align with our principles and values (such as gas, coal, and nuclear). Advocates should also identify “false solutions,” energy sources that are marketed as renewable, but that are detrimental to frontline communities such as “renewable natural gas,” “clean coal,” and biomass. Advocates should be mindful of energy technologies that have important dissenting views, such as geothermal, methane, and hydroelectric power.

**Transition from For-Profit Utility Model and Push for Utility Reform.** The investor-owned utility model started as a monopoly for-profit model that still exists today and continues to control a vast majority of the electricity market. Energy policies must shift away from this for-profit model to one that is publicly-owned and controlled. Advocates should transition to publicly-owned utilities, community choice aggregators, and energy cooperatives where the goals of these models are community ownership and control, democratic decision-making, and community benefits. As communities still must operate within the existing investor-owned utility model, advocates should simultaneously push for utility reform with the goals of decoupling profits to quantity of sale, focus on environmental and social goals, and account for the value of environmental justice in energy policies.

**Center Just Transition in Policy.** A Just Transition is a fundamental shift from an extraction-based economy to one that is democratic, equitable, and regenerative. Just Transition should be identi-

fied in any 100% regenerative energy policy and should be a centerpiece of the policy. Just Transition moves away from profit-driven corporations and fossil fuel industries, addresses past harms, and focuses on deep energy democracy where frontline communities are represented in decision-making.

**Prioritize and Identify Environmental Justice and Frontline Populations and Communities.** 100% policies should include clear language that calls out environmental justice (EJ) and sets clear targets. Advocates should determine what terminology to utilize and set a methodology for identifying and prioritizing frontline and environmental justice communities that centers Black, Brown, Indigenous, and People of Color communities. Policies should clearly identify the desired impacts on frontline communities and establish clear accountability and accounting mechanisms to ensure methodologies are adopted and policy-makers can be held accountable.

**Promote Gender Justice.** The extractive culture of the fossil fuel industry is inextricably linked to the inequality and the discrimination of women, girls, and the LGBTQ community. Therefore, 100% policies should promote gender justice in renewable energy jobs and in investments to address gender inequities.

**Advance Tribal Sovereignty and Rights.** Renewable energy policies should recognize—and attempt to correct—the history of fossil fuel oppression and displacement of Indigenous people. 100% regenerative energy policies should include the leadership and consultation of Indigenous communities, particularly around energy sovereignty. Processes should be put in place to ensure advocates and policy-makers intentionally consult with Indigenous communities on land, water, and air rights related to renewable energy. 100% policies should also ensure processes and policy components are in place to factor in Tribal Governance.

**Recognize Land, Water, and Air Rights.** Renewable energy systems that need land use and water should not be extractive, especially for frontline communities. A “community benefits” framework is recommended that includes ecological, health, and economic benefits. Public land issues and eminent domain need to be considered in the policy.

**Prioritize Transportation Justice.** As the transportation sector is the leading cause of carbon emissions in many states, 100% policies should include strong electric vehicle programs and clean mobility infrastructure. Priority policy elements include: renewable electricity in transportation, accessibility in public transportation, electrification of mass transit, and a variety of transportation choices, from electric vehicle programs to ride-sharing and vanpools. The paving and rebuilding of streets for pedestrians and bicyclists should also be a priority. Policies should be designed so that transit-oriented development does not lead to displacement in low-income communities.

**Push for Healthy Buildings, Safety, and Energy Efficiency.** Building electrification and building decarbonization should be prioritized. Energy efficiency should be included in the 100% policy, but the burden to change behavior should not be placed on frontline communities. Advocates should recommend zero energy homes and buildings, and new housing and building design should facilitate renewable energy and energy efficiency. Tenant protection provisions should be included so that building upgrades do not lead to displacement.

**Capture Renters, Single Family Homes, and Mobile Homes.** EJ and frontline organizations should determine the types of renewable installations and energy efficient upgrades that should be prioritized in the policy depending on the housing demographics and needs of their communities. Policies should be designed to fit the unique characteristics of renters and those residing in mobile homes, compared to single family home owners.

**Advance Anti-Gentrification and Anti-Displacement.** The issue of housing related to renewable energy is complex. But for frontline communities, the installation of clean energy could lead to gentrification. The overall recommendation is to connect 100% policies to anti-displacement policies. Housing security should not be threatened with renewable energy and energy efficiency development. Anti-displacement provisions should include renter protections, a right to return if improvements are made, and a community preference prioritizing surrounding communities for affordable housing developments that may include renewable energy and energy efficiency.

**Set Concrete Public Health Goals for Frontline Communities.** Public health must be considered first and foremost in any 100% regenerative policy. The definition of “public health” should be expanded and should include the following: improved air quality through the elimination of GHGs and co-pollutants in frontline communities; improved water quality related to the impacts of energy infrastructure; the elimination of legacy environmental hazards of lead, radon, mold, and asbestos; and improvements in mental health with renewable energy. The policy should include mandates to collect data on emissions and outcomes, as well as accountability measures if health goals are not met.

**Prioritize Universal Labor Rights and Economic Benefits.** Access to union careers and workers’ rights to unionize are a top priority. High road careers—long-term, family-supporting careers with comprehensive training and benefits—should be included. 100% regenerative policies should raise the standards of jobs in the renewable energy sector so that frontline workers have access to high wage careers with robust benefits. There should be strong workforce standards for low-income workers, people of color, women, and women of color. 100% regenerative policies should include local hire, especially among frontline communities and women of color, and especially among African Americans who have the least



access to good, high road careers. Workers' Centers, non-union workers, and worker cooperatives also need to be captured as various frontline communities might not have access to union jobs. "Fair chance hiring" should be a priority so that prior conviction records are not a barrier to accessing good jobs. Robust training standards and equitable access to apprenticeships programs must be included in 100% regenerative policies. Job training programs should lead to actual jobs in the renewable energy and low carbon sector.

**Mandate Strong Protections for Displaced Workers.** Pathways for former fossil fuel workers to transition to high road careers in the clean energy economy must be included in 100% regenerative policies. Comprehensive policy elements such as high wage, sustainable careers for displaced workers, coverage of pensions, and healthcare should be included. There should be deep investments and support—such as a Worker Transition Fund—for these workers and the surrounding communities that will be impacted by the transition away from fossil fuels. These investments and supports range from comprehensive training in all aspects of clean energy careers to funds to transition workers at the end of their careers to retirement.

**Recommend that Renewables are Located In and Benefit EJ Neighborhoods.** Renewable energy projects should both be located in and benefit environmental justice communities to ensure that the most impacted communities receive the health and economic benefits of the clean energy.

**Push for Community Ownership and Control.** Community ownership is a way to capture economic benefits and control over the energy system. Community ownership structures should be incentivized in the 100% policy. Models that facilitate community ownership, such as Community Choice Aggregation and Shared Community Renewables, should be included.

**Promote Geographic Diversity.** Often, too much emphasis is paid to targeting clean energy in urban areas, ignoring important rural and Indigenous communities that are most in need of renewable energy. 100% policies should factor in the unique characteristics of rural and Indigenous communities, such as siting of renewables on sensitive lands, "off grid" solar options, and "green businesses" in Tribal communities.

**Prioritize Local Distributed/Decentralized Generation and Microgrids.** One way to accomplish siting renewable energy in EJ communities is through strong policies supporting distributed/decentralized generation (DG). There are myriad DG benefits, such as reduced dependence on transmission lines, societal benefits of community visibility and accessibility, and jobs and local economic opportunities. Policies should include DG carve outs and incentives, and renewable projects should be sized appropriately to ensure DG is sited in frontline communities that need it the most. Community microgrids use distributed energy resources for a more holistic, sustainable, and localized energy system that provides more benefits. There should be investments to research and develop microgrids in frontline communities.

**Create Generation and Grid Policies that Lead to Local Renewable Energy and Ownership.** In order to achieve a successful 100% regenerative policy that is justice-centered, the policy should ensure that both the generation and the grid are equitable and community owned. The key recommendations include: ensuring that state RPS policies actually involve purchase of renewable energy (not just the electronic certificates representing renewable energy); shifting to community ownership and control of generation and the grid; ensuring that false solutions, such as trading, are not part of regionalization; and ensuring that policies related to the grid are linked to disaster preparedness.

**Shift to Inclusive Financing Model.** 100% regenerative policies should promote non-extractive financing policies. Key recommendations include:



ending state subsidies to fossil fuels, eliminating regressive financing so the burden is not on low-income people to finance the transition to 100% regenerative energy, financing reforms for large-scale utilities, encouraging public banks to finance renewable energy projects to benefit local communities, and promoting Green Banks to make low-cost financing available to frontline communities.

**Include an Energy Safety Net for Frontline**

**Communities.** The cost burden of 100% regenerative energy should not fall on low-income people. Policies should lower the cost of energy for low-income and frontline communities, while also lowering the energy burden. Affordability policy components should be prioritized that create financial benefits and reduce rates for low-income customers. 100% policies should shift away from subsidizing gas, ensure public participation in rate design, and ensure that energy assistance does not impact other benefits.

**Demand Quality Outreach and Public Participa-**

**tion.** During the development of the 100% regenerative policies and during their implementation, frontline communities should be considered leaders, partners, co-sponsors, and co-collaborators. There should be processes for co-governance and collective accountability with frontline communities, as well as consultation with Tribal nations. There should be full accessibility to public hearings and policies should include public funds to cover the costs and fees to enable intervenors to participate in regulatory proceedings.

**Ensure Governance and Oversight Meet Equity and Justice Goals.**

EJ organizations and frontline leaders should not only be considered organizing leaders, but technical experts with skills and expertise in developing equitable energy policies. Oversight Boards and Technical Advisory Groups should be formed that are comprised of EJ and frontline leadership. Appointment processes should meet certain requirements, such as community representation, consultation with respective

communities, and requirements to provide regular reports.

**Address Fuel Switching.** 100% policies need to address plans for fuel switching for heating and cooling that are currently dependent on oil and gas. There should be incentives for electric systems in low-income and frontline communities. Pilot heat pump programs should be promoted that push IOUs and other entities in the direction of creating heat pump programs for homes and buildings. There should be no additional cost burden to low-income families for fuel switching.

**Address Leftover Fossil Fuel Infrastructure and Lifecycle of Renewables.**

Old infrastructure should be properly disposed of or recycled and not pose an undue burden on frontline communities. Dealing with old fossil fuel infrastructure should not result in a utility bail out.

# Introduction

**A**round the country, activists are taking action on climate change and clean energy. In particular, the push to transition to 100% clean energy is growing in momentum and policy makers are acting. This call for change is getting louder and for that we should feel hopeful, especially as we witness more young people and recognize more widely that communities of color are leading the climate movement. Communities disproportionately impacted by pollution and climate change—Black, Indigenous, people of color and frontline—are transforming our nation. They are tackling big problems put on their communities by the insatiable need to consume and they are effectively advocating for solutions against great odds and often without meaningful support or substantial funding from outside institutions.

## How did we get here?

The current situation of energy inequity is rooted in a long and even violent history. Deregulation removed restrictions on the energy industry resulting in monopolies controlled by the fossil fuel industry and profit-driven IOUs. The United States is based in neoliberalism that operates for the top 1%, while eliminating government programs, and creating systems that prevent services and goods for the public. Systemic environmental racism locked out Black and Brown communities from energy policy decisions, while creating an energy infrastructure meant to benefit the wealthy.

Because highly impacted communities are often ignored and their needs unrecognized, they are leveraging their assets, resources, power, and abilities for their own growth and solutions, and at the same time connecting with other communities to share, replicate, scale, and learn together about how they are creating change. Their approach is long-term and structural. It embodies decentralized self-determination. It recognizes that expertise must include lived experience, and ancestral and traditional knowledge. They are shifting the narrative away from one that says Black, Indigenous, people of color, and frontline communities are deficient and unable to create change without help from “experts,” or outside actors. Most notably, demonstrated by the creation of this document, Black, Indigenous, communities of color are capable of understanding highly technical aspects of climate and clean energy policy construction, equity, and what is workable on the ground in their communities.

The environmental justice solutions frontline leaders are putting forward require new systems, structures, and relationships that are collaborative, open, and driven by communities and, most importantly, focused on equity, repairing past harm, shifting power, and, of course, healing our planet.

Just as a 100% clean energy future is absolute and aspirational, so should other essential elements necessary for a transition that is just. These Building Blocks for a Regenerative & Just 100% Policy recognize that our economic system is inextricably linked to the climate crisis and therefore, the change required is as much about structural injustice as it is about the level of emission reduction.

Who is the target audience for this document? It is primarily intended to support organizations and advocates in Black, Indigenous, people of color, and frontline communities who are exploring or actively engaged in designing a 100% regenerative policy. We brought together their policy construction, ideas, and aspirations as a tool to inform and support other leaders like them. The hope is that by pulling together a comprehensive approach we will deepen understanding and expand the perspective of what it will take to transition to a 100% regenerative energy future that is just and equitable.

Environmental organizations and allies that are engaged in designing 100% regenerative policies in their states are a secondary audience. Although there are a number of documents that outline general policy components to include in a state's 100% regenerative energy policy, environmental organizations should center this Comprehensive Building Blocks for a Regenerate & Just 100% Policy document that focuses on justice-based policies within their more broad set of guiding documents. In fact, 100% regenerative energy policies will not successfully meet health and economy goals while transitioning into a clean energy economy unless robust justice-based policies that prioritize frontline communities are included.

Now that we've covered what the document is and for whom it is purposed, here is what it is not:

*Disclaimer #1:* This Comprehensive Building Blocks for a Regenerate & Just 100% Policy document does not supplant the intentional collaborative work between environmental organizations and frontline communities necessary to pass good policy. Environmental groups, if they are not already, should develop a process of authentically engaging frontline communities from the start to co-craft policies together, to understand and hold frontline communities' bottom lines, and to prioritize the goals and demands of these communities, as well as follow their leadership in the policy process. Here are a few key elements to a good process for allies:

1. A fundamental approach is to follow the [Jemez Principles](#)<sup>1</sup>.
2. Make a commitment to engage frontline communities actively, which can include leaders and organizations that do not have an explicit mission to work on environmental issues. Groups and people living in impacted communities will be committed to the interests of their community and often will be aware of and concerned about impacts and opportunities. Spend the time to ask these communities about their ideas and interests.
3. Engage communities from the very beginning. All too often, communities are asked to support an already constructed campaign or policy solution. This does not respect the significant stake they have in the work nor their contribution and expertise on what works.
4. Commit to finding or sharing resources—namely funding—so that they can participate in meetings, engage their communities, and be recognized and compensated for their expertise.
5. Establish shared principles that explicitly state a commitment to ensuring frontline communities are leading and solutions that address injustices and equitable solutions.
6. Create a governing body or system that is equitable. Equitable leadership means that over half of those making decisions are from frontline communities. Consensus decision making is the most equitable and ensures deep work and conversation necessary to build unified actions.

*Disclaimer #2:* Although this document is heavily focused on justice-based "building blocks" of designing a 100% policy, there is no "one size fits all" model. What ultimately is included in any state's 100% policy is dependent on local context, politics, and organizational priorities, and holds paramount the interests and self-determination of local frontline communities.

*Disclaimer #3:* While this document is focused on the building blocks of an equitable 100% regenerative electricity sector, it is essential to recognize that phasing out fossil fuel use in transportation and buildings equitably must proceed in parallel to reduce air pollution, achieve climate and environmental justice goals, and reduce greenhouse gas emissions in a manner compatible with the 2018 IPCC report on the implications of global temperature increases of 1.5°C and 2°C.

***Regenerative Ecological Economics is described as***  
*“advancing ecological resilience, reducing resource consumption, restoring biodiversity and traditional ways of life, and undermining extractive economies, including capitalism, that erode the ecological basis of our collective well-being. This requires a re-localization and democratization of primary production and consumption by building up local food systems, local clean energy, and small scale production that are sustainable economically and ecologically.”*

*- Climate Justice Alliance<sup>2</sup>*

Finally, there are a couple key definitions for this document. First, “frontline communities” are defined as those “that experience continuing injustice—including people of color, immigrants, people with lower incomes, those in rural areas, and Indigenous people—and face a legacy of systemic, largely racialized, inequity that influences their living and working places, the quality of their air and water, and their economic opportunities.”<sup>3</sup> Second, for Black, Indigenous, people of color, and frontline the abbreviated term “BIPOC and frontline” will be used when describing disproportionately impacted communities on which this document focuses and for whom it was created.

While this document was created through the intentional work of bringing together BIPOC and frontline policy leaders to coalesce their current ideal policy design for 100%, our hope is that we continue to grow as a network and learn as a community. We will continue to bring community-led solutions to the foreground. We believe that without this knowledge we will not be able to thoroughly, effectively, and successfully move our nation forward to a 100% just and regenerative clean energy future.

# Problem and Theory of Change

**W**e, in the United States, live within and enable an energy system today based on non-renewable resources that, by definition, are out of balance with life on Earth. The mostly privatized and large-scale energy system in the country makes a few rich, many sick, and everyone insecure.<sup>4</sup> Fossil fuels—coal, oil, and natural gas—are America’s primary sources of energy. In 2017, fossil fuels (petroleum, gas, and coal) accounted for at least 80 percent of energy consumption in the United States, with an overall increase of gas by 24% from 2005 to 2017.<sup>5</sup>

The pollution and water contamination associated with fossil fuel production has been increasing, as evidenced by fracked gas and oil production.<sup>6</sup> The pollution and the hundreds of millions of tons of mine wastes and mill tailings from uranium production are still harming Indigenous communities and polluting the air and water.<sup>7</sup> Nuclear power-using countries, like the United States, France, Britain, and Japan, have left a vast trail of radioactive pollution in the uranium-producing countries across the world, much of it in countries like Niger and Namibia, which have no nuclear power plants.<sup>8</sup>

Meanwhile, big profit-driven utilities are controlled by utility shareholders. It is the legal obligation of corporations (under standard law) to maximize the benefit to these shareholders, leaving communities behind.

But the true costs of these dirty, limited energy sources are not included in consumer utility or gas bills, nor are they paid for by the companies that produce or sell the energy. These true costs are the societal and environmental costs of human illness and death (especially among the most vulnerable populations), environmental degra-

ation, geopolitical instability, depleted fresh water and food supplies, and, in the case of fossil fuels, catastrophic climate change. Together, all of these costs amount to trillions of dollars just in the United States.<sup>9</sup> Moreover, nuclear power plants produce plutonium, which can be used to make nuclear bombs if separated from the radioactive waste. The U.S. nuclear reprocessing program would add to the worldwide stockpile of separated and vulnerable civil plutonium that sits in storage today, which totaled roughly 250 metric tons as of the end of 2009—enough for some 30,000 nuclear weapons.<sup>10</sup> There is more surplus separated bomb-usable plutonium in the civilian nuclear power sector globally than in all nuclear weapon states combined.

Converting our energy system is about more than replacing fossil fuels with clean energy sources. The transition to 100% begins by addressing the way our energy system is structured and requires that power and economic benefits shift hands from the few to the many.

Renewable energy can be a vehicle to democratize our energy infrastructure, improve grid reliability and resilience, and distribute the economic benefits of generating energy more equitably. Individual members of the public, local communities, public institutions, and small businesses can become more than just energy consumers. They can instead form part of new systems, share the benefits, and have a direct impact on their local communities. Innovative ownership models will be required as new and different stakeholders become directly involved in the transformation. Policies, laws, and regulations should actively support such an energy transformation.

# Principles of a 100% Regenerative Energy Policy

**W**hen crafting 100% regenerative energy policies, be mindful to differentiate among policies that are “justice-centered,” “fossil fuel-center” and “utility-focused,” and “carbon-based.” With the flurry of 100% energy policies around the country, the fossil fuel industry and utilities may exploit the opportunity and conveniently slide in terms and policy elements that perpetuate and grow the extractive economy of the fossil fuel industry and utilities, while continuing to systematically ignore frontline communities in the process.

Justice-centered policies recognize that there are long-standing systemic and historical injustices in our energy system and that the bedrock of our energy system is one that is plagued with the profit motive of the fossil fuel industry. Our energy system is designed to benefit corporations and utilities, rather than function as a public good and for the commons. As a result, energy policies have, by design, not only locked out frontline communities from their policy-making and decision-making, but also have resulted in the most egregious forms of pollution, toxic dumping, and the deepest forms of disinvestment in BIPOC and frontline communities. There is a fundamental economic justice issue in our energy system: frontline and low-income communities have paid into renewable energy programs, incentives, and policies as taxpayers and ratepayers (with an energy burden that generally represents a much higher percentage of their income), while the benefits generally go to higher-income individuals who can already afford to access. In Colorado, for example, low-income

ratepayers have contributed approximately \$45 to \$71 million in RESA (state renewable energy rider) payments without receiving a direct benefit.<sup>11</sup>

Frontline communities should approach the design of their 100% regenerative energy policy as an opportunity to completely alter the energy system and put forward a vision that is rooted in justice. A robust 100% regenerative energy policy should be people-centered, as opposed to profit centered. The policy should lead with democracy, community-driven planning, decision-making, governance, and self-determination.

A 100% policy should be based on a “Just Transition” where there are explicitly named benefits to and prioritization of frontline communities and Indigenous sovereignty. These benefits should be designed to include tangible local benefits such as economic and jobs benefits, and public health benefits. A 100% regenerative energy policy should not only include environmental benefits, but should also outline clear labor rights and inclusive labor practices.

There should be a clear statement of a transition off of fossil fuels and away from large for-profit utilities that only benefit their shareholders. One of the biggest obstacles to a Just Transition are business models that are motivated by profit. Communities often see these profit-driven models from large Investor Owned Utilities (IOUs) where they even attempt to combat net metering. A strong 100% policy should shift away from the profit-driven business models that IOUs promote and that create inherent barriers to accessing renewable

***"A Just Transition requires us to build a visionary economy for life in a way that is very different than the economy we are in now. Constructing a visionary economy for life calls for strategies that democratize, decentralize and diversify economic activity while we damper down consumption, and (re)distribute resources and power."***

*-Movement Generation (see Section 5 "Just Transition at Center of Policy" for more).*

energy. There should be strong accountability and governance components in the 100% policy that can hold the utilities accountable.

The financing of new fossil fuel exploration, production, and transportation (including pipelines) should be stopped, whether by fossil fuel companies or by banks and other corporations. Policies should focus on non-extractive financing and inclusive financing.

The policy should outline elements that reduce the energy burden with the goals of affordability, ownership, and economic empowerment, particularly for frontline and Indigenous communities.

A 100% energy policy should be rooted in democracy. The current energy system has historically been controlled by a few shareholders and large utilities who are lobbied heavily by fossil fuel industry. Communities are often locked out of the decision-making process, energy policy-making is opaque and inaccessible, and participating in energy decision-making requires resources and capacity that communities often do not have. Energy policy-making should be inclusive and collaborative. Those most impacted by energy policies should be considered leaders in the design of and advocacy for energy policies, and a 100% energy policy should be decided on by the public, not left in the hands of a few.

Lastly, a 100% regenerative energy policy should be approached as a human right that is equivalent to the right to clean air and water. Pennsylvania has a constitutional right to clean air and pure water that can be a model for our right to energy: "The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people."<sup>12</sup>



# Methodology

**T**he 100% Network brings together organizations from frontline and environmental justice (EJ) organizations, environmental and intermediaries from around the United States “who are invested in working to identify, share, and promote solutions that will advance the transition to a 100% clean, regenerative energy future that is equitable and just.”<sup>13</sup>

The 100% Network worked with the direction and leadership of frontline communities to create a document that contains the key policy building blocks of a regenerative, decentralized, and just transition to 100%.

The process used to develop the building blocks was:

Step 1: Draft Building Blocks document with initial fact checking by key energy experts

Step 2: Convene frontline leaders to review the draft and provide additional content

Step 3: Gather input from technical experts and vet with key partners

Step 4: Final sign off by frontline leaders and leadership of 100% Network

It is the intention to update this Comprehensive Building Blocks for a Regenerative & Just 100% Policy document after two years of implementation and regularly thereafter.

# Building Blocks for Aggressive Targets, Scope, and Clear Definitions

## Ensure 100% Transition Off of Fossil Fuels

All across the United States, 100% renewable energy policies are being developed and passed. However, many 100% energy policies omit an essential piece of an effective plan for the full transition to a 100% regenerative policy: an explicit commitment to transition completely off of fossil fuels. Some 100% policies are being reframed to leave the door open to nuclear, gas, or some form of fossil fuels.

BIPOC and frontline leaders recognize that many of the state policies that have passed to-date are “carbon-free” policies, not 100% regenerative policies. In some cases, the state bills are “carbon reduction” policies that include renewable and carbon-free electric mandates. The vision of frontline leaders is to achieve a full 100% renewable energy target that is regenerative and just. “Carbon free” or “greenhouse gas free” energy is perceived as problematic because while these policies might emit less carbon or greenhouse gases than fossil fuel energy, they still may contribute to environmental injustice. For example, many carbon free policies have the potential to include large hydroelectric dam energy that destroys Indigenous communities and ecosystems.<sup>14</sup> Other carbon free policies include nuclear energy that is not only dangerous, but also often times mined, transported, and dumped in Indigenous communities, thereby exploiting native sovereignty.<sup>15</sup>

## Policy recommendations:

100% regenerative policies should make a clear statement of the ultimate goal of an economy-wide transition off of fossil fuels by a specific date. The date of transition should align with the target dates set to transition to 100% regenerative energy (see Section 2 “Set Aggressive Targets” below for more). The entire economy should encompass not only electricity, but the entire scope of the energy system, including transitioning fossil fuels out of transportation, buildings, and homes. 100% regenerative policies can not fully meet the climate, economic, and public health needs of impacted communities without the full economy-wide transition off of fossil fuels.

100% regenerative policies should make explicit the types of energy sources that are not acceptable (see “Define What is Renewable” below). The policy should reduce pollution in the place where it is created, therefore not allowing loopholes such as the use of offsets (a false solution where polluters can purchase an offset to fund an environmental project elsewhere and get credit to continue polluting locally) in the transition to 100% regenerative energy.

The policy should also make explicit that no new fossil fuel infrastructure is to be built. The policy should ensure that no new hydraulic fracturing (“fracking”), new “clean coal,” nor new gas infrastructure will be included in the transition. For definitions, see “Prominent Energy Sources that do not Reflect Our Principles” below.

An example of policy language comes from California's Senate Bill 100, approved in 2018: "Achieving the renewables portfolio standard through the procurement of various electricity products from eligible renewable energy resources is intended to provide unique benefits to California, including all of the following, each of which independently justifies the program: Displacing fossil fuel consumption within the state."<sup>16</sup>

## Set Aggressive Target(s)

A renewable portfolio standard (RPS) requires utility companies to source a certain amount of the energy they generate or sell from renewable sources such as wind and solar. An RPS establishes incremental targets that increase over time and the RPS for each state varies. Over half of all U.S. states have some type of RPS or goal in place.<sup>17</sup>

### Policy recommendations:

Advocates should set aggressive, mandated 100% targets, interim targets, and timelines, and similarly aggressive goals for eliminating direct fossil fuel use in buildings and in road and most non-road transportation. According to the Intergovernmental Panel on Climate Change Special Report on Global Warming of 1.5°C, pathways limiting global warming to 1.5°C with no or limited overshoot would require rapid and far-reaching transitions in energy, land, urban and infrastructure (including transport and buildings), and industrial systems. The report indicates a target of net zero CO<sub>2</sub> emissions by 2045 for wealthy countries, including all sectors.<sup>18</sup> Setting combined targets for these areas indicates a 100% regenerative electricity target in the 2035 to 2045 period, depending on the specific parallel targets for buildings and transportation.

Example of an ambitious state target is California's Senate Bill 100: Goal is to achieve a 50% renewable resources target by December 31, 2026 and to achieve a 60% target by December 31, 2030. In

addition, SB 100 sets a 100% clean, zero carbon, and renewable energy policy for California's electricity system by 2045.

Hawaii's House Bill 623: directs the state utilities to generate 100% of their electricity sales from renewable energy by 2045.

Hawaii and California both are pioneers in setting 100% renewable energy policies. These are important examples of ambition for most other states, which are much farther behind. Yet, the dire climate crisis and the IPCC report indicate that even these two states may need to be strengthened.

## Impose a Comprehensive Scope of Coverage

Data from 2015 shows that public entities supply power to roughly 14% of U.S. customers. Though the percentage of customers is small, there are far more Publicly Owned Utilities (POUs) in the 50 states (2,009) than IOUs (192) and co-ops (871). Yet, when it comes to generation, POUs generate only 9.8% of all power, compared to 37.7% by IOUs and 40.6% by independent power producers (privately owned power plants that operate outside of the utility grid), with federal power agencies (6.9%) and co-ops (5.0%) supplying the rest.<sup>19</sup>

Specific to the rural context, rural electric cooperatives provide electricity to 12% of Americans and own 42% of the country's electric distribution lines.<sup>20</sup>

Tribal owned utilities have their own set of unique circumstances that must be factored in when developing a 100% regenerative policy. "Creating a tribal electric utility can be an important element of tribal sovereignty. Tribal utilities can help reverse the historic trend of marginal participation in energy and infrastructure decisions of First Nations by creating an organization that can participate as a peer among the energy providers that currently own and control energy assets on tribal trust land. Creation of a utility can serve as a powerful mechanism for a Tribe to engage with surround-

ing utilities, federal and state agencies, and most importantly, its own community."<sup>21</sup>

### **Policy recommendations:**

100% regenerative policies should include renewable energy goals and mandates that apply to all IOUs, POU's (or municipalities), Community Choice Aggregation (CCAs), rural electric cooperatives, and tribal owned utilities, as well as independent power producers (privately owned power plants that operate outside of the utility grid), in both regulated and deregulated markets. The main difference among these entities is the ownership model. IOUs are owned by shareholders (who can be individuals, pension funds, and even hedge funds), and POU's, co-ops, and CCAs are community- or member-owned. Another difference is whether utilities are regulated and vertically integrated (operating on all levels of the supply chain, from generation to transmission and distribution) or deregulated (purchasing power from independent power producers in a competitive market).

Each entity has its own governing body and accountability model, and thus may already have its own set of renewables targets. Organizations will need to determine the nuances in targets among the IOUs, POU's, CCAs, rural co-ops, and tribal owned utilities, or whether the same targets will be applied across all entities.

Advocates should aspire to shape the federal share of the transition because entities like the Tennessee Valley Authority and the Bonneville Power Administration are federally owned, but have a wide degree of independence in investment and technical decisions. Increasing renewables for these agencies can be done in various ways, including pressuring wholesale power purchasing entities like cities and corporations, and intervening in proceedings where these agencies need local permits for new construction.

### **Example from California's Senate Bill 100:**

- IOUs: "In order to fulfill unmet long-term resource needs, the commission shall establish a renewables portfolio standard requiring all retail sellers to procure a minimum quantity of electricity products from eligible renewable energy resources as a specified percentage of total kilowatt hours sold to their retail end-use customers each compliance period to achieve the targets established under this article. For any retail seller procuring at least 14 percent of retail sales from eligible renewable energy resources in 2010, the deficits associated with any previous renewables portfolio standard shall not be added to any procurement requirement pursuant to this article."<sup>22</sup>
- POU's: "To fulfill unmet long-term generation resource needs, each local publicly owned electric utility shall adopt and implement a renewable energy resources procurement plan that requires the utility to procure a minimum quantity of electricity products from eligible renewable energy resources, including renewable energy credits, as a specified percentage of total kilowatt-hours sold to the utility's retail end-use customers, each compliance period, to achieve the targets of subdivision (c)."<sup>23</sup>

## **Define What is Renewable**

### **Background:**

As advocates develop their own 100% regenerative policies, there may be some confusion as to what is considered renewable and regenerative. The fossil fuel industry and for-profit utilities also market certain forms of technologies as clean when, in fact, these technologies are extractive false solutions masked as renewable.

## Policy recommendations:

100% regenerative energy policies should clearly define what constitutes renewable energy and what is allowed in the Renewable Portfolio Standard or “RPS eligible.”

### Primary renewable energy sources should be regenerative (meaning, they are endless and not extracted from the earth):

- **Solar photovoltaics**, which generate electricity directly from sunshine and can be built at all scales. Residential and commercial solar photovoltaics are distributed systems. Sizes of systems range from small rooftop systems to centralized large-scale systems. However, BIPOC communities prefer smaller decentralized generation (or distributed generation) as better suited for local communities.
- **Distributed solar thermal**, which supplies heat directly in the form of hot water or other forms of renewable heat on the site of its installation.
- **Solar thermal electricity generation**, which captures the sun's energy for heating by heating a fluid that then uses the steam to power a generator to produce electricity.
- **Wind energy** at all scales. BIPOC and frontline communities prefer local small-scale wind so as not to encroach on sensitive and protected lands. Wind energy includes onshore and offshore. The offshore industry has become a major aspect of creation of good jobs in Western Europe and is growing rapidly in the Northeastern United States.

### Intermediate sources of energy should be renewable<sup>24</sup>:

There are intermediate sources of energy that are part of the energy system; these may or may not be renewable depending on how they are created. These include:

### • Energy Storage Technologies:

- **Battery storage:** Batteries store electricity in chemical form; the electricity is recovered by reversing the chemical reaction. The electricity generated is renewable if the electricity used to charge the battery is renewable. Battery storage should be designed into a renewable energy transition because it is part of the approach needed to deal with the variability of solar and wind. Storage can also be used for electric vehicle charging stations. Battery storage has been considered for many community facilities, including multifamily affordable housing, food banks, community centers, churches, fire stations, hospitals, and evacuation centers.
- **Flywheels:** Flywheels are used for short-term storage of electricity in mechanical form. The electricity is recovered when the motor is reversed to function as a generator. This electricity is renewable if the flywheel's motor is driven by renewable energy.
- **NOTE:** Although energy storage technologies are crucial to 100% regenerative policies, it is also important to recognize the environmental and social impacts of mineral extraction for batteries, especially lithium ion, and recommend the rapid pursuit of more sustainable options (like flow batteries), combined with advanced transmission and grid operation.<sup>25</sup>
- **Hydrogen:** Hydrogen can be made in various ways. The most common method today is to make it from natural gas, which obviously makes it not renewable. It can also be made by electrolyzing water using solar or wind energy, or directly from sunlight (this last technique is not yet commercial). In such cases, hydrogen essentially stores renewable energy, much like a battery. It can be used in fuel cells to generate electricity in hydrogen

fuel cell cars and trucks (vehicles that replace larger batteries for smaller light-weight electrochemical system and that acts as the vehicle's own power plant) and as a renewable substitute for natural gas in industry. Hydrogen has even been used on a pilot basis to fly commercial jet aircraft.

**Prominent energy sources that do not reflect our principles:**

- **Gas power plants:** There is general consensus that gas power plants are not considered renewable energy and that the transition off of fossil fuels includes transitioning away from gas. Gas plants are often located in frontline communities, wreaking havoc by emitting vast amounts of pollution and impacting the health of local neighborhoods. "Without cleaner alternatives, gas plants already operating will ramp up generation, and other gas plants will turn back on. Because gas plants can be much dirtier when starting up, this increase in 'cycling' could actually increase air pollution from gas plants, possibly *worsening* air quality in surrounding communities, despite a cleaner grid state-wide."<sup>26</sup> A 100% regenerative energy policy should include language that makes explicit the transition away from gas and communities should take great care to ensure gas power plants are not included in RPS eligibility.
- **Renewable Natural Gas:** The fossil fuel industry and gas utilities market renewable natural gas (RNG) as a "cleaner" form of natural gas. Many states, such as California, have witnessed the gas lobby push for policies to ramp up RNG and even qualify RNG as a form of renewable energy. However, RNG still produces significant greenhouse gas emissions, especially if leaks from production and pipelines are counted. There is also a problem with scalability and out-of-state RNG, "There is nowhere near enough RNG to meet our heating load in the building sector. Let alone other sectors that are harder

to electrify...SoCal Gas assumed in their study that more than 75 percent of the gas would come from out of state. Even if all in-state sources were tapped, they could supply only 2.5 percent of statewide gas consumption, or about 10 percent of heat and hot water needs in buildings."<sup>27</sup>

- **Fracking:** Hydraulic fracturing or "fracking" is the process of injecting high-pressure liquid into underground rock to reach oil or gas. Frontline communities vehemently oppose fracking as operations are commonly sited in low-income communities and fracking causes highly contaminated water, air pollution, and earthquakes.
- **Clean coal:** Clean coal is a marketing ploy used by big polluters to convince the public that high-tech coal plants produce less polluting coal, such as reduced sulfur dioxide and nitrous oxide emissions or carbon capture. However, clean coal has been found to actually require more coal, is much more expensive than renewable energy, and the technology simply does not work.
- **Biofuels:** Biofuels produce industrial pollution. The production of biofuels largely depends on oil and water. The machinery needed to cultivate the crops emits large carbon emissions and growing the plant source requires the use of large volumes of water that could strain local water resources. Fertilizers, herbicides, and pesticides are also used for the cultivation of crops for biofuels, resulting in water pollution and environmental pollution.<sup>28</sup>
- **Biomass:** "Biomass power—such as burning wood for energy—could do more harm than good in the battle to reduce greenhouse gases...Ploughing up pasture to plant energy crops could produce more CO<sub>2</sub> by 2030 than burning fossil fuels, if not done in a sustainable way..."<sup>29</sup>

- **Waste to energy:** Waste to energy is the incineration of trash to create energy. It is often deemed as having lower carbon-emissions than coal, but creates many other toxic and air pollutants that harm people and planet.
- **Nuclear:** Nuclear fuel is not renewable because it is not regenerated by natural processes. In addition, as the Chernobyl and Fukushima accidents have shown, nuclear power reactors are vulnerable to catastrophic accidents that can render the local environment uninhabitable. Nuclear power reactors routinely discharge radioactive liquids and gases to the environment. Radiation exposure disproportionately impacts women and children. "Women are as much as 50 percent more sensitive to radiation than men. Infants and children are more radiosensitive than adults, and fetuses and embryos even more so. Established levels of exposure to radiation, deemed 'acceptable' —but not 'safe'—average the doses for adults and children, hiding the full impact to more sensitive members of the population...More than 40 studies in Europe have shown an increase in leukemia among children five years old and under living close to operating nuclear power reactors that have not experienced accidents."<sup>30</sup> Moreover, nuclear reactors make plutonium – each typical size reactor (1,000 megawatts) makes about 30 Nagasaki size bombs worth of plutonium each year, if that plutonium is separated from the nuclear waste. There is more separated bomb-usable plutonium worldwide from nuclear power plants than there is in all the nuclear bombs in all nuclear weapon states put together.<sup>31</sup>

### Examples of technologies that have mixed reviews:

- **Geothermal:** Each state will need to determine its position on geothermal. Geothermal can be considered a good renewable energy

source. If done right, geothermal can bring benefits to the community, such as good jobs, and provide baseload which many forms of renewable energy does not. However, there are serious concerns around water quality and use, increased earthquakes, and other unintended environmental consequences. According to the Union of Concerned Scientists, "Geothermal power plants can have impacts on both water quality and consumption. Hot water pumped from underground reservoirs often contains high levels of sulfur, salt, and other minerals... Hydrothermal plants are sited on geological 'hot spots,' which tend to have higher levels of earthquake risk. There is evidence that hydrothermal plants can lead to an even greater earthquake frequency. Enhanced geothermal systems (hot dry rock) can also increase the risk of small earthquakes. In this process, water is pumped at high pressures to fracture underground hot rock reservoirs similar to technology used in natural gas hydraulic fracturing."<sup>32</sup>

- **Methane from solar and wind:** Methane can be made from solar and wind energy. In this case, the energy itself would be renewable. However, methane leaks would still result in greenhouse gas emissions. While most "renewable natural gas" could be replaced directly with solar and wind and hydrogen from these sources, it is possible that methane would be needed for some applications. In such cases, it would be much better to get rid of the natural gas and use renewable methane.
- **Hydroelectric power:** Many states include hydroelectric power (hydro) in their RPS mix. Some states only include small hydro. Each state will need to conduct its own research as to existing hydro capacity and their own needs to ramp up or down the usage of hydro. Some hydro plants do not require dams—with the most prominent being the power plant at Niagara Falls.



- Oppose new dams: States should oppose new hydro in their RPS if they involve new dams. Dams have wreaked havoc on Indigenous communities, resulting in forced displacement, flooding of lands, and deforestation, particularly among poor communities.
- Dam removal: 100% regenerative policies should leave the door open for dam removal. Many believe that most dams should be taken down to undo their multiple detrimental ecological and biodiversity impacts. If dams are taken down, they should be replaced by renewable sources in a timely manner. The matter is further complicated because some dams have multiple uses beyond electricity generation. This is why site- and state-specific work is needed to determine the best course for existing hydropower installations.

## Transition Away from For-Profit Utility Model and Push for Utility Reform

### Background:

The history of the monopoly electrical system dates back to the 1880s. After only a decade of small lighting systems providing electricity in every city in the nation, big bankers and oil tycoons, such as J. Pierpont Morgan, John D. Rockefeller, and George Westinghouse snatched up all the small electrical providers to consolidate all electrical providers and exert corporate control over the energy system. Morgan set out on a quest to establish only one utility that would be owned by him. These robber barons established an empire and monopolized lighting, power, and trolley systems. Shortly after, grassroots communities revolted, and established their own municipal systems to produce power under public control, excluding monopolies. As soon as 1895, Detroit

established its own municipally owned utility (muni). Rates shot down, and soon a number of cities established their own muni. By 1912, a total of 1,737 publicly owned utilities had formed, compared to 3,659 monopoly private utilities. However, Samuel Insull created a third model, a public-private combination. Insull formed the National Electrical Association, which would become the business model of modern times. This public-private model publicly regulated all privately owned monopolies, while protecting each company's territory, thus guaranteeing a return on investment. This model established the current electric regulatory commissions that are controlled by monopoly capitalists. By 1921, almost every state formed a utility regulatory commission. By the 1920s, Insull and 15 other monopoly capitalists owned 85% of the nation's electricity supply.<sup>33</sup>

During the early 1930s at the advent of the Great Depression, eight of the largest utility companies owned 73% of the investor-owned utilities. Government stepped in and passed the Public Utilities Holding Company Act (PUHCA) in 1935 to address the imbalance in the energy market. As the first attempt at regulation of the energy industry, PUHCA's goal was to prohibit companies from recovering their expenses twice by allowing ratepayers to pay only the share of common service expenses and prohibiting utilities from artificially raising rates. Through PUHCA, companies divested billions of dollars in assets, and the number holding companies drastically lowered.<sup>34</sup>

Today, Public Utilities Commissions (PUCs) have been established to regulate monopoly utilities. However, utilities continue to enjoy profits by a faulty design. In 1865, the Supreme Court laid out a "regulatory compact" where PUCs determine how much a utility is allowed to invest, how much it can charge, and what the profit margin can be. In exchange, utilities are allowed exclusive rights to sell electricity in a given area. Utilities are allowed a "rate of return" on their assets that drives profits. This rate of return model is still used today and

incentivizes unnecessary investments, while de-prioritizing good services, environmental outcomes, and benefits to communities.<sup>35</sup> As of July 2019, the largest electric utilities in the nation have a market value of \$64.9 billion. This list of most profitable electric utilities includes: NextEra Energy (ranked 1), Duke Energy (ranked 2), Exelon (ranked 5), Xcel Energy (ranked 8), and Pacific Gas & Electric (ranked 10).<sup>36</sup>

However, with the increased demand for clean, renewable energy and the growing movement to transition off of fossil fuels, utilities are concerned about their continued rate of return and the guarantee of profits. As a result, for-profit utilities have engaged in tactics, such as raising the monthly fixed charges of customers. In 2014, utilities charged about \$5 to \$10 per month for fixed customer charges, but some utilities have proposed raising those rates to \$20 dollars per month or more.<sup>37</sup> Some utilities have been found to be responsible for wildfires due to old infrastructure and negligence in wire maintenance, yet these same utilities turn around and pass those costs onto ratepayers. Faulty power lines and poles owned by Pacific Gas & Electric (PG&E) caused the 2015 Butte fire and the 2017 Camp Fire in Northern California—the worst and deadliest fire in California history—resulting in \$7 billion in claims.<sup>38</sup> However, PG&E is demanding \$20 billion in tax-exempt bonds that would essentially bail them out and prevent them from going into bankruptcy.

## Policy Recommendations:

### Shift away from for-profit investor owned utilities.

Although the monopoly utility model is a deeply embedded model, energy policies must shift away from this for-profit model to one that is publicly-owned and controlled. Instead of accepting a pro-profit, investor-owned utility model, advocates should:

- **Promote Publicly Owned Utilities (POUs).** POU's have an ownership structure that is locally governed and/or owned by customers/

members. They are non-profit entities that are managed by local elected officials and public employees. Rates are set by each POU governing body or city council. The mission of the POU is to optimize benefits for local customers.<sup>39</sup> Although there is a long history of creating POU's to shift away from the monopoly utility model, POU's must also be held to higher standards to fully meet the mission of benefiting customers. Two-thirds of public power systems buy their power on the wholesale market. Whether they self-generate or purchase power, they are as concerned as their for-profit counterparts about regulatory changes and their potential effect on reliable, affordable power.<sup>40</sup>

- **Promote Community Choice Aggregation (CCAs).** CCAs are a new type of utility that enable communities to make decisions themselves about what kinds of energy to purchase rather than relying on traditional investor-owned utilities (IOUs). CCAs are created by cities, counties, or joint powers authorities (made up of municipalities), which enable them to be more reflective of distinct community preferences than the regional IOUs. Community members have direct input into CCA decision-making through their boards of directors, which are comprised of local elected officials. Through their CCAs, these communities have thus far revealed strong preferences for renewable energy. Some CCAs have specifically focused on developing local electricity generation from renewable energy.<sup>41</sup>
- **Promote Energy Cooperatives.** Energy co-ops have voluntary membership, democratic member control, and transparent economic participation. Co-ops operate under seven principles including, voluntary membership, democratic member control, member economic participation, autonomy and independence, education and training, cooperation among cooperatives, and concern for the community.<sup>42</sup> Energy co-ops are

appealing in the transition to local distributed energy system. The challenge is energy co-ops need to reach the scale necessary to be competitive. And, as service territories are already fixed, consumers do not necessarily have a choice about where they get their electricity.

**Reform the current utility system.** Although the shift away from a monopoly investor owned utility system is the ideal pathway from communities, the reality is that many BIPOC and frontline communities still must operate within the existing IOU model. The recommendation is to transition away from the for-profit IOU model, while simultaneously reforming the current utility system. The following are a suite of policy recommendations to reform the current utility system<sup>43</sup>:

- **Revenue decoupling**—where utility profits are no longer tied to the quantity of energy sales—is an important regulatory foundation that encourages energy efficiency. Instead of higher fixed charges, the following approaches should be used:
  - Demand charges are based on each customer's contribution to the peak demand, such as on a hot summer day when many people are running air conditioners at the same time.
  - Time-of-use rates are those that make the usage rate we pay for electricity lower during times of low demand, such as in the middle of the night, and higher when there is more demand.
  - Minimum bills apply to the small number of customers below a certain low threshold of usage and guarantees the utility a minimum annual revenue from these customers.
- **Performance based regulation.** Seek to align utility mission with environmental and social goals, instead of capital investments. Such environmental and social goals may include:

- Environmental performance: Utilities should shift their model from one of profits for shareholders to environmental performances. IOUs must set aggressive targets of emissions reductions, particularly in BIPOC and frontline communities. They should focus on distributed energy resources and energy efficiency, particularly in BIPOC and frontline communities.
- Resilience: Resilience is the ability to prepare for and respond to extreme climate events. Utilities must implement resilience tools to protect communities through extreme weather, without imposing onerous costs.
- Expanded Choice: Utilities must transition off fossil fuels, such as coal and gas, and offer communities a variety of energy choices with the goal of community control and ownership. Utilities must promote local solar, storage, efficiency, and demand response, particularly in BIPOC and frontline communities, which are impacted first and worst.
- Innovation: Utilities must look to new technologies that are cleaner and more cost effective. They must pursue innovation that provides grid benefits and the best services to customers.
- **Inclusion of an "Environmental Justice Adder."** Utilities can be required to consider the full cost of environmental impacts and pollution in their planning. An "Environmental Justice Adder" is a concrete way to capture the value of including environmental justice in setting tariffs. Through an Environmental Justice Adder, 100% regenerative policies may account for economic values, improved health outcomes, reduced indoor air pollution, housing security, and energy affordability.
- **Distributed energy resources planning.** Utilities should be required to create a plan

for establishing and managing a network of distributed energy generation, including how to connect distributed energy resources into the grid, maximize data flow throughout the grid between consumers and generators, and resolve technical barriers to increased distributed energy generation.

- **Shared/community solar.** This is a model of distributed renewable generation that allows customers to opt in to a local solar project without having to install their own system, thus making it more accessible to renters and households that cannot afford to install their own solar system. Community solar projects are directly owned by participants, while shared solar projects are usually owned by a third party, such as a utility.

### Examples:

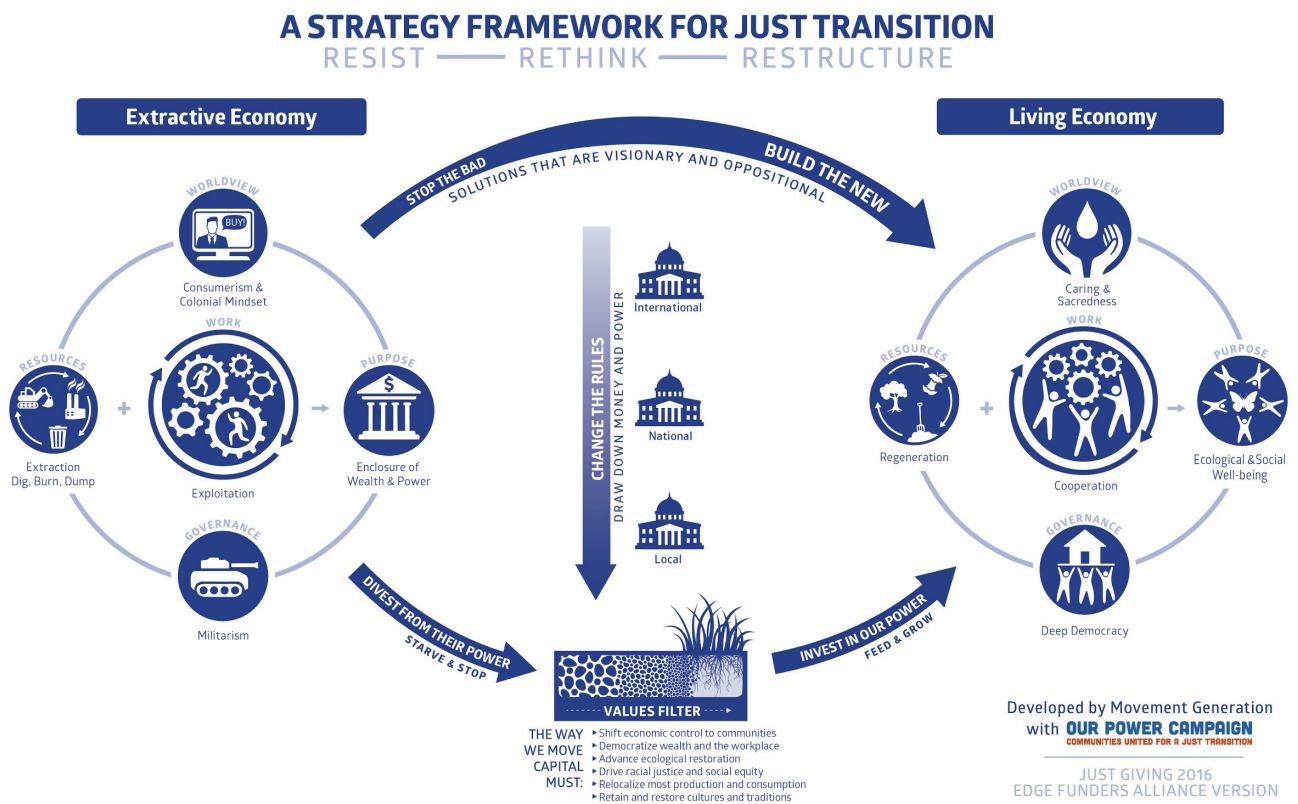
**Example of public utility model:** Nebraska is the only state where all residents receive electricity from a community owned utility, as opposed to a for-profit utility. In 2015, 121 publicly owned utilities, 10 cooperatives, and 30 public power districts provided electricity to a population of around 1.8 million people. As a result, residents now have some of the lowest electricity rates and reinvest any revenue to guarantee reliability and affordability.<sup>44</sup> Of course, this publicly-owned model should also be coupled with the use of clean renewable energy sources, and not coal and gas.

**Example of an Environmental Justice Adder:** New York Lawyers for the Public Interest advocated for an Environmental Justice Adder in a case that determined the value of distributed energy resources. The primary objectives of this Environmental Justice Adder are: (1) targeted air pollution reduction; (2) significant utility bill reduction for low-income individuals living in environmental justice communities; (3) participation in community solar projects as owners, members, and/or subscribers by low-income individuals living in environmental justice communities; (4) supporting

workforce development and local hiring within environmental justice communities; (5) supporting sponsorship of community solar projects by member-based and community representative organizations in environmental justice communities; (6) supporting energy efficiency upgrades and overall energy burden reduction for housing units that serve low-income individuals in environmental justice communities.<sup>45</sup>

# Building Blocks for a Just Transition and Prioritizing the Frontline

## Just Transition at the Center of Policy



Just Transition image developed by Movement Generation with Our Power Campaign

## Background:

Movement Generation defines Just Transition as:

*A framework for a fair shift to an economy that is ecologically sustainable, equitable and just for all its members. After centuries of global plunder, the profit-driven, growth-dependent, industrial economy is severely undermining the life support systems of the planet. An economy based on extracting from a finite system faster than the capacity of the system to regenerate will eventually come to an end—either through collapse or through our intentional re-organization.*

*A Just Transition requires us to build a visionary economy for life in a way that is very different than the economy we are in now. Constructing a visionary economy for life calls for strategies that democratize, decentralize and diversify economic activity while we dampen down consumption, and (re)distribute resources and power. Just Transition initiatives shift the economy from dirty energy to energy democracy, from funding highways to expanding public transit, from incinerators and landfills to zero waste, from industrial food systems to food sovereignty, from gentrification to community land rights, and from rampant destructive development to ecosystem restoration. Core to a Just Transition is deep democracy in which workers and communities have control over the decisions that affect their daily lives.<sup>46</sup>*

## Policy recommendation:

**Explicitly name Just Transition as a goal within the 100% regenerative policy.** Critical to any policy that aims to achieve 100% regenerative energy is a Just Transition framework that turns the entire energy system on its head. Just Transition is often thought of as a transition that is focused on solely labor and jobs. However, Just Transition is about a fundamental shift in our economy from an extraction based economy to one that is democratic, equitable, and regenerative.

Just Transition moves away from profit-driven corporations and fossil fuel industries, such as oil refineries, gas power plants, coal plants, and large pipelines. Just Transition addresses past harms, especially those committed against Tribal nations who have suffered the destruction and contamination of their land, air, and water.

Just Transition focuses on deep energy democracy where frontline communities are represented and are leaders in decision-making bodies, and where we shift money out of politics and into regenerative energy structures and economies. Many states and local equitable energy and climate justice policies are adopting definitions of Just Transition and are utilizing the Just Transition framework to address systemic inequalities that have long-plagued energy policies, and to imagine a people-centered and just energy system.

### Example of support for a Just Transition from Indigenous communities in New Mexico:

“Despite providing electricity to the rest of the state for over 56 years, our people continue to go without adequate access to water, electricity and roads. A Just Energy Transition bill would address these structural inequalities to invest in the infrastructure we need to build a just economy.”<sup>47</sup>

## Prioritize and Identify Environmental Justice and Frontline Populations and Communities

### Background:

Many 100% energy policies set clear goals to achieving 100%. However, some of these policies omit a critical component to meeting that target: an explicit prioritization of environmental justice. Unless environmental justice is named in the policy, attention to the needs and concerns of BIPOC and frontline communities will not be addressed in the policy.



Energy Justice Network defines environmental racism, environmental justice, and environmental equity:

*“Environmental racism” is the disproportionate impact of environmental hazards on people of color. “Environmental justice” is the movement’s response to environmental racism. “Environmental equity” is not environmental justice. “Environmental equity” is the government’s response to the demands of the environmental justice movement. Government agencies, like the EPA, have been coopting the movement by redefining environmental justice as “fair treatment and meaningful involvement,” something they consistently fail to accomplish, but which also falls far short of the environmental justice vision. The environmental justice movement isn’t seeking to simply redistribute environmental harms, but to abolish them.<sup>48</sup>*

### **Policy recommendations:**

**Explicitly name environmental justice in the policy.** In order to have a mandate prioritizing environmental justice and frontline communities, 100% policies should include clear language that calls out environmental justice and clear targets. For example, a carve out of 25% of all renewable energy will be sited in and benefit environmental justice communities (see definitions below). Special incentives for environmental justice and frontline communities are also needed to redress the past inequities so that they can acquire and own solar photovoltaics, energy efficiency infrastructure, or other renewable energy technologies either on their own homes or in community systems.

**Create a structure to develop the methodology.** The methodology to identify the target environmental justice community is essential to ensuring these communities benefit from and are prioritized in the 100% regenerative policy. Who develops the methodology is just as important as what that methodology is. For example, a Frontline Task

Force or Energy Equity Working Group should be created that establishes a methodology for defining “BIPOC and frontline community” and/or “environmental justice community.”

Advocates should consider the following in the development of methodology to identify environmental justice and frontline populations and communities:

- Different methodologies will work for different contexts (for example, urban vs. rural vs. Indigenous, or contexts that have a broad range of types of workers).
- Attention should be paid to the differences between using geography (zip codes or census tracts) and populations (mine workers, farm workers, women, etc.) to define as frontline or environmental justice.
- The percentages of investments should, at a minimum, align with the percentage of environmental justice/frontline areas or populations. For example, New York’s State Assembly Bill A8429 included 40% of investments to align with 40% of the total population in environmental justice communities<sup>49</sup>; whereas, California’s Senate Bill 535 has 25% of investments for 25% of identified environmental justice communities<sup>50</sup>.
- A simple methodology for just energy and policy investment could be developed, factoring in any of the following:
  - Percentage of frontline / environmental justice / low-income populations
  - Amount of funds these populations have paid into past renewable energy programs without access (as ratepayers and taxpayers)
  - Measure of impact / proportionate benefit, societal benefit, etc.
- Do advocates use “Frontline,” “highly impacted,” or another term to describe communities and



what is the agreed upon definition? Frontline communities are typically defined as those most impacted by multiple and cumulative sources of pollution and climate impacts due to proximity to toxic factories, fossil fuel refineries, neighborhood oil drilling, freeways, and the like, often without access to clean drinking water or public investment. The inability of these communities to cope with the related health impacts can be compounded by poverty, unemployment, and lack of access to education. The following are common indicators to identify a frontline community:

- Poverty level
  - Linguistic isolation
  - Housing burden
  - Asthma
  - Cardiovascular disease
  - Living adjacent to hazardous waste facilities
  - Air quality PM2.5
  - Drinking water contamination
  - Pesticides prevalence
- Does the organization use "low-income" and what is the definition? BIPOC and frontline communities prefer not to use the term "low-income" as it can be degrading. However, many energy policies use "low-income" to clearly define the population for whom the policy is intended. Typically, the Area Median Income (AMI) is used to determine "low-income." AMI is the middle income of any given area. Most federal and state housing programs set maximum incomes in order to determine eligibility to access affordable housing programs. The Department of Housing and Urban Development's (HUD) definition of low-income has been used in energy and climate policies. HUD's limits are based on surveys of local area AMIs. The general recommendation

in various energy policies is to use 80% of AMI, meaning that any income at or below 80% of the AMI is considered low-income.

- Do policies include low-income housing and service providers, to ensure low-income populations have access regardless of housing type? Are those policies structured to ensure low-income renters and tenants may capture benefits as well?

**Policies should clearly identify the desired impacts or goals of BIPOC and frontline communities to be achieved by the policy,** such

as energy burden reduction targets, bill savings targets, job creation, job training, ownership, entrepreneurship and economic opportunities, minority and women business enterprise opportunities, etc.

- An example of outlining the desired impact is the Solar for All Program in Washington DC. This program aims "to bring solar energy to 100,000 low- to moderate-income families, whether homeowners or renters living in multi-family buildings. All are expected to see a 50-percent savings on their electricity bills over 15 years."<sup>51</sup>

**Advocates should ensure that energy is affordable for BIPOC and frontline households.**

Advocates may reference the Low-Income Affordability Data Tool<sup>52</sup> for guidance. Research recommends using an affordability standard of 6% of gross household income based on the idea that a household can afford to spend about 30% of income on shelter costs and that about 20% of shelter costs are used for energy bills.<sup>53</sup> It is essential to have similar energy affordability provisions early in the process of the renewable energy transition to insulate low-income households from price increases and from any special costs or charges associated with the energy transition.

**Set up robust accountability and accounting**

**measures.** 100% regenerative policies should set up an Environmental Justice (or Climate Justice) Board or Accountability Board comprised of frontline communities that can guide the process,

ensure methodologies are adopted, and hold policy-makers accountable. This board can set processes and structures in place for the accounting of investments and disinvestments in energy programs that impact environmental justice and frontline communities.

### Examples:

**Denver Housing Authority's (DHA) new community solar array:** In 2017, DHA partnered with GRID Alternatives Colorado and Namaste Solar to develop and install a 2 megawatt DC community solar project. The project's output will benefit DHA housing as well as other Low-income Housing Tax Credit and Public Housing Buildings in the Denver metro region—properties housing over 700 residents in total. Residents will save an estimated 15 to 20% on their average monthly utility bills.<sup>54</sup>

### Examples of methodologies and tools used in policy to identify environmental justice and frontline populations and communities:

- "EJSCREEN" is a national environmental justice mapping and screening tool that provides the EPA with a nationally consistent dataset and approach for combining environmental and demographic indicators.<sup>55</sup>
- In California, the Office of Environmental Health Hazard Assessment defined "disadvantaged community" using their CalEnviroScreen model. "CalEnviroScreen is a mapping tool that helps identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects. CalEnviroScreen uses environmental, health, and socioeconomic information to produce scores for every census tract in the state. The scores are mapped so that different communities can be compared. An area with a high score is one that experiences a much higher pollution burden than areas with low scores. CalEnviroScreen ranks communities based on data that are available from state and federal government sources."<sup>56</sup>

## Promote Gender Justice

### Background:

Inequality and the discrimination of women, girls, and the LGBTQ community are part of the extractive culture that frontline communities should transition away from. Women and girls are often disproportionately affected by climate change and there is a scarcity of job opportunities in the clean energy sector for women and LGBTQ people.

The Institute for Women's Policy Research shows that despite a huge gender gap between men and women overall, the potential for jobs in the green economy are greater for women. "[W]omen working in the green economy have higher earnings than other women and...the gender wage gap in green jobs is lower than in the economy overall. Women are, however, much less likely than men to work in green jobs and are particularly underrepresented in the occupations that are predicted to grow most strongly in the green sector."<sup>57</sup>

### Policy recommendations:

100% policies should promote gender justice. Concrete policy mechanisms to achieve gender justice in 100% regenerative policies include:

- Increase accessibility to training and apprenticeship programs for women, women of color, and LGBTQ communities
- Set gender targets in recruitment, hiring, and retention
- Ensure equitable wages and benefits across genders
- Put women, women of color, and LGBTQ individuals in positions of leadership
- Demand support for women-led enterprises.

## Examples:

The 61st UN Commission on the Status of Women adopted a set of Agreed Conclusions that made significant commitments to advance women's rights and economic empowerment:

*Develop and implement gender-responsive climate change policies to ensure a just and equitable transition for all towards a low carbon, environmentally sustainable economy that contributes to the goals of decent work for all, gender equality, social inclusion and the eradication of poverty including by increasing climate financing to gender equitable transition strategies and by expanding and re-prioritizing fiscal expenditure allowing investment in public sector employment, physical and social public infrastructure, education, renewable energies managed by women, social care infrastructure and universal social protection.<sup>58</sup>*

The Paris Agreement contains language to increase finance for gender-responsive strategies to prevent, mitigate, and manage the impact of climate change.<sup>59</sup>

## Advance Tribal Sovereignty and Indigenous Land Rights

### Background:

Renewable energy policies often ignore the history of Indigenous peoples and how the fossil fuel industry has used oppression, violence, displacement, and detainment to both control the energy space and usurp their power. 100% regenerative energy policies should include the input of Indigenous communities, particularly energy sovereignty for these communities. 100% policies should also ensure processes and policy components are in place to factor in nuances of Tribal governance. Although Tribal governance may be viewed as completely different from the current utility-controlled system, in order for 100% policies to be

centered on Just Transition and non-extractive economies, Indigenous sovereignty and Tribal governance must be a cornerstone.

Tribal lands contain vast quantities of untapped coal, oil, and other energy sources. Historic encroachment into tribal lands to exploit these resources by the profit-hungry fossil fuel industry and by decision-makers has resulted in gross harms and violence. Fossil fuel development has threatened the way of life and cultural heritage of Indigenous peoples and has resulted in land grabs and water and air contamination.

100% policies should recognize the complexities of Tribal sovereignty and energy democracy. Due to Tribal sovereignty, Tribes are allowed to pursue energy ventures as they see fit. The reality is that some of these energy ventures are fossil fuel based. However, currently many Tribes are advocating for renewable energy using the many principles outlined in this document.

Most disturbing in the extractive fossil fuel-based system is the violence on and disappearance of Indigenous women related to energy production.

*In recent years, [several tribes have] experienced an exponentially increasing level of violence against Native women. North Dakota's Uniform Crime Report shows that violent crime has increased 7.2 percent, while 243 reported rapes occurred in 2012 – an increase from 207 in 2011...12 of the state's top oil-producing counties accounted for much of that crime. The cause for this is the camps of thousands of male workers who have come to their territory to profit from the Bakken oil boom – settling into what are commonly called 'man camps,' and more than doubling the population with an influx of non-Indian oil workers.<sup>60</sup>*

## Policy recommendations:

**Recognition of past and current harms.** When designing 100% regenerative policy, there should be a recognition of past and current harms to the Indigenous related to the control and domination of energy and there should be a recognition of Tribal sovereignty and rights.

Historically, Indigenous treaties provided the greatest protections for tribes. Treaty-based systems encourage negotiation and consultation with tribes. By negotiating a treaty, the executive branch must negotiate with the tribe and come to an agreement.<sup>61</sup>

**Push for consultation with Indigenous communities.** 100% regenerative policies should include provisions regarding consultation with Indigenous communities, particularly if renewable energy projects are proposed to be built on Indigenous lands, as well as pathways for Indigenous energy sovereignty so that Indigenous communities may own and control their energy supply and reach 100% clean energy if they choose. There should be consultation with Indigenous people in regards to the development and implementation of the policy and in regards to funding for renewable projects.

**Recognize Indigenous Land Rights.** The intersection of land rights and renewable energy has historically centered on Indigenous communities. Federal and city governments, large fossil fuel companies, and even renewable energy companies have expropriated Indigenous lands and water for fossil fuel exploitation without consultation, consent or compensation. Kyle Powys Whyte explains, "For many tribes, we wouldn't have gone along with any of these schemes or leases for extractive industries if it wasn't for the fact that the U.S. had put us in a situation with a diminished land base. It made it impossible for us to exercise our own governance systems, or even to develop and change in ways that were more sustainable than simply being dependent on industries that we know are contributing to climate change, that

contribute to pollution, and that are bad for people's health."<sup>62</sup>

**100% policies should recognize the land, water, and air rights of Tribal Nations.** Indigenous Environmental Network explains:

*Our lands and territories are at the core of our existence – we are the land and the land is us; we have a distinct spiritual and material relationship with our lands, waters and atmosphere-sky and territories and they are linked to our survival.*

*A Just Transition recognizes that Indigenous Nation authority does not just extend to the boundaries of the reservation/reserve. It extends over the respective traditional territories. This includes Treaty lands and un-ceded lands and waters taken without consent. This authority extends not only to hunting, fishing, food, plant and medicine gathering, but also to our sacred sites and protection of our watersheds and airsheds, as well as below ground.<sup>63</sup>*

Sacred sites on Indigenous lands should be off-limits for renewable energy projects. Sacred sites, such as ancient villages sites and burial sites, must be respected by renewable energy developers

**Inclusion of "equitable compensation" to Indigenous people.** Reparations and/or redress for lands, territories, and resources that have been taken, confiscated, or occupied.

## Examples:

**Example of Tribal consultation language (written by Tribal leaders and their legal counsel):**

*For programs, activities, or projects that directly impact tribal lands, the goal of the consultation process is to obtain free, prior, and informed consent for the project. For these programs, activities, or projects, consultation is complete when the Indian tribe's government provides the board with a written resolution providing consent or withholding consent by the deadline set for completion*

of the consultation process. If any project that directly impacts tribal lands is funded under this chapter without complying with (b) and (c) of this subsection, upon a request by an Indian tribe, all further action on the project must cease until consultation with the Indian tribe is complete.<sup>64</sup>

**The United Nations Declaration on the Rights of Indigenous Peoples enshrines the right to free, prior, and informed consent:**

*The Declaration will become the major foundation and reference in implementing its mandate to advise members of the Economic and Social Council and the UN agencies, programmes and funds on Indigenous peoples' human rights and development. It is a key instrument and tool for raising awareness on and monitoring progress of Indigenous peoples' situations and the protection, respect and fulfillment of Indigenous peoples' rights. It will further enmesh and operationalize the human rights-based approach to development as it applies to Indigenous Peoples.<sup>65</sup>*

**The United Nations Declaration on the Rights of Indigenous People offers an example of equitable compensation language:**

*Indigenous peoples have the right to redress, by means that can include restitution or, when this is not possible, just, fair and equitable compensation, for the lands, territories and resources which they have traditionally owned or otherwise occupied or used, and which have been confiscated, taken, occupied, used or damaged without their free, prior and informed consent. Unless otherwise freely agreed upon by the peoples concerned, compensation shall take the form of lands, territories and resources equal in quality, size and legal status or of monetary compensation or other appropriate redress.<sup>66</sup>*

# Building Blocks for Land, Transportation, and Buildings

Issues of land, transportation, and buildings warrant their own robust study and set of recommendations. Although this document focuses mostly on electricity, land, transportation, and buildings are touched on here to highlight that 100% regenerative energy policies should make connections to each of these subjects.

## Recognize Land, Water, and Air Rights

### Background:

How do advocates build out a renewable energy system that needs land and water use but is not extractive to public and private resources and pays special attention to Indigenous peoples and frontline communities?

### Policy recommendations:

A 100% regenerative policy should be a holistic, community-based project that recognizes land, water, and air rights. Here are some actionable steps and policy components that should be included in a 100% regenerative policy:

**A “community benefits” framework for renewable energy development.** This framework should ensure impacted communities have input

## Land Use and Renewable Energy

*Land use may be a critical component for some advocates, especially when considering the development of utility-scale solar, community solar, or large wind turbines. Advocates need to factor in historic discriminatory land use practices and policies and ensure that the 100% renewables policy shifts away from environmental racism in land use. Land use has even been used as a barrier to renewables development in order to promote false solutions, such as nuclear.*

in, benefit from, and are not negatively impacted by the renewable energy development. Benefits should be ecological, healthy, and economic.

**An analysis of the best use of public land and the local impacts of proposed projects.** For example, is the best use a community solar project, a private project, or something else?

**Eminent domain cannot be used for fossil fuel infrastructure.** “Developers of both the Atlantic Coast natural gas pipeline in Virginia and North Carolina and the Penn East gas pipeline in Penn-



*Federal preemption can be used in eminent domain. In 100% renewable energy design advocates might explore how national interests of utility-scale energy may be mismatched with local community control, and how federal policies might preempt eminent domain.*

sylvania, for instance, have fought legal actions from landowners who argue that state governments are abusing the power of eminent domain. They claim that instead of using eminent domain to help the broader public, governments are using it to benefit energy companies...The turning of eminent-domain arguments against clean energy infrastructure is one of many ironies of the current political era."<sup>67</sup>

**Ensure community engagement in the renewable development process.** Include language that energy developers must collaborate with communities where renewable energy is being sited. See "Demand Quality Outreach and Public Participation" section below.

## Prioritize Transportation Justice

### Background:

A renewable energy system can and should be used to convert existing fossil fuel uses to electricity to turn polluting technologies into clean ones. Transportation is the most important of these areas. The transportation sector is the leading cause of carbon emissions in many states. Depending on the state and the context, advocates will need to determine their priorities in transportation and electrification. Both access to and expansion of public transportation, strong electric vehicle programs, and clean mobility infrastructure should be prioritized.

### Policy recommendations:

The following are some transportation justice policy elements that should be included in 100% regenerative energy policies:

Push for renewable electricity goals in transportation. 100% regenerative policies should push for no gas, no propane, and clear transition off of petroleum products. Despite electric vehicles producing zero tailpipe emissions, in 2018, "petroleum products accounted for about 92 percent of the total U.S. transportation sector energy use...Electricity provided less than 1 percent of total transportation sector energy use and nearly all of that in mass transit systems."<sup>68</sup> Advocates should set robust targets to electrify transportation.

#### **Prioritize accessibility in public transportation.**

The biggest barrier in public transportation is often accessibility. Before going electric, policies should be set in place that add and expand services first. Adding more hours of operation and expanding public transportation lines to frontline communities that need it most should be prioritized. Expansion of public transportation into rural communities should especially be prioritized.

**Electrified Mass Transit.** Advocates should include in their renewable energy policies, the transition from fossil-fuel based transit programs to fully electric public transit programs. Many cities are adopting fully electric public transit programs. The cities of Denver<sup>69</sup>, Seattle<sup>70</sup>, and Los Angeles<sup>71</sup> all have adopted programs to go 100% electric with their public transit between 2020 and 2050. However, advocates need to ensure that these programs are truly 100% electric and do not include false solutions, such as renewable natural gas.

**Provide a variety of transportation choices.** The development and expansion of electric vehicle programs does not necessarily mean that renewable energy will reach frontline communities. Advocates should prioritize a range of clean mobility options in frontline communities.



## Goods Movement

*The goods movement is the transportation of all goods (clothing, produce, materials, etc) from the ports onto trucks and trains, and into warehouses. The goods movement is steeped in environmental racism where frontline communities suffer from the pollution and contamination from the ports, the freeways, and warehouses. Advocates should define how the goods movement intersects with their 100% policy.*

- Advocates should prioritize electric buses and the electrification of heavy-, medium-, and light-vehicles.
- Creative transit options such as ride sharing or van pools should be prioritized, particularly in rural and Tribal contexts that have no electricity, lack access to charging stations for electric vehicles, and suffer from bad roads.

**Push to pave and rebuild streets for pedestrians and bicycles.** "The city of Maplewood, Minnesota, adopted a living streets policy framework, under which the city will rebuild streets after infrastructure upgrades to better accommodate walkers, bikers, and transit users while incorporating green infrastructure such as trees and rain gardens on street edges."<sup>72</sup>

**Transit-oriented development to prevent displacement.** 100% regenerative policies should ensure that communities are not displaced in the development of clean mass transit. Transit-oriented development is used in urban context where a community is planned to be walkable and pedestrian-oriented with community centers and businesses around mass transit. "One neighborhood served by the No. 2 is Echo Park. According to Zillow, in September 2011, the median home value there was \$427,000, and the median rent was around \$2,000. Five years later, those fig-

ures were \$779,000 and \$2,840, respectively, an increase of 90 percent and 42 percent. But as housing costs rose, the neighborhood's population shrank — by about 12 percent between 2000 and 2014, according to census data analyzed by USC's Center for the Study of Immigrant Integration. During that time, more than 5,000 Latinos and 2,000 Asian Angelenos were pushed out."<sup>73</sup>

**Affordability.** Programs should be developed that cater to making electric vehicles more accessible and affordable to low-income communities and frontline communities.

**Comprehensive Electric Vehicle (EV) Programs and Infrastructure.** Strong EV programs, infrastructure, and incentives should be included in 100% regenerative policies. EV programs should be comprehensive and include not just individual personal vehicles, but light-, medium-, and heavy-duty vehicles as well. Especially since the transportation and goods movement infrastructure of highways and expanding freeways criss cross low-income communities, the need for a comprehensive electrification of various types of vehicles is more necessary.

**Consider the full impact of transportation justice.** Transportation goals should include the impacts and costs related to road creation, recycling of old vehicles parts such as tires, and how and where various modes of transportation will be created and dumped. The disposal and recycling sites of vehicles are often sited in frontline communities and the full costs of transitioning to an electrified transportation system should not be shouldered by frontline communities.

Since electrification of transportation is essential to a low emissions future, each state will have to examine how fossil fuels (mainly oil, but also gas) should be phased out of transportation. In addition to the significant expansion of affordable public transit and personal vehicle electrification discussed above, policies can include:

- Banning the sale of new petroleum cars beyond a certain date. For instance, Ireland's national policy sets a target date of 2030.<sup>74</sup>
- Adopting California's emissions standards under Section 177 of the Clean Air Act. Although other states are not permitted to develop their own emissions standards, Section 177 of the Clean Air Act authorizes other states to choose to adopt California's standards in lieu of federal requirements.<sup>75</sup>

#### Special considerations:

- **Jobs in the electric vehicle industry.** There are growing concerns about displacement of workers in the machining and maintenance sectors in the electric vehicle industry. "EV powertrains are simple compared to internal combustion engines. The simplicity could reduce the amount of labor, and thus jobs, associated with vehicle production."<sup>76</sup> Just Transition considerations need to be made with respect to jobs in the EV industry.
- **Advocates should take a position on driverless public transportation.** The public transportation system has historically catapulted many families to the middle class. However, a report by the Center for Global Policy Solutions shows four million jobs will be lost in driverless public transportation with people of color and workers in states such as North Dakota, Idaho, Wyoming, West Virginia, Mississippi, Arkansas, Iowa, and Indiana suffering disproportionate economic disruption from the transition.<sup>77</sup>

#### Examples of transportation programs and policies:

**Charge Ahead California:** sets a goal to place one million light-, medium-, and heavy-duty electric vehicles on the road in 10 years.<sup>78</sup> Charge Ahead has a particular emphasis on ensuring low-income communities of color gain access to and can

benefit from the program. To address a significant barrier of limited EV charging stations, particularly in low-income communities, Charge Ahead prioritizes a strong EV charging component that includes:

- Residential access to on-street EV charging
- Access to public charging stations
- Support for private investment in publicly-accessible stations
- Support for private investment in grid-connected equipment for EVs, starting with heavy-duty fleet vehicles, to accelerate transition
- Incentivized EV parking and charging

**Clean Vehicle Assistance Program:** "helps income-qualified California residents purchase a new or used hybrid or electric vehicle...through a combination of grants and loans at 8 percent or lower interest rate."<sup>79</sup>

**Clean Cars 4 All:** "a program that focuses on providing incentives through California Climate Investments (CCI) to lower-income California drivers to scrap their older, high-polluting car and replace it with a zero- or near-zero emission replacement. The program aims to focus the benefits of the program to low-income and disadvantaged communities and has a heavy emphasis on consumer protections, education of the new technologies, and coordination with other clean transportation programs."<sup>80</sup>

**Illinois' SB 2132:** "The State of Illinois set forth an ambitious goal to remove the equivalent of 1 million gasoline and diesel-powered vehicles from our roads by quickly implementing new policies that expand access to transit, promote walking and biking mobility, and increase electric vehicle adoption. If managed appropriately, electric vehicle adoption will drastically reduce emissions from transportation, and could save Illinois residents billions of dollars."

# Push for Healthy Buildings, Safety, and Energy Efficiency

## Background:

Advocates should promote holistic and health-based buildings and housing. We spend about 90% of our time indoors, where pollutant levels are often higher than those outside. Indoor pollution is estimated to cause thousands of cancer deaths and hundreds of thousands of respiratory health problems each year.<sup>81</sup>

## Policy recommendations:

**Promote Building Electrification.** Buildings use fossil fuels in heating, cooking, and laundry. Building electrification should be a primary way to transition to 100% regenerative energy, while making buildings safer and saving money. According to Environment California, the benefits of building electrification include:

- **Increased Efficiency:** Electric heat recovery chillers, or heat pumps, are twice as efficient as natural gas systems in providing heating and hot water.
- **Cost Savings:** Building electrification is becoming more cost-effective, and is already economical in some cases, as technologies improve and use becomes more widespread. Electric heat pumps, for example, are already cost-competitive with other technologies in some cases because they are highly efficient and can replace both heating and air conditioning units.
- **Environmental Benefits:** Electric heating, hot water, and cooling systems make use of electricity increasingly generated by clean, renewable energy—thus generating less air pollution and creating fewer greenhouse gas emissions than oil or gas fired building systems.

- **Safety:** Electric water and space heating does not come with the hazards of some gas and oil-fired systems, including carbon monoxide leaks and explosions.<sup>82</sup>

**Advance Energy Efficiency.** Energy efficiency is an important factor in achieving energy democracy. However, energy efficiency efforts often place the burden squarely on frontline communities to change their behavior. Instead, they should focus on structural change. A strong 100% regenerative policy should be coupled with a strong energy efficiency policy. This holistic approach of combining efficiency and renewable energy has myriad benefits including:

- Minimized energy load
- More affordable renewable energy
- Greater peak demand reductions
- Vastly more opportunities for high road careers

**Push for Building Decarbonization.** Advocates should set targets to lower emissions from buildings. "Building emissions spiked 10 percent nationally in 2018, driving one of the largest national emissions increases in decades...About half of all building emissions result from electricity use, while the other half come from gas and propane appliances used for heating...[The California] Building Decarbonization Coalition lays out a plan for the state to cut building emissions 20 percent in the next six years and 40 percent by 2030—and to adopt zero-emission building codes for residential and commercial buildings by 2025 and 2027, respectively. Residential buildings produce roughly two-thirds of the state's building emissions, and commercial buildings produce around one-third."<sup>83</sup>

**Demand zero energy homes and buildings.** Zero energy homes and buildings can include:

- Weatherization of homes and buildings: HomeWise Weatherization program in Seattle<sup>84</sup> provides free energy efficiency improvements

to qualified homes, increasing comfort and saving money. Improvements could include:

- Energy audits
- Insulation
- Air sealing
- Furnace repair or replacement
- High efficiency appliances, building materials, and HVAC systems
- Renewable energy such as solar PV and solar thermal

### **Set standards for new housing and buildings.**

- Housing design that facilitates renewable energy installations and energy efficiency.
- Provisions for affordable housing and financing, so that it does not result in pricing low-income families out of their own communities.

**Promote Demand Response.** In demand response programs, utilities ask customers to be mindful of their energy use during peak hours. Demand response programs often include incentives or penalties to change behavior. Demand response provides an opportunity for consumers to play a significant role in the operation of the electric grid by reducing or shifting their electricity usage during peak periods in response to time-based rates or other forms of financial incentives.<sup>85</sup>

- At present, demand response in the residential sector is typically restricted to turning off air-conditioners for short periods of time during peak hours in return for financial compensation for consumers. But in a smart grid with solar and wind, demand response can be applied to a much wider array of uses, with potentially greater returns for consumers. But these will require smart appliances and communications capability.

- An equitable transition should ensure that households of all income levels are able to participate in demand response and that renters have the same types of opportunities as homeowners.
- Strong, accessible public education about demand response programs should be incorporated into 100% regenerative policies.
- However, states may include exceptions on demand response in their policies to account for households with time-inflexible energy needs such as medical equipment, or ensure that these types of households have strong opportunities to access storage assets as well.

**Push for assistance and inclusive financing** for deep investments particularly for energy efficiency programs in low-income communities and front-line communities.

### **Link to anti-displacement policies:**

- **No rent increases.** Include displacement protections to ensure there are no rent increases with energy efficiency upgrades and net zero energy building development. Ensure tenants' rights are incorporated into the policy with building improvements. (See Advance Anti-Gentrification and Anti-Displacement section for more background).
- **Transit oriented development and healthy buildings should not lead to displacement.** Advocates should use caution when exploring transit-oriented development with healthy housing. Particularly for urban contexts, where policies focus on walkable and pedestrian friendly communities close to transportation corridors transit-oriented development may lead to displacement. (See Prioritize Transportation Justice section for background).

## Examples:

**Example of Healthy Homes bill:** California's Healthy Homes Act (Assembly Bill 1232) sponsored by the Asian Pacific Environmental Network creates and expands anti-displacement protections for state energy efficiency programs serving low-income customers, attempts to prevent rent hikes by landlords who seek to benefit from energy upgrades, and guides agencies in data collection to ensure enforceability and to better penetrate the unregulated affordable housing market.<sup>86</sup>

**Example of affordable housing incentive:** Minneapolis's 4d program preserves affordable homes in Minneapolis by helping apartment building owners obtain property tax reductions if they agree to keep 20% or more of their rental units affordable. The program also helps owners make existing buildings greener through cost sharing for energy efficiency improvements and solar installations.<sup>87</sup>

## Capture Renters, Single Family Homes, and Mobile Homes

### Policy recommendations:

EJ and frontline organizations should determine the types of renewable installations and energy efficient upgrades that are prioritized in the policy dependent on the housing demographics of their communities.

- **Renters:** Catering to renters and tenants is often appropriate for communities in dense urban areas with high renter constituents.
  - Advocates need to design policies to fit the unique characteristics of publicly supported rental homes and account for cases where renters are not responsible for paying bills. For example, master-metered affordable housing, which comprises approximately 55% of affordable housing nationally.

- Advocates should consider community solar model, virtual net metering, or Community Choice Aggregation (CCA).
- In the Vision for Community Solar: A Roadmap for 2030, "There are 50 million (43 percent—or nearly half) households across the country that are considered low-to-moderate income. Community solar provides the flexibility to deliver clean energy access to all low-to-moderate income (LMI) customers, including renters and multifamily housing—of which LMI households are more likely to occupy."<sup>88</sup>
- **Single family homes:** Typically catered to EJ communities in rural, "sub-rural," or "sub-urban" areas. Model may be net metering or CCA.
- **Mobile homes:** The clean tech industry has not often targeted mobile homes in policies. However, many low-income communities reside in mobile homes. California is considering policies to target energy efficiency for mobile homes.

100% regenerative policies should include anti-displacement and anti-gentrification policy components. If there are improvements to buildings and communities due to the development of renewable energy, the policy should ensure that:

- Rents are not raised
- Anti-displacement provisions are included (see Advance Anti-Displacement and Anti-Gentrification section)

## Advance Anti-Gentrification and Anti-Displacement

### Background:

The intersection of housing, energy efficiency, and renewable energy presents both opportunities and challenges. Affordable housing provides opportunities for energy efficiency and renewable energy

that can be both a tremendous benefit to tenants and can benefit the nation overall in the transition away from fossil fuels and into a 100% regenerative energy future. Particularly in urban areas, there is a huge opportunity to target multi-family affordable housing. In California, the Solar on Multifamily Affordable Housing (created by Assembly Bill 693) sets the largest investment of solar on affordable housing in both “disadvantaged” and “low-income” communities, investing \$1 billion over 10 years and funding “300 megawatts of new solar projects with the potential to serve over 150,000 low-income renters at over 2,000 affordable housing properties across the state.”<sup>89</sup> 100% regenerative energy policies should include a policy element of renewable energy for affordable housing.

However, there are certain challenges with the intersection of housing and energy policies. In developing energy efficiency and building upgrades, housing security is threatened with land-loss and displacement. As the renewable energy infrastructure gets built out, advocates should connect 100% policies to anti-displacement policies and ensure the rights of housing and land to frontline communities. Major capital improvements are often justification for rent increases that result in gentrification and displacement, especially after energy efficiency and renewable installations.

In National Environmental Justice Advisory Council (NEJAC)'s publication, *The Unintended Impacts of Redevelopment and Revitalization Efforts in Five Environmental Justice Communities*, they share:

[F]rom the perspective of gentrified and otherwise displaced residents and small businesses, it appears that the revitalization of their cities is being built on the back of the very citizens who suffered, in-place, through the times of abandonment and disinvestment. While these citizens are anxious to see their neighborhoods revitalized, they want to be able to continue living in their neighborhoods and participate in that revitalization<sup>90</sup>.

## No NIMBYism

*The intersection of gentrification and displacement with energy upgrades highlights the need to build more housing, particularly in dense urban cities. Advocates should consider developing policies linking energy efficiency and renewable energy with housing and displacement, and programs where city or government surplus buildings can be turned into affordable housing should be explored.*

### Policy recommendations:

**Push for anti-displacement provisions.** 100% regenerative policies should include the following anti-displacement policy components:

- **Renter protections:** Improvements in buildings do not act as a gateway for developers to displace people.
- **Right to return:** If energy efficiency, renewable energy, and improvements are made on a building, current tenants have the right to return.
- **Community preference:** “Seattle’s Office of Housing put together a ‘Community Preference Policy’—which generally means prioritizing members of a surrounding neighborhood for spots in affordable housing developments. The idea is communities actually benefit from affordable housing sprouting up in their neighborhoods.”<sup>91</sup>
- **First right to buy:** If property is sold, current tenants have the first right to buy.
- **Moratoriums on luxury apartments.**
- **Inclusionary zoning:** Encourages or requires developers to set aside some units as affordable housing. Inclusionary zoning policies



should be applied for energy efficiency and renewable energy upgrades to a building.

- **Promote Community Land Trusts:** The Colorado Community Land Trust “buy[s] and refurbish[es] homes or bring on developers to build homes on land they own. They then sell those homes to income-qualified buyers (usually making 80 percent or less of the area median income) at deep discounts.”<sup>92</sup>

**Include screening criteria.** 100% regenerative policies should determine the screening criteria for who gets access to the benefits of affordable housing with energy efficiency and renewable energy. The policy should ensure that barriers in frontline communities or utility billing structures (mentioned above regarding master meter affordable housing) do not prevent them from accessing these benefits. For example, BIPOC and frontline individuals who have a criminal record are not prohibited from accessing these benefits, or those who do not have credit cards are able to have equitable access to the housing and energy programs.

# Building Blocks for Public Health, Careers, and Workers

## Set Concrete Public Health Goals for Frontline Communities

### Background:

**P**ublic health, particularly in frontline communities, must be considered first and foremost in any 100% regenerative policy. The biggest sources of pollution are located in frontline communities, where residents that live next to polluting factories, freeways, refineries, and power plants breathe dirty air. According to the Fourth National Climate Assessment, "Low-income communities already have higher rates of many health conditions, are more exposed to environmental hazards and take longer to bounce back from natural disasters."<sup>93</sup> Although there may be increased emissions reductions overall in certain states, some fossil fuel facilities may actually increase emissions, especially in frontline communities. 100% policies should include specific public health goals, particularly the elimination of greenhouse gases (GHGs) and co-pollutants in frontline communities.

### *Air and noise pollution with aircraft.*

*Aircraft emissions is a federal matter and not a focus of this document meant for states. However, special attention should be paid to aircraft and the transition off of fossil fuels. BIPOC and frontline communities typically live around airports and they suffer from the pollution impacts of aircrafts. As the nation transitions to 100% regenerative energy, how do air and noise pollution of aircrafts impact the health of local communities?*

### Policy recommendations:

**Define and set strong public health goals.** The definition of "public health" should be expanded to include the following components and policy goals:

- **Improved air quality through the elimination of GHGs and co-pollutants in BIPOC and frontline communities.** Some states set a carbon neutrality deadline. California established a goal to achieve carbon neutrality as soon as possible, and by no later than

2045, and achieve and maintain net negative emissions thereafter.<sup>94</sup> A Stanford study shows that "To guarantee 100 percent emissions reductions from renewable energy, power consumption needs to be matched with renewable generation on an hourly basis."<sup>95</sup>

- **Improved water quality related to the impacts of energy infrastructure.** Examples of this are the elimination of water contamination from coal slurry through the development of renewables or the retirement of fracking operations that perpetually contaminate the water, soil, and air in and around the fracking operations.
- **Eliminate legacy environmental hazards** of lead, radon, mold, and asbestos found in homes and buildings in the development of energy efficiency and renewable energy projects. Lead is a highly toxic metal used for many years in products in and around homes. Lead can enter tap water through corrosion of plumbing materials. In addition, mold can be found indoors and outdoors in places that are damp, such as bathrooms and basements. Mold can worsen asthma and allergies. Asbestos fibers in homes and buildings can lead to an increased risk of lung cancer. Radon is a radioactive gaseous element produced in the disintegration of radium, a radioactive metallic element. The National Academy of Sciences estimates radon causes some 15,000 to 22,000 lung cancer deaths annually.
- **Improve mental health through local renewable energy.** The cumulative impact of BIPOC and frontline communities living at the intersection of toxic dumping, large polluting oil refineries and gas plants, and contaminated water takes a toll on the mental health of communities. 100% policies should not only encompass improvements in physical health, but also the mental health and well-being of communities.

- **Utilize a compensatory and reparations framework.** Communities that are most impacted by pollution from fossil fuels should be compensated for the healthcare necessary to treat cancer, asthma, and other diseases resulting from fossil fuels. 100% regenerative policies should support access to medical care (or support Medicare for All policies) and ensure that public health benefits continue in the transition to renewable energy.

- **Example of reparations framework:**

Advocates should utilize sacrifice zone policy examples for guidance. "Sacrifice zones are often 'fenceline communities' of low-income and people of color, or 'hot spots of chemical pollution where residents live immediately adjacent to heavily polluted industries or military bases. Quite often, this pattern of unequal protection constitutes environmental racism."<sup>96</sup>

Sacrifice zone policies include the following provisions:

- Industry reparations for local communities.
- Buffer zones between polluting facilities and communities.
- Funding for voluntary relocations.
- Right-to-know policy which gives communities the right to know of a facility's chemical and pollution exposure.
- Anti-displacement provisions where long-time residents are not displaced as renewable energy is constructed and improvements to the community are made.

**Set strong data collection on emissions and accountability.** Responsible agencies should be mandated to collect robust data on emissions, for example, the California Air Resources Board "has

developed a pollution mapping tool that allows users to locate and view emissions of greenhouse gases (GHG) and now, for the first time, also includes criteria pollutants from large facilities in California. The tool provides an interactive platform where users can select facilities by name, location, or industrial sector; view their reported emissions using maps, charts and tabular formats; and download data for later use."<sup>97</sup>

**Institute a "polluter pays" system.** 100% regenerative policies should institute a "polluter pays" system where industry will need to pay a steep fines if pollution is not reduced and public health goals are not met. "Polluter Pays Principle has evolved from an economic concept holding polluters accountable for the direct costs of pollution, to an actionable principle requiring polluters to pay for emergency response and clean-up costs, to having polluters pay compensation to the victims of pollution. In many cases the polluter is liable even in the absence of fault."<sup>98</sup> However, advocates need to ensure that the polluter pays system fines are significant enough, so that it is not just a slap on the wrist; and that the system does not utilize market mechanisms allowing a polluter to continue to pollute.

### **Example of public health language from California in Senate Bill 100:**

"Achieving the renewables portfolio standard through the procurement of various electricity products from eligible renewable energy resources is intended to provide unique benefits to California, including all of the following...Supplying electricity to California end-use customers that is generated by eligible renewable energy resources is necessary to improve California's air quality and public health, particularly in disadvantaged communities identified pursuant to Section 39711 of the Health and Safety Code."<sup>99</sup>

## **Prioritize Universal Labor Rights and Economic Benefits**

### **Background:**

Although millions of good jobs have been created as solar and energy efficiency job opportunities opened in the last few decades, there still remains a huge "green divide" where BIPOC and frontline communities have little to no access to these jobs. BIPOC and frontline communities are often not prioritized in the training and recruitment for these renewable energy jobs and only recently have there been policies that directly target frontline communities for these renewable energy jobs.

### **Overarching goals:**

**Access to union careers and workers' rights to union representation.** Frontline leaders support frontline workers' rights to union representation. The overall goals are:

- Greater access to union careers in the renewable energy sector for communities of color and frontline workers.
- Equitable opportunities within the training systems long-established by unions.

**Raise the standards in jobs in the renewables industry.** While there is a lack of access to renewable energy jobs for communities of color and frontline workers, it is also true that many of these jobs are low wage/low benefit. In 2015, "utility-scale blue-collar construction jobs in California, which employ union labor, pay, on average, \$78,000 per year (about \$39 per hour) and offer solid health and pension benefits...An apprentice electrician's mean hourly wage is \$23.96 per hour plus solid benefits, with wage increases tied to skill acquisition as they move through their four- or five-year apprenticeship programs until they graduate and gain a journey wage."<sup>100</sup> By comparison, in 2018, the mean annual wage for solar photovoltaic

installers nationally was \$46,010.<sup>101</sup> Frontline communities want equitable access to the broad range of careers in the renewable energy sector, and want these careers to be high wage with comprehensive benefits.

**Commitment to equity and justice in union apprenticeships and jobs.** Frontline communities support union job opportunities and want to be prioritized in union apprenticeships and targeted for job recruitment. However, frontline communities oppose any discrimination and inequality in the construction industry. The quality of work should be “high road” as long as unions commit to expanding their apprenticeship slots and adjusting their journey and apprentice ratios to reflect the demographics of the local community.

**Comprehensive regenerative careers.** While this section is mostly focused on clean renewable energy jobs, as we transition away from fossil fuels and fossil fuel jobs, we need to expand the conversation beyond clean renewable energy jobs to low carbon human service jobs that are needed in frontline communities as well.

Career policies in the green economy will be highly dependent on context and politics. Renewable energy career opportunities in the urban context may be vastly different from rural and Indigenous contexts. In cities, careers in rooftop solar, energy efficiency, and public transit are often thought of as priorities because of the nature of urban areas. Whereas, in the rural and Indigenous contexts, careers in shared community solar, small scale wind, and electric vehicles may be the priority.

### Policy recommendations:

Regardless of context, 100% regenerative energy policies should include the following policy elements:

**High road careers.** 100% regenerative energy policies should not just accept the creation of any jobs. The approach to the development of jobs should not replicate the same extractive system that pro-

duces only minimum wage or temporary jobs. The approach should focus on creation of long-term “high road careers.” A “high road career” is one with robust training, family-sustaining wages, benefits, and strong workforce standards and worker protections.

**Strong workforce standards for people of color and those with lower incomes, particularly African Americans, women, and Indigenous women and women of color.** 100% regenerative policies should include good labor standards, especially for frontline communities and women of color.

Some policy elements to include are:

- **Family supporting wages and support of a prevailing wage.** Frontline communities trying to access careers in the renewable energy sector should be provided opportunities to access high quality, high wage jobs that can bring them out of poverty and support their families. Prevailing wages are typically based on rates in collective bargaining agreements and vary from state to state.
- **Local hire from frontline communities.** Renewable energy careers are often found in utility-scale renewable projects that are far from local communities that need these jobs the most. Provisions that incentivize local hire from frontline community should be prioritized. Specifically:
  - Local hire should be part of the IOU, POU, CCA, and other hiring entity’s responsibility.
  - Incentives for local hire, particularly from frontline communities.
  - Time limits for local hire need to be extended. Typically, policies only set a one month time limit to find and place local hires. After that, job recruitment is found elsewhere.
- **Incentives for hiring women, especially women of color.** The solar workforce is still

74% male. The renewable energy sector should address this inequity head on. 100% policies should be inclusive, and provide incentives for hiring women.

- **Prioritization of people of color, especially African Americans.** African Americans are the least represented demographic in the construction industry (other than women). In New York, "Blacks certainly are under-represented in construction, they hold only 16.5 percent of jobs, far short of their 23.3 percent representation in the workforce. However, the under-representation is very severe in the nonunion sector, where blacks hold just 13.8 percent of the jobs while the under-representation in the union sector is much more modest—21.3 versus 23.3 percent."<sup>102</sup> Special attention is needed to ensure that African Americans are brought into the clean energy sector, particularly especially as it relates to union apprenticeship opportunities.
- **Prioritization of people of color-owned and women-owned business enterprises.** Policies can use models, such as HUD Guidelines for Minority- and Women- Business Enterprise (MBE/WBE) Outreach Standards that include a systematic method for developing an inventory of certified minority and women's business enterprises, marketing to promote MBEs and WBEs, and procurement procedures for MBEs and WBEs to participate.<sup>103</sup>
- **Good family-sustaining benefits** including healthcare, dental, retirements, and other elements of a comprehensive benefits plan.
- **Job creation from a wide spectrum of clean tech jobs:**
  - Manufacturers
  - Installers
  - Clean Car Engineers
  - Recyclers

- Natural Scientists
- Green Builders
- Solar Cell Technicians
- Green Design Professionals
- Water Quality Technicians
- **Paid job training.** 100% policies should model job training programs after union apprenticeship programs where trainees are paid high wages and include benefits.
- **Worker safety and protections**
- **Rights to meal breaks and rest periods**
- **Universal labor rights** including the right to organize in the workplace and the right to collective bargaining for better wages and working conditions.
- **Ensure access to support services for women and families in the workforce** including child care, paid family leave, funding for work required equipment and protective clothing, and on-site breastfeeding space.

#### **Include Workers' Centers, Non-Union Workers, and Worker Cooperatives:**

- **Workers' Centers** are organizations that organize workers that are not captured in union organizing. These workers are immigrants or those formerly incarcerated who are in the following sectors: day laborers, domestic workers, restaurant workers, farmworkers, warehouse workers, and others. In a Just Transition, the definition of "worker" should include these workers that are not typically thought of in the clean energy economy. 100% policies should target these workers in frontline communities for the green workforce.
- A 100% policy should ensure that these workers are covered by a Project Labor Agreement and that they have the option to



join the workforce and have access to high road renewable energy careers. The policy should ensure these workers are covered by the same comprehensive workforce standards, family supporting wages, and benefits.

- **Worker Cooperatives** are another structure where workers can be recruited. The creation of energy cooperatives have been increasing. 100% policies should include incentives for worker cooperatives and energy cooperatives.
- An example of Energy Cooperative:

*Example of Energy Cooperative: Co-op Power, as a decentralized network of local organizations, has Community Energy Co-ops each playing the lead role in their regions. Their primary responsibility is to organize and educate people in their region and to facilitate the development of one or more community-owned, community-scale, clean energy businesses. Each Community Energy Co-op has one member serve on the Co-op Power board. Each representative has veto power and can stop something within specific guidelines. In this way, locals work autonomously, yet in coordination with each other.<sup>104</sup>*

## **Job training should start in high school:**

*A Just Transition and career training in the clean energy sector needs to start early. The environmental sector should be part of the curriculum in high schools, so that graduates have the trajectory of entering the green workforce and envision themselves as part of the green economy early on.*

- **Ensure economic investments** in frontline communities. Deep economic investments in frontline communities should be prioritized because these communities have historically been most impacted by dirty energy pollution, contamination, and practices that have undermined these communities. These communities have also paid into incentive pools for renewable energy as tax payers and ratepayers, without access to direct benefits. Inclusive financing, which does not involve customers taking on new debt obligations, should be available for any cost-effective local clean energy solutions that are the customer's side of the meter, including energy efficiency, demand response, rooftop solar, and on-site storage. 100% policies should include a jobs guarantee where prioritization is given to frontline communities.
- **Institute Fair Chance Hiring.** One major barrier to communities of color accessing employment of any kind is a history of prior arrest or conviction record. "An estimated 70 million people in the United States—nearly one in three adults—have a prior arrest or conviction record."<sup>105</sup> Frontline communities envision a Just Transition that offers a fair chance at employment and the right to a dignified life. 100% regenerative policies should not only prioritize BIPOC and frontline communities, but also should seek to take concrete actions where renewable energy employers can honor the talent and skills among workers with records.

100% regenerative policies should institute Fair Chance Hiring. Also known as "Ban the Box," Fair Chance Hiring is the policy of removing the conviction history check-box from job applications. This Fair Chance Hiring includes a robust set of fair hiring policies to ease employment barriers.<sup>106</sup>

## Training standards and apprenticeship programs:

- **Robust job training standards.** There should be clear certification processes for trainings, which should be relevant and related to long-term careers in the green sector. Expenses for jobs skills training programs, such as equipment expenses, should be covered.
- Examples of job training standards and hours:
  - IBEW Local 212 in Cincinnati and Northern Kentucky requires 8000 hours of on-the-job training over four years.<sup>107</sup>
  - The North American Board of Certified Energy Practitioners (NABCEP®) offers voluntary personnel certification for beginners and professionals in the renewable energy industry. NABCEP's Associate Credentials include: PV Associate (PVA), Solar Heating Associate (SHA), and Small Wind Associate (SWA).<sup>108</sup>
- **Apprenticeship / pre-apprenticeship programs.** An apprenticeship is a combination of on-the-job training and classroom instruction. Apprentices are paid good wages and receive healthcare. 100% regenerative policies should include a robust apprenticeship and pre-apprenticeship program so that workers can gain the skill set needed for a long-term high road career in the renewables industry.
- Example of apprenticeship program in Washington State: Washington has rigorous state certified apprenticeship standards. More than usual, these are union apprenticeship programs with a labor/management oversight board. These programs are monitored at the state level for number of hours, health and safety of the apprentice, rigor of skill training, and work opportunities for apprentices.<sup>109</sup>

- Example of Apprenticeship Program: "Oregon Tradeswomen's Pathways to Success" program offers Trades and Apprenticeship Career Class (TACC): an 8-week, pre-apprenticeship training class that helps students prepare for a high skill, high wage career in construction. TACC introduces a variety of trades through field trips, guest speakers, hands-on work days, and other training opportunities.
- The Environmental Worker Training is an optional training track that provides a 40 hour hazardous waste operations and emergency response (HAZWOPER) certificate, First Aid/CPR, and AED certificates at no cost to participants. It also includes an additional day of classroom education about environmental careers, such as deconstruction, hazardous waste abatement, and environmental remediation careers, as well as additional field trip days to sites where industry partners are doing this work."<sup>110</sup>

## Job training must be connected to actual jobs.

Although jobs training opportunities in the renewable energy sector have increased dramatically over recent years, these job trainings do not always translate into actual jobs, particularly for BIPOC and frontline communities and women. Policy solutions include: employment placement services, workers centers and targeted programs, and expanding union apprenticeship programs to BIPOC and frontline communities who are seeking careers in the green economy and to those who are undergoing workforce trainings in the clean economy.

**Ensure "supplier diversity" in contracting.** 100% regenerative policies should set clear targets for supplier diversity. With respect to diversity in contracting, African Americans are at the bottom. "Of the 160 million people employed in the United States, more than 31 percent (50 million) earn a

living in the construction industry. Hispanics and [Latinx] make up 30 percent, or 15 million, of these workers, and African Americans represent 17 percent or 8.5 million workers nationally."<sup>111</sup>

- California IOU policy, Director Order 156, states clear targets for supplier diversity all along the entire supply chain.
- It is especially important that resources—training, technical assistance, access to capital, bonding, insurance, and discounted purchasing for expensive green products and equipment—are provided so that African Americans and Latinx contractors can access this work because:
  - Lack of these resources could lead to greater income inequality as we approach 100% regenerative energy.
  - Without those resources, BIPOC and frontline communities will not know the new green building codes and will not have a seat at the table.
  - Contractors of color are more likely to hire and mentor Indigenous contractors and youth of color.
  - Green and healthy homes in Indigenous and communities of color will be greatly compromised if local contractors are not engaged in the clean energy technologies/standards because many mainstream contractors are neither interested in nor trusted by these communities.

**Instill good labor standards in all aspects of 100% policy.** The good labor standards outlined above should be applied to all aspects of the transition to 100% regenerative energy, including:

- In all forms of solar—rooftop solar, community solar, utility scale solar
- In energy efficiency and building upgrades
- In the development of new construction

- In the broad range of transportation—electrification of heavy-, medium-, and light-vehicles, EVs and charging stations, and electrification of mass transit

**Institute strong data and tracking.** The renewable energy jobs industry needs improved data and tracking of jobs. 100% policies should push for data and tracking of employment by race, gender, income, and all other relevant determinants.

Policy-makers should collaborate with workers to recruit from worker inventories to ensure local hire. There should be tracking of who is hired, whether a worker comes from a BIPOC and frontline community, particular zip code or census tract, and any other key information related to local hire.

Data on worker retention should also be collected and tracked, especially to determine if BIPOC and frontline communities, women of color, and LGBTQ workers are able to maintain employment. Evaluations should be conducted to determine what factors impact retention and recommendations for retention of these workers.

**Demand enforcement.** There should be incentives for meeting goals and/or penalties for not meeting goals. Major contractors should submit worker utilization plans showing how, where, and in which trades they would incorporate diversity throughout the project when they submit their project bids. Those plans should determine the best value bidder. Major public sector and private projects should incorporate "best value" vs. low bid project delivery methods, allowing room to incorporate labor and community standards.

### **Examples of high road careers and economic benefits:**

**Illinois' new clean energy policy** "calls for the creation of a \$25 million clean jobs workforce hub, wherein labor unions, employers, BIPOC and frontline organizations and other stakeholders would work together to train and provide direct assistance to communities of color and under-

served communities in accessing renewable energy-related jobs. It also calls for an 'Expanding Clean Energy Entrepreneurship and Contractor Incubator' program to provide support to 'disadvantaged businesses and contractors,' including through low-cost lending and help with insurance and other financial requirements."<sup>112</sup>

**NAACP Just Energy Policies.** "Local, people of color and women hiring policies set goals for increasing the number of local people, people of color, and women that are hired for state or federally funded projects. In addition to preserving local employment opportunities, local hire policies:

- Ensure that tax dollars are invested back into the local economy;
- Reduce the environmental impact of commuting; and
- Foster community involvement. State and federal funding, incentives and mandates for developing renewable energy and energy efficiency will continue to incentivize an ever-greater number of renewable energy and energy efficiency projects. Local, people of color and women hire provisions should be used to ensure equitable access to the employment and employment training opportunities created by new renewable energy and energy efficiency projects."<sup>113</sup>

## Mandate Strong Protections for Displaced Workers

### Background:

A major component of Just Transition is ensuring fossil fuel workers move into the new clean energy economy. They need pathways to transition to high road careers in the clean energy sector. Deep investments and supports should be included in a 100% policy for workers and surrounding communities which can range from comprehensive

trainings in all aspects of clean energy careers to funds for retirement for workers who are at the end of their careers. It is desirable to invest in diversification of the economies of fossil-fuel-dependent communities in advance of job losses, as has been advocated in a Just Transition report published by the Labor Network for Sustainability and the Institute for Energy and Environmental Research.<sup>114</sup> In the process of a Just Transition, 100% policies should not just create clean energy work, but should create meaningful work that taps into the human potential.

### Policy recommendations:

100% policies should include thoughtful policy elements where these workers can be adequately supported in the transition such as:

- High road careers for displaced fossil fuel workers
- Wage replacement for displaced fossil fuel workers and maintenance of benefits at the same level
- Coverage for pensions
- Healthcare
- Affirmation of workers' rights and support of workers' wellbeing
- A Worker Transition Fund to support workers in the transition

### Example of Worker Transition Fund from Washington Initiative 1631, Carbon Emissions Fee Measure (2018):

Within four years of the effective date of this section, a minimum balance of fifty million dollars of the clean air and clean energy account must be set aside, replenished annually, and maintained for a worker-support program for bargaining unit and nonsupervisory fossil fuel workers who are affected by the transition away from fossil fuels to a clean energy economy. The

department of commerce, in consultation with the environmental and economic justice panel, may allocate additional moneys from the fund if necessary to meet the needs of eligible workers in the event of unforeseen or extraordinary amounts of dislocation. (a) Worker support may include but is not limited to full wage replacement, health benefits, and pension contributions for every worker within five years of retirement; full wage replacement, health benefits, and pension contributions for every worker with at least one year of service for each year of service up to five years of service; wage insurance for up to five years for workers reemployed who have more than five years of service; up to two years of retraining costs including tuition and related costs, based on in-state community and technical college costs; peer counseling services during transition; employment placement services, prioritizing employment in the clean energy sector; relocation expenses; and any other services deemed necessary by the environmental and economic justice panel.<sup>115</sup>

# Building Blocks for Siting, Ownership, and Geography

## Renewables Are “Located In” and “Benefit” Environmental Justice Neighborhoods

### Background:

**1** 00% policies should explicitly prioritize Environmental Justice (EJ) communities. It is important for BIPOC and frontline communities to distinguish between renewable energy that is “located in” EJ communities, versus renewable energy sited far from an EJ community and still “benefits” that community. Advocates should determine their definition of “benefit,” which may include: ownership, business opportunity, control, direct bill savings, lease revenue, etc. The strong recommendation is to include renewable energy projects both “located in” and “benefiting” EJ communities (while recognizing that it is not always feasible to site all renewable energy within target communities) because it rectifies disproportionality of dirty energy impacts and structural inequities. The public health and economic goals of achieving 100% regenerative energy will only be achieved if renewables are located in and benefit BIPOC and frontline communities.

This issue typically becomes important in cases where larger community solar projects or utili-

ty-scale renewables are being considered. In the urban context, there may not be a rooftop that is large enough for a community solar project so the community may decide to site the community solar project in a neighboring city while still reaping the benefits of those electrons. In other cases—typically in the rural and Indigenous contexts—a large solar array in the desert may make more economic sense and a community may decide to approve that large solar array as long as the EJ community still receives the economic benefit of that solar. However, large solar arrays and large wind turbines have generated opposition (for example, in the Inland Valley in California, a sub-rural and desert area) due to their detrimental effects on the local environment and wildlife, and the build out of long and expensive transmission lines. The ideal scenario is to promote renewable energy that is both “located in” AND “benefiting” the local community.

In some cases, if done right, large-scale wind farms can balance solar seasonally, provide needed revenue to family farmers, and provide tax revenues to small rural communities and help save them from decline. For example, large scale wind farms pay taxes in Minnesota to local counties. Such taxes in areas with fossil fuel plants can help fund a Just Transition and provide new well-paying jobs.



## Policy recommendations:

Advocates should include the following policies and principles to ensure renewables are located in and benefit BIPOC and frontline communities:

- **Do No Harm principle.** Wherever renewable energy is sited and energy efficiency upgrades are made, these projects should not create further harm in those communities.
- **Democratic control and ownership.** BIPOC and frontline communities should have control over distribution of benefits and opportunities for ownership of the renewable energy. The goal should be to transition away from the same energy system controlled and owned by the fossil fuel industry or profit-driven IOUs. (See Push for Community Ownership and Control section for more detail).
- **Creation of good local jobs.** High road careers should be created that are linked to the infrastructure development of local distributed generation. (See Prioritize High Road Careers and Economic Benefits section).
- **Ensure there is not uneven attention given to urban and rural.** As mentioned in the Promote Geographic Diversity section, special attention needs to be made so that rural communities are prioritized.
- **If projects are on Tribal land, tribes must be compensated.** Past harms and reparations on Tribal land must be recognized in any energy industry development. If renewable energy is sited on Tribal land, tribes must be compensated. (See sections on "Tribal Sovereignty and Rights" and "Recognize Land, Water, and Air Rights and Public Use of Land" for more detail).

## Push for Community Ownership and Control

### Background:

One goal of many BIPOC and frontline communities in renewable energy policies is to own the energy system in order to both capture economic benefits and have control over the energy system. However, there are often overwhelming barriers limiting opportunities for ownership for BIPOC and frontline communities—they are renters, their roofs are aging and are not appropriate for solar, or they do not qualify for loans or tax incentives.

So much of the current energy system is utility-controlled and driven. 100% regenerative energy policies should include the transition from our privatized, for-profit utilities to public control. And even though there are now thousands of Publicly Owned Utilities (POUs), a POU on its own does not guarantee equitable 100% regenerative energy policies. These types of policies usually are the result of strong civic engagement and democratic participation. This Building Blocks document calls for the ideal scenario where our utilities create strong, equitable 100% regenerative energy standards, regardless of a powerful organizing effort pushing them in the right direction. Renewable energy policies approach energy as a right for the commons, and aim to eliminate privatized control.

### Policy recommendations:

Community ownership and control can be created with a proper policies including:

- **Incentives for community ownership structures.** Policy or financial incentives should be included to encourage community ownership structures, which are generally much higher cost. And technical assistance should be provided to ensure these structures are successful.

- **Community Choice Aggregation (CCA).** Community-owned renewables are owned locally, by members of the community. "A Community Choice energy program enables cities and counties to procure electricity and reduce energy consumption for residents and local businesses. In this way, communities decide where their electricity will come from: whether to purchase electricity on the market, or more importantly, to build local renewable energy resources in the community."<sup>116</sup> Although a CCA on its own does not create opportunities for community ownership, community ownership principles can be incorporated into the CCA's procurement practices (i.e. a carveout, incentive, or preference for community owned projects).
- **Community Shared Renewables** that may or may not be locally owned, but the community can share the output. Group purchasing involves collective action to purchase renewable energy, such as rooftop solar arrays, but the benefits accrue to the individuals who host the solar on their rooftops."<sup>117</sup>

**Policy approaches for 100% regenerative energy to achieve public control are:**

- **Include a labor- and community-driven study** about the transition of the utility back to the public.
- **Public receivership.** Any utilities asking for public bailouts should be put into public receivership and begin a transition to community control.

## Promote Geographic Diversity

### Background:

Representation of the geographic diversity of each state is important. Often, too much emphasis is paid to targeting clean energy in urban areas, ignoring rural and Indigenous communities that are most in need of renewable energy.

### Policy recommendations:

**In many rural and Indigenous contexts, advocates designing 100% regenerative policies must consider:**

- **Varying rural contexts.** Many rural communities are not even connected to the grid and still operate off of propane tanks for their energy. Natural gas is even completely out of the equation, nevermind rooftop solar that is still connected to the grid. Many BIPOC and frontline communities in rural areas advocate moving away from large scale solar

### *Energy & Agricultural*

*There is more to be explored in the connection between energy and agricultural policies, particularly if biofuels should not be included as renewable. Energy policies need to support families to produce sustainable agriculture, while at the same time promoting equitable energy policies that lead to air quality improvements and emissions reductions.*

and new transmissions. Alternatives for rural communities include:

- Public transportation: Creative options such as rideshare and van pools for rural communities, as well as access to affordable electric vehicle options and infrastructure. (See Prioritize Transportation Justice section for more details).
- Housing: Healthy homes, energy efficiency, and rooftop solar that is appropriate for homes in rural communities.
- **Sensitive lands.** Siting large scale solar and wind on sensitive rural lands could be environmentally detrimental.
- **Grid connectivity.** Many rural residences that are not connected to the grid require "off grid solar" options.
- **Tribal lands.** When Tribal lands are considered for renewables development, culturally sensitive locations, sacred sites, ancestral lands that might not be on official Tribal land should be off limits to renewable energy projects.
- **Metrics** to measure investments in rural and Tribal lands.

**In urban contexts, advocates should include the following in the development of 100% regenerative policies:**

- A variety of clean energy options to achieve the 100% goal including energy efficiency, rooftop solar, solar thermal, and community solar.
- Opportunities for renters to be prioritized and receive economic benefits in energy efficiency and local renewable energy.
- Prevent displacement with any transit-oriented development elements.

- The challenge of utility scale renewable energy being sited far from local communities that limits access to renewable energy jobs and to local public health improvements.
- When urban areas pass energy policies, ensure the rest of the state or region is not preempted. There are reports of cases where policies in urban areas preempt policies and financing in rural areas of the state.

#### **Consider cost of living and what it means to be**

**"low-income."** The cost of living is the amount of money needed to sustain a certain standard of living by affording basic expenses such as housing, food, taxes, and healthcare. "Agencies calculate the cost of living by finding prices for a representative sample of goods and services, then take into account how much of a person's budget would be consumed by the item in a year."<sup>118</sup> As improvements are made to buildings and renewable energy is constructed, advocates must factor in the potential rise in cost of living and institute policies to prevent displacement of BIPOC and frontline communities.

#### **Example of green Tribal legislation:**

*The Navajo Nation became the first Native American tribe to pass green jobs legislation intended to grow thousands of jobs in ways that follow the Navajo traditions of respecting the Earth... The legislation defines "green businesses" as businesses and industries that contribute to the economy with little or no generation of greenhouse gases and/or can counteract the negative effects of greenhouse gases...The commission also expects to fund weavers' co-operatives and wool mills, since shepherding and weaving wool are part of traditional Navajo culture. Energy will be a focus in the form of weatherization, energy efficiency and small-scale solar and wind projects within homes and communities.<sup>119</sup>*

# Building Blocks for Distributed Generation and the Grid

## Prioritize Local Distributed/Decentralized Generation and Microgrids

### Background:

One way to accomplish siting renewable energy in EJ communities is through strong policies supporting distributed generation (DG), also known as decentralized generation or small scale generation. There are a myriad of benefits to DG, including:

- Democratizes the energy grid through local ownership opportunities.
- Addresses the barrier of large scale solar and renewable energy often being too large for dense urban areas.
- Avoids the need for new transmission lines.
- Reduces impact on sensitive habitat and water consumption.
- Creates jobs within and in proximity to EJ communities, including through both installation and operations and maintenance

For more on DG benefits, read the report "The Political and Technical Advantages of Distributed Renewable Power."<sup>120</sup>

### Policy recommendations:

In order to accomplish distributed generation, the following should be factored into 100% policy:

**Advance policies for distributed generation (DG),** such as DG carve-outs or incentives. DG should be compensated for the value it provides to the grid and BIPOC and frontline communities, through net energy metering, virtual net energy metering, or a value of DG that incorporates all technical and societal benefits. These policies inherently keep value within communities and generate local economic benefits.

### **Appropriately size the renewable energy project.**

Renewable energy projects should be sized to ensure siting in BIPOC and frontline communities. A 1 megawatt (MW) renewable energy system can typically fit on a large hotel or warehouse. In California, EJ groups typically size the renewable energy system as <1 MW in order for it to be small enough to fit on the rooftops of a multifamily building, a school, or community center in an EJ community.

**Promote grid benefits.** Including but not limited to:

- Reduced dependence on transmission lines: One benefit of local DG is the reduced reliance on transmission lines. High penetration of DG will require strengthening of the distribution system to accommodate large numbers of solar systems. Creating Distribution System Operators that are publicly run to manage local electricity systems would give more local control and provide the institutional basis for ensuring reliability as the number of local generation and storage systems increases greatly.
- Avoided electricity loss in transmission and distribution (T&D).
- Deferred or avoided costs of expanding T&D capacity.

**Promote societal benefits.** Including but not limited to:

- Environmental and public health benefits.
- Community visibility and accessibility: siting renewable energy assets owned and controlled within communities creates myriad co-benefits and should, to the extent possible, be sited to displace fossil fuel generation in communities.

**Advance microgrids.** Community microgrids should be considered in a 100% regenerative energy policy. Microgrids are simply miniature versions of an electric grid with local generation and energy storage. Normally, these are connected to the larger grid to optimize cost, but they are designed to continue operation when there are grid outages. Community microgrids use distributed energy resources for a more holistic, sustainable, and localized energy system that provides more benefits. They can be designed to continue powering essential electricity functions during grid outages. However, there are few, if any, examples of microgrids in BIPOC and frontline communities. Furthermore, most present-day microgrids use fossil gas or diesel generators and not renewable energy.

### **Microgrids and Cyber-security**

*The issue of cyber-security has emerged with the advent of microgrids. "Security experts describe a cyber attack against the power grid as a form of asymmetrical warfare, the equivalent of destroying a society by cutting off delivery of food and water, healthcare, commerce, and communications."*

*-Why We Need Microgrid Cybersecurity: The Threat is Real, Microgrid Knowledge*

**Push for investments for research and development.** 100% policies should include some investments for research and development of microgrids in BIPOC and frontline communities. They should stress solar energy as the primary energy sources with complementary storage for operation during grid outages. In some cases, it may also be desirable to complement battery storage with renewable hydrogen production.

**Include microgrids and distributed generation in emergency planning.** In the event of climate catastrophes and emergencies, communities—particularly BIPOC and frontline communities—will need microgrids and distributed generation for resiliency. In the event of a climate disaster or power outage, microgrids can operate like energy islands to keep communities warm, fed, and safe. After Superstorm Sandy hit in 2012, several states, including Connecticut, New York, New Jersey, and Pennsylvania ramped up investments in microgrids.

### **Examples of microgrids:**

**Microgrid funding post-Superstorm Sandy:** In 2013, Connecticut issued \$18 million to nine microgrid projects, expected to begin operation over the next 18 months. New Jersey, Governor Chris Chris-

tie allocated \$25 million in 2013 to 146 government agencies to develop microgrid and other projects that improve the state's energy resilience. The money can be used for retrofitting existing distributed generation, including fuel cells or combined heat and power, to increase capacity.<sup>121</sup>

**The La Kretz Innovation Campus at the Los Angeles Clean Tech Incubator** is a microgrid, described as, "a small on-site energy control system that manages the Battery Energy Storage System (BESS), the use of grid supplied power and the use of the on-site solar power, which is a distributed energy resource. The microgrid at La Kretz is powered by the city's electric grid and from its onsite 175 kilowatt solar photovoltaic system, which generates clean, renewable energy while also charging the energy storage system located within the facility."<sup>122</sup>

## Generation and Grid Policies Should Lead to Local Renewable Energy and Ownership

### Background:

In order to achieve a successful 100% regenerative policy that is justice-centered, the policy must ensure that both the generation and the grid are equitable and community owned.

Who currently controls and operates the grid? For many states, a critical factor that plays into 100% regenerative energy policies is the role of Independent System Operators (ISOs) and the grid. ISOs are organizations that control, monitor, and operate the electrical power system in a defined region, which can range from a single state (New York) to parts of a few states (California and Texas ISOs) to several states and regions (PJM for instance, includes entire states and portions of some states). An ISO complicates 100% regenerative energy policies namely, the "market" often determines what energy comes into the grid and what energy

is prioritized in the mix. For example, PJM (which covers territory in 14 states) requires three-year contracts with generators for capacity to plan and develop out energy stability and the grid. Advocates will need to take into account these contract negotiations with policies. PJM will respond to renewables if renewables are more "cost-effective," so advocates will need state policies to stop subsidizing coal and gas, and prevent the bailing out of nuclear energy to create a more real cost scenario.

### Policy recommendations:

**Advance and incentivize community ownership and procurement among BIPOC and frontline communities.** Policy mechanisms and financial incentives are needed to internalize the societal values of community ownership to incentivize it. These policy mechanisms may include:

- Community choice aggregation for BIPOC and frontline communities.
- Required procurement of "minority"- or women-owned business controlled assets.
- Required procurement of community-owned projects.

### Ensure actual purchase of renewable energy.

Advocates also need to ensure that state RPS policies actually involve purchase of renewable energy, and not just the electronic certificates representing renewable energy. The latter permits continued purchase of fossil fuel electricity but creates the legal fiction that allows utilities to say they have purchased renewable energy. Generally, once wind and solar facilities have been built, they have the lowest operating cost; they can therefore sell into grids, such as those operated by PJM, on a daily or spot market basis. Among the main issues even in deregulated markets are:

- Ensuring that renewable distribution utilities' purchases of renewable energy on wholesale markets is not just electronic certificates but the certificates *and* the renewable electricity;



- Creating large and specific mandates for distributed renewable energy, especially distributed solar energy, with separate targets for the residential and commercial sector within the distributed generation sector. When distributed generation takes place in the low-voltage distribution portion of the grid, it does not involve getting into the grid operator's queue for permits; rather, below a certain size, only local permits are required. Yet, very often RPSs do not specify significant carve outs for local small-scale distributed renewable generation.

Shift to community ownership and control of generation and grid. A 100% policy should include forward-thinking policy elements to get new grid infrastructure ready for distributed generation, microgrids, and other infrastructure to ensure BIPOC and frontline communities are set up for and have access to that infrastructure. Policies around the grid must tie back to principles of local choice and control. Policies need to ensure the interconnection is equitable and accessible. Policies should avoid new transmission lines that the community does not want running through their community. Each community must address the following in their 100% policy:

- Define what an equitable distribution of the grid looks like.
- Determine if the grid should be "broken up" and if the community envisions a transition to an entirely microgrid system.
- Determine local planning processes where the community can engage to insert microgrids.
- Decide what happens to surplus energy produced on the grid, pushing for the surplus energy go back into BIPOC and frontline communities.

**Ensure BIPOC and frontline communities benefit from regionalization.** In California, 100% regenerative energy policies are linked to regionalization, an

effort pushed by California ISO (CAISO) that "would allow entities from outside California to join the ISO power grid as full Participating Transmission Owners (PTOs). The market would create a coordinated electricity system across the West, using the ISO's infrastructure to develop one clean, reliable and efficient western states grid."<sup>23</sup> California already has the ability to purchase electricity, including renewable electricity, from other states in the West and gets much of its supply from these states. So regionalization is not necessary for implementing renewable energy policy even when it involves such purchases. Regionalization could result in a significant loss of autonomy for California's energy policy.

Critics of regionalization, including EJ organizations, claim that the state would fast-track a policy without extensive research about the impacts, particularly on EJ communities. In particular, regionalization could result in the ramping up of gas plants, especially in EJ communities, and could result in fewer local job opportunities. Advocates for a 100% regenerative energy policy will need to determine their position if this issue is applicable. Advocates should ensure that false solutions, such as trading, are not part of regionalization.

**Grid should link to disaster preparedness.** In the context of extreme weather events and disasters, 100% policies should link the future of the grid to disaster preparedness. In the event of an earthquake, or in anticipation of more frequent and intense hurricanes, storms, and wildfires, 100% policies should prepare communities for blackouts and loss of electricity, and plan the grid accordingly. However, linking the grid to disaster preparedness should be done equitably, creating resilience hubs with an equity focus.

**Create a BIPOC- and frontline-led body.** Grid policies are typically controlled by the fossil fuel industry, or agencies such as the ISO. Advocates should develop a Task Force that includes BIPOC and frontline groups, labor, and environmental organizations to design the policies around gener-

ation and the grid. This Task Force should not only address the issues outlined above, but also transparency and accountability of grid and renewables policies.

### Examples:

**Solar Co-Ops:** Indigenous communities, such as the Navajo and the Hopi, are both developing community and rooftop solar, and there is a movement to replace exported electricity with renewables. An example of a successful woman run Native solar business from Native Sun News:

*Deb Tewa [member of Hopi tribe in Arizona], who runs her own business, Tewa Energy Services, offers workshops on how to use solar energy and she educates young people about solar electricity... There are two types of solar energy systems*

*for residences, she explained. One is called 'grid tied' which is tied into the existing grid power. It is operated without batteries. The other is called stand-alone or "off- grid" where there is no grid power or electrical lines. It includes the use of batteries to store energy. Typically in areas where there is not grid power or electrical lines has a battery bank to store the energy. When she sets these up, she teaches people how to use them<sup>124</sup>.*

**Tewa Energy Services:** An example of an initiative that attempts to address the issues of ownership and renewable energy is the Solar Co-Ops in Washington D.C.: "Solar United Neighbors (SUN) has been building more than a couple good policy ideas in D.C. The organizer of solar buying cooperatives has now served over 3,000 customers that have installed a collective 20 megawatts of solar."<sup>125</sup>

# Building Blocks for Financing and Energy Safety Net

## Shift to Inclusive Financing Model

### Background:

So much of the investment in the energy sector is fossil fuel-based. The kind of non-extractive, clean energy economy that BIPOC and frontline communities are trying to build requires a massive shift in investment and finance. Renewable energy policies should steer investment away from the same fossil fuel based economy that continues to pollute, damage, and intentionally lock out communities of color.

### Policy recommendations:

100% regenerative policies should include the following elements:

**No state subsidies to fossil fuels.** Redirect resources towards the development of community-owned renewable energy systems, such as microgrids.

**No regressive financing.** The burden should not be on people with lower incomes to finance the transition to 100% regenerative energy. Although a vast majority of ratepayer funded state incentive programs are regressive, there are some models of non-regressive financing programs that include:

- Solar Massachusetts Renewable Target (SMART) Program: "SMART Program is a long-term sustainable solar incentive program sponsored by Eversource, National Grid and Unitil. SMART will encourage the development of solar photovoltaic (PV) technology by supporting 1,600 MW of new solar generating capacity."<sup>126</sup>
- Solar on Multifamily Affordable Housing (SOMAH) Program: "It provides financial incentives for installing photovoltaic (PV) energy systems on multifamily affordable housing. The program will deliver clean power and credits on energy bills to hundreds of thousands of California's affordable housing residents. Funded through greenhouse gas allowance auction proceeds, SOMAH has a program budget of up to \$100 million annually and an overall target to install 300 megawatts of generating capacity by 2030."<sup>127</sup>

**Finance reforms for large-scale utilities.** As discussed earlier, utilities are regulated according to structures based on an outdated system of large, fossil fuel-powered generation. To build a modern grid suited to the next century's needs, the utility business model must transform. Some finance reforms include:

- Revenue decoupling: switching utility plant's profit margins to the number of customers serviced, rather than the total amount of power sold;
- Performance target incentives that meet the utilities' energy savings targets by returning a set percentage of the program costs to them.<sup>128</sup>

**Shift away from tax credits to incentives or grants.** Solar financing is typically based on an Investment Tax Credit. "The ITC is a dollar-for-dollar credit for expenses invested in renewable energy properties, most often solar developments. The Consolidated Appropriations Act of 2016 extended the ITC through 2019 as a 30 percent credit for qualified expenditures."<sup>129</sup> This system may not work for low-income communities because they generally do not have a tax appetite encouraging them to take advantage of the incentive. Instead, 100% regenerative policies should shift to incentives and grants, especially for renewables in BIPOC and frontline communities.

**Shift financing to public banks.** Advocates should encourage public banks to finance renewable energy projects to benefit local communities, such as multifamily affordable housing, community centers, churches, and local schools.

**Required data and reports from utilities.** 100% regenerative policies should mandate that utilities track data and provide public reports that outline which communities benefit from energy efficiency and renewable energy programs.

**Promotion of Green Banks.** "Green Banks help secure low-cost capital for clean energy projects including solar at favorable rates and terms to both traditional and otherwise challenging market segments. The availability of low-cost financing is a critical factor for achieving cost-competitive solar energy. Reduced interest rates, extended term lengths, and low or no money down finance offerings can help ensure that solar adopters achieve energy bill savings, provide pricing certainty, and enable investors to achieve attractive investment

returns."<sup>130</sup> Examples of existing Green Banks in the United States include:

- Connecticut Green Bank
- NY Green Bank
- California Lending for Energy and Environmental Needs
- Rhode Island Infrastructure Bank
- Montgomery County Green Bank (Maryland)
- Hawaii Green Energy Market Securitization

## Examples of Inclusive Financing

Each state will need to conduct its own research to determine the financing necessary to achieve 100% regenerative energy goals. Dedicated funding for more expensive technologies, such as storage, should be a complement to financing for cost effective solutions. Examples of inclusive financing models include:

- Tariffed on-bill programs described by Clean Energy Works: "In particular, state energy offices in Arkansas and Tennessee have played an active role in supporting implementation of best practices, offering technical assistance, and convening stakeholders for voluntary participation in workshops designed to support program planning and implementation. In each case, only those utilities that are interested in offering an inclusive financing solution are receiving the benefits of that assistance, and the authority to decide whether to offer a tariffed on-bill program remains with the governing bodies of those utilities."<sup>131</sup>
- Another example from Mountain Association for Community Economic Development (MACED), Kentucky: "Rather than paying for energy conservation measures up-front, How\$martKY allows customers to make installment payments as part of their monthly utility bills, gradually paying for the efficiency upgrades

by using part of the energy savings generated by the retrofit. Customers are expected to see savings on utility bills. Charges remain with the property and not the customer to accommodate all classes of utility customers."<sup>132</sup>

- Portland Clean Energy Fund "will bring \$54 to \$71 million in new annual revenue for clean energy and clean energy jobs in Portland. Nonprofit organizations, alone or in partnership with for-profit companies, schools and/or other government agencies, can apply for grants from this revenue to weatherize homes, install solar and other renewable energy projects, provide job and contractor training, expand local food production and build green infrastructure in Portland. The revenue is raised by a new 1 percent business licensing surcharge on the Portland revenue generated by retail corporations with over \$1 billion in annual revenue and at least \$500,000 in Portland revenue."<sup>133</sup>
- Resilient Denver has a "citizen-led ballot initiative [that] will accelerate Denver's transition to renewable energy, protect Denver's most vulnerable populations as [they] create a resilient community, and provide training and employment for a green jobs force as [they] prioritize an equitable transition...[The] mission is to create an Office of Climate Action and Resiliency with a dedicated pollution tax funding source to lead the fight against climate change. The office will use those funds for workforce development, grants, rebates, scholarships, and other incentives to speed the path toward renewable energy."<sup>134</sup>
- The Women's Earth & Climate Action Network International's 'Divest, Invest, Protect' campaign is a critical, intersectional, and Indigenous-led divestment campaign. Their goals are:
  - **"DIVEST** from fossil fuel-related companies and financial institutions that negatively impact Indigenous and human rights, and

local and global waters and the climate.

- **INVEST** in Indigenous Peoples as central actors in shaping economic change and decision-making regarding their lands and territories. Invest in sustainable renewable energy and a Just Transition. Invest in better and more just economic initiatives, paradigms, and structures.
- **PROTECT** and advance Indigenous Peoples and human rights, lands, and territories. Protect water, land, and climate from pipelines, fossil fuel infrastructure and extraction at the source."<sup>135</sup>
- VoteSolar's Report on Inclusive Solar Finance Framework "Providing a suite of inclusive solar finance solutions [that] will necessitate changes to the status quo...The goal is to establish an environment where all actions and interventions work efficiently together to expand much-needed access to low-income, low credit score and low-income/low credit score customers...Not only is inclusive solar finance the right thing from a policy, social and environmental justice lens, but it is also advantageous from a business standpoint for solar companies, technology providers, utilities and capital providers alike."<sup>136</sup>

## Create Energy Safety Net for Black, Indigenous, People of Color, and Frontline Communities

### Background:

The "energy burden" is the share of annual household income used to pay annual home energy bills. "Low-income households face impossible choices between paying for energy, health, food, and housing. A 2011 national survey of households receiving assistance found that in the previous five years more than one-third had to forgo medical/

dental care and purchasing medicines because of high energy bills; almost one in five had someone become ill because their homes were too cold. Six percent were evicted from rental units and four percent faced foreclosure, exacerbating homelessness."<sup>137</sup>

### **Policy recommendations:**

**Cost burden should not fall on low-income people.** Advocates should ensure BIPOC and frontline communities are not carrying the burden of bill increases. Policies should be developed that lower the bills for BIPOC and frontline communities while lowering the energy burden. These communities often spend more of their income on energy even though they use less energy than more affluent communities. "Energy burdens were found to be greatest for low-income households in the following 10 major cities: Memphis (13.2 percent of income), Birmingham (10.9 percent), Atlanta (10.2 percent), New Orleans (9.8 percent), Providence (9.5 percent), Pittsburgh (9.4 percent), Dallas (8.8 percent), Philadelphia (8.8 percent), Kansas City (8.5 percent), and Cleveland (8.5 percent)."<sup>138</sup>

**Push for affordability for BIPOC and frontline communities.** Affordability policy components should create financial benefits for BIPOC and frontline communities who are supplied by RPS-complying companies, resulting in long-term savings."<sup>139</sup> There are two approaches to accomplishing the affordability goal:

- The most straightforward is to have an affordability program that limits household energy bills (including fuels for space and water heating and cooking) to the percentage of gross income using the Low-Income Energy Affordability Data Tool ([www.energy.gov/eere/slsc/maps/lead-tool](http://www.energy.gov/eere/slsc/maps/lead-tool))<sup>140</sup>, leaving the rest of the bill to be paid by public funds from various sources. This approach also provides incentives for investing in efficiency since the result would be reduced requirements for assistance dollars.

- The second approach is moving away from energy assistance subsidies to ownership of clean energy assets and energy efficiency. A critique of energy assistance subsidies programs, such as the Low-Income Home Energy Assistance Program (LIHEAP), is that they subsidize natural gas. Approximately \$3.7 billion per year is allocated to LIHEAP<sup>141</sup>. Most of that funding goes to annual subsidies for energy assistance, which often goes towards heating costs for low-income households, essentially paying natural gas bills on behalf of low-income customers and guaranteeing revenue for the utility. The recommendation is to move the entire system towards clean energy assistance programs that provide long-term renewable energy and efficiency benefits, and away from annual fuel subsidies.

- For example, Colorado is moving the LIHEAP / Weatherization Assistance Program to incorporate rooftop and community solar: "CEO launched its low-income community solar program in partnership with GRID Alternatives and eight cooperative and municipal utilities across the state. The goal of the program was to help reduce the energy burden for at least 300 low-income households and demonstrate whether dedicated community solar projects can be mutually beneficial for utilities and participants. The program has resulted in 1.5 megawatts (MW) of community solar projects and energy bill savings for nearly 400 households."<sup>142</sup>

**Participate in rate design.** Advocates should include the following policy elements in their 100% regenerative energy policies:

- In proceedings focused on rate design, ensure a good process is in place with opportunities for public participation.

- Insist on BIPOC, frontline, and tribal representation in proceedings on rate design and affordability.
- Include support, technical assistance needs, and capacity needed to engage in the process.
- Demand intervenor compensation beyond stipends.
- Cap fixed customer charges that typically are regressive.
- Ensure rate structure for all customers, including industrial sector, reflects energy usage to prevent industrial customers being charged lower rates.

**Promote comprehensive energy safety net elements.** When designing a 100% regenerative energy policy, the following should be captured:

- Ensure energy assistance does not impact other benefits, such as state grants.
- When energy efficiency upgrades for low-income homeowners are made, protections should be put in place to prevent upgrades leading to increased property taxes.
- Moratorium on shut off policies if residents are not able to pay their bills.

### Examples of programs:

From Washington D.C.: Ensure energy savings are prioritized for low- and moderate- income residential ratepayers. "An application submitted by the electric company or gas company pursuant to this subsection shall meet the long-term and annual energy savings metrics, which shall primarily benefit low- and moderate-income residential ratepayers to the extent possible, quantitative performance indicators, and cost-effective standards established by the Commission."<sup>143</sup>

How\$mart: Mountain Association for Community Economic Development (MACED) in Kentucky: is a Community Development Finance Institution (CDFI) that offers energy savings loans for small businesses to finance improvements for energy savings or for new energy system installations. Typical uses are: Lighting, HVAC, and other upgrades; grocery refrigeration or other store upgrades; renewable energy system installations, such as solar panels and more. For residential customers, MACED partners with local electric cooperatives to offer inclusive financing for all cost effective energy efficiency upgrades using the Pay As You Save (PAYS) system.



# Building Blocks for Public Participation and Governance

## Demand Quality Outreach and Public Participation

### Background:

**E**nergy policies are often written and discussed in closed room negotiations. Historically, BIPOC and frontline communities are not consulted and their voices are completely left out of the policymaking despite the direct impact energy policies have on these communities. Engagement in energy policymaking is resource- and capacity-intensive, creating tremendous hurdles for participation by BIPOC and frontline communities. Moreover, hearings and proceedings are incredibly inaccessible, with very little or no regard for language access and cultural competency.

### Policy recommendations:

A 100% policy should include meaningful public participation or community-driven planning and implementation strategies, such as:

**Collaboration with BIPOC and frontline communities and community-based organizations.** Collaboration should occur during development of the 100% regenerative policy and during implementa-

tion. BIPOC and frontline communities should be considered leaders, partners, co-sponsors, and co-collaborators.

- Processes should be created for **co-governance and collective accountability** with BIPOC and frontline communities. For example, state PUC or PSC's should create infrastructure that brings BIPOC and frontline voices into the room as experts and leaders shaping and advising policies and implementation efforts.

**Consultation with and leadership from Tribal nations.** (See Tribal Sovereignty and Rights section for background and details).

**Full accessibility to public hearings** that includes:

- Translation of materials into necessary languages and interpretation during meetings and hearings
- Outreach to BIPOC and frontline communities, such as holding local workshops

**Public funds for "intervenor" for costs and fees.** This would enable them to participate in regulatory proceedings. Funds for intervenor compensation would enable community leaders to participate

in a public utility commission proceeding by intervening, or taking official legal action, in the proceeding. Some states, such as California, reimburse intervenors through "intervenor compensation." Through intervenor compensation, organizations are able to fund the capacity of BIPOC and frontline communities to participate in often inaccessible and resource-intensive proceedings.

**Community based program delivery.** Advocates should not rely solely on the program administrator or the utilities to implement a 100% regenerative policy for a number of reasons. Primarily, they are not structured, skilled, or trusted by customers to provide effective service delivery. Program delivery should be led by BIPOC and frontline communities. The implementing agency should collaborate with community-based organizations with relationships in the community on program delivery.

- Outreach and education that is linguistically- and culturally-appropriate on the key components of the 100% regenerative policy should be developed. It should include all the opportunities for engagement on renewable energy, energy efficiency, demand response, and transportation justice.

**Clear metrics for outreach.** Metrics should be required so that outreach is not simply a "checkbox". Types of metrics include: specific addresses outreached to, number and frequency of community meetings, frequency of one-on-one conversations, types and frequency of social media outreach, and which languages translated into.

**Capacity support.** BIPOC and frontline groups should have support for legal and technical capacity, or the ability to pursue public funding. Example from the Washington Carbon Emissions proposition:

*Twenty percent of the healthy communities account must be reserved for developing community capacity to participate in the implementation of this chapter, including the preparation of funding proposals. Funds for this community*

*capacity program must be allocated through a competitive process with a preference for projects proposed by vulnerable populations in pollution and health action areas and rural communities. Any Indian tribe that applies must receive up to two hundred thousand dollars per year to build tribal capacity to participate in the implementation of this chapter. The department of commerce shall work with the environmental and economic justice panel to develop draft procedures, criteria, and rules for this program.<sup>144</sup>*

## Governance and Oversight to Meet Equity and Justice Goals

### Background:

100% regenerative energy policies should include language on governance and oversight that requires regular reporting to ensure that the policy is meeting its goals, particularly on equity and justice. There should be decision-making and oversight to ensure investments are being made in BIPOC and frontline communities. And there should be regular reporting on whether renewable energy is reaching low-income communities.

### Policy recommendations:

#### Oversight Boards and Technical Advisory Groups should be formed:

- BIPOC and frontline leaders should not only be considered organizing leaders but also technical experts with skills and expertise in developing equitable energy policies.
- Ensure the Oversight Board or Technical Advisory Group has teeth. These bodies should be meaningful and have stronger roles and responsibilities than simply giving advice. The recommendations that come from these bodies should be enforceable.

- Members of these boards and advisory groups should be compensated accordingly, in order to support the capacity needed to fully participate in these boards.
- The 100% regenerative policy should include language to strengthen existing oversight boards, so that they are more inclusive and diverse.
- BIPOC and frontline board members should have the ability to consult with their own communities on the progress and recommendations of the 100% regenerative program.
- Policy should include mechanisms and processes for public transparency, so communities are aware of decisions and rule-making and have the opportunity to weigh in.
- Ensure continuity of implementation so that the 100% regenerative program launches shortly after the policy is passed and there are no significant delays.
- Boards and Advisory Groups must have the power to collect data, such as:
  - Easily accessible energy burden data
  - Metrics on outreach to BIPOC and frontline communities, rural, and Tribal groups
  - Locations of energy infrastructure, such as substations and other energy infrastructure
- Inter-departmental consultation should be encouraged and board members should eliminate barriers to consultation in order to limit siloing between departments and boards.
- On-going oversight and authority to review and make improvements.
- BIPOC and frontline communities should be able to select board members that represent their communities. Prior definitions of what is

a BIPOC and frontline community should align with both the selectors and the representatives.

- Ample numbers of representation with equitable representation, and geographic (rural and urban) representation, with a significant representation of Tribal leadership.

**Push for appointment processes that meet specific requirements:**

- Ensure authentic community representation as determined by local BIPOC and frontline groups
- Governors who historically make appointments should consult with EJ communities, rural, and tribal groups on appointments
- Include enforceable conflict of interest clauses
- Require reports and recommendations on the 100% regenerative policy

**Push for participatory budgeting and implementation:**

- BIPOC and frontline communities should be trained on developing the budget for, advocating for, and implementing the funds for the 100% regenerative policy.
- Budgets of agencies should be made available. Agencies should highlight what parts of budget spending are on the backs of ratepayers.

**Examples:**

Example House Bill 2242 Oregon: The Oregon Public Utility Commission established the Office of the Low-Income and Environmental Justice Advocate with the following policy elements:

- “Responsible for representing low-income and environmental justice communities in the proceedings of the commission;
- Shall be a person who has significant background and experience working in low-income and environmental justice communities,

with an emphasis on experience in evaluating the impacts of energy burdens on low-income and environmental justice communities;

- May, upon exercise of the independent judgement of the office, intervene as of right as an interested party or otherwise participate in the proceeding.
- Shall convene a low-income and environmental justice advisory group to advise the Office of the Low-Income and Environmental Justice Advocate;
- Provide a report that: (1) Shall include a description and assessment of the work of the office, including any major milestones accomplished by the office; and (2) May include recommendations, including recommendations for legislation, for changes to the form or function of the office including, but not limited to, recommendations for increasing the staff or other resources available to the office."<sup>145</sup>

# Building Blocks for Fuel Switching, Disposal, and Recycling

## Address Fuel Switching

### Background:

**F**uel switching is when inefficient and higher polluting fuels are switched out for clean, efficient alternatives. If done correctly, fuel switching can reduce energy consumption, lower costs for users, and potentially lower emissions. Fuel switching may be used in refrigeration, air conditioning, and power generation.<sup>146</sup> Fuel switching is an issue that comes up often in the Midwest, Northeast, and the Mid-Atlantic. Fuel switching for heating and cooling must be addressed in 100% plans because so much of our energy system is based on oil and gas.

### Challenges:

Certain communities are developing policies favoring the burning of natural gas in place of fuel oil and diesel because of the potential for ozone reduction and improved air quality. For example, in Philadelphia, the transition of heating sources and infrastructure was found to be cost prohibitive, so local utilities used "affordability" as a reason to expand liquefied natural gas and gas, rather than renewables. Moreover, because many rural and Tribal communities are not connected to the grid, they prefer to add back up propane for reliability,

especially for those with medical needs. Advocates must be aware of these challenges.

Low-income households are at a disadvantage. For instance, in Maryland, one major obstacle is Low-Income Energy Efficiency Program (LIEEP) funds may not be used to replace a fossil fuel heating system with an electric one. "A prohibition against using LIEEP funds for switching away from fuel oil and propane is akin to a food assistance policy that would force low-income households to purchase only carbohydrates. It is poor policy and creates a variety of costs that can and should be avoided. It serves no public interest to leverage public funds for weatherization and HVAC system replacement and then oblige low-income people to stay stuck with expensive fuel oil and propane. It perpetuates the need for assistance. It is also contrary to energy dignity: low-income households are not offered a rational and economical choice of heating systems, which all other individuals are free to make, for the sole reason that they need assistance. We strongly recommend that the prohibition against the use of LIEEP funds for fuel switching be repealed."<sup>147</sup>

Another problem is that renters usually have no control over heating system decisions. Low-income households are far more likely to be renters than non-low income households. States should

consider the special sets of policies that will be needed to ensure practical, equitable access to efficient space and water heating electric systems.

### Policy Recommendations:

**Incentives for electric systems.** Conversion of fossil fuel space and water heating systems to efficient electric ones (like highly efficient heat pumps) is an essential part of the transition to a renewable energy system. However, many utilities offer incentives and rebates for customers who purchase new fossil gas heating systems if the new system meets certain efficiency thresholds. Such policies lock in fossil fuel use for many years. States should consider restricting incentives to efficient electric systems, with the amount of the incentive calibrated to the efficiency of the system.

**Pilot heat pump programs.** Advocates should push IOUs and other entities toward creating heat pump programs for homes and buildings.

### Examples:

The Emera Maine Heat Pump Pilot Program "provided \$600 rebates and optional on-bill financing for qualifying ductless heat pumps installed in residential homes and small commercial buildings of Emera Maine customers."<sup>148</sup>

In the San Joaquin Valley Proceeding in California, the California Public Utilities Commission "approved a \$56 million investment for pilot projects in 11 San Joaquin Valley communities that lack natural gas in an effort to increase access to clean affordable energy in disadvantaged communities and reduce the use of propane and wood burning... The pilot projects provide an opportunity to eligible San Joaquin Valley households who choose to participate with no-cost replacement of their propane and wood burning appliances with energy efficient appliance upgrades including limited upgrades to the home in some cases."<sup>149</sup>

## Address Leftover Fossil Fuel Infrastructure & Lifecycle of Renewables

### Background:

Advocates will need to make recommendations for old infrastructure during the transition away from fossil fuels. How does the community ensure that the old infrastructure is dismantled, disposed of, or recycled responsibly?

### Policy recommendations:

**Ensure that dealing with the old fossil fuel infrastructure does not result in a utility bail out.** For example, FirstEnergy Solutions Corp. plans to shutter the Bruce Mansfield power plant's because of they could not compete with cleaner energy sources.<sup>150</sup> As states transition away from fossil fuels and determine how to manage what is left, policy-makers should not bail out utilities on the backs of customers.

**Community should make recommendations for the disposal and/or recycling of fossil fuel infrastructure** so that it is not dumped in BIPOC and frontline communities resulting in more hazardous waste.

**Promote potential job opportunities that can be created in the retirement of old fossil fuel infrastructure.** The jobs potential should be a central element of Just Transition where good high-paying careers are created for displaced workers.

**Create a mechanism to start paying for decommissioning costs now,** while most customers are still connected. Otherwise, those with means could flee local communities and the remaining customers, who are mostly BIPOC and frontline, will get stuck with the decommissioning costs.

### Address the lifecycle of renewables:

- Consider the quality and safety of materials

being installed in renewable energy.

- Put disposal plans in place. "PV systems may be decommissioned for several reasons. Repowering a solar system with newer technology that is more efficient or has a higher nameplate capacity can provide even more electricity from the same amount of space. The replaced PV modules can be reused in other projects as they may still have plenty of useful life left. Often these modules can find new opportunities in charitable, off-grid or even grid-connected projects, provided they continue to meet the appropriate building codes and safety standards."<sup>151</sup>



# Key Concepts to Be Mindful Of

**Fossil Fuel and Utility Policies.** The following are examples of terms that the utilities and fossil fuel industry often use as reasons to stop a transition to 100% regenerative economy, to further delay the transition, and more importantly, to prevent EJ communities from benefiting from a 100% regenerative policy. Although this list is certainly not comprehensive, these are examples of terms and models that may be designed to deceive communities by looking like policy mechanisms that seemingly advance renewable energy goals, but are intended to benefit the fossil fuel industry or the utilities.

**“Utility control”—the notion that utilities should make all the decisions and be solely in control of energy policies:**

- The ideal policy is that utilities should function to serve a community benefit, not to perpetuate a system that continues to neglect and pollute in BIPOC and frontline communities.
- While 3,000 non-profit utilities in the U.S. provide electricity as a service for the public or the communities they serve, for-profit utilities have a privatized monopoly over our energy systems, monitored only by a regulatory body that they can capture.
- Regulated utilities and unregulated companies that own large power plants generally have enormous influence on energy policies and

how much consumers pay. Even in deregulated areas such as much of the Northeast and mid-Atlantic, private companies with no formal legal standing are able to lobby for laws and regulations that get them prices vastly above what is competitive. New York, Illinois, and New Jersey are examples where nuclear plant owners are being given hundreds of millions of dollars a year above market rates, hurting low-income households with higher bills. The success of corporations like Exelon in these states has emboldened them to try the same in other states like Ohio and Pennsylvania.

- It is important to transition utilities away from a model of making more profit the more investments they make—which has encouraged excessive and even unnecessary investments—to one in which they provide services to support local generation, efficiency investments, storage, and smart grid choices that can reduce electricity use and equitably allow consumers to become producers as well.
- In this context, it is important to note that hedge funds, which demand high short term profits and rates of return, own portions of “investor owned utilities” like California’s PG&E. Hedge funds are not subject to the same detailed rules of disclosures as investments open to the general public,

like mutual funds or individual corporations whose shares are sold to the public. The influence of hedge funds and their managers<sup>152</sup> on regulated utilities is a little explored topic.

**“Reliability” and “resilience.”** Energy reliability is simply power that is available when needed without interruptions and outages. Grid resilience is the ability for the electricity grid to withstand natural disasters, such as hurricanes and storms. Reliability is a critical issue both within the present centralized, fossil fuel- and nuclear-dominated system and in a future renewable energy system with high penetration of solar and wind.

- The vulnerability of the present, overly-centralized system in this era of extreme events was shown by Hurricane Sandy in 2012 along the East Coast and Hurricane Maria in 2017, notably in Puerto Rico as well as by the 2017 devastating grid-induced fires in California. The lack of resilience, which includes the ability to bounce back rapidly and to provide continuity of essential services, contributed to the depth and duration of these disasters.
- Solar microgrids with storage could have done much to alleviate the suffering and the economic damage in such cases by increasing the resilience of the system. At the same time there are legitimate issues that must be addressed to make a system with high penetrations of variable energy resources— notably solar and wind—reliable. However, there are available solutions to these issues, contrary to the claims of those who resist change, including many utilities and the fossil fuel industry.

Renewable systems using storage, smart grids, demand response, renewable hydrogen, and other techniques can not only match present reliability, but also increase it. This can be done with combinations of distributed solar generation, distributed storage, fuel cells with renewable hydrogen, and

smart-grid based demand response as well as appropriate balance of solar and wind resources. Claims that renewable systems cannot be made reliable because the sun does not shine all the time and the wind does not blow all the time are little more than propaganda often stemming from a desire to preserve the profits from the present system.

The fossil fuel industry and utilities often use reliability as cover to bring more fossil fuels, such as gas power plants, online. Organizations will need to include in the policy how reliability will be addressed, while ensuring that reliability does not prevent an aggressive 100% regenerative goal and is not used as a justification to keep fossil fuels on line longer. Technical models for reliability and resilience of renewable systems are available.

**“Least Cost, Best Fit.”** Some renewable portfolio standards (RPS) mandate that utilities choose “least cost, best fit” renewable sources. “Least cost” means utilities must choose resources that are the cheapest, factoring in cost of generation and indirect costs. A Public Utilities Commission can define “best fit” by setting criteria that address system needs and RPS portfolio needs.<sup>153</sup> The least cost approach can be either beneficial or harmful to the public depending on how it is applied. It can be, and has been, used by the fossil fuel industry and utilities to promote polluting generation often to the detriment of BIPOC and frontline communities. But with wind, solar, and storage becoming more economical—and often cheaper than fossil or nuclear generation (even according to the Wall Street firm Lazard)—least cost can also be used to authorize renewable resources. If the least cost, best fit model is considered, BIPOC and frontline communities must ask, “at the expense of whom?”

A principal problem with the “least cost, best fit” model is that costs of pollution are generally not internalized in financial calculations. Within the present utility paradigm, a least cost approach could be more beneficially used if it were constrained to non-polluting resources and if regula-

tory processes made impact on BIPOC and front-line communities an essential part of the decision making process. Least cost needs can also be used to focus only on IOU scale renewables at the expense of DG, community solar, and other forms of local renewable energy, while holding back alternative ownership models.

- New Mexico's 2019 renewable energy law is a good example of large IOUs getting control of renewable energy expansion while at the same time reducing regulatory oversight. Least cost planning within such a framework will be unlikely to alleviate the anti-democratic aspects of the law, which reduces regulatory oversight. Advocates should explore this assumption in their 100% regenerative energy design and propose an alternative framework that prioritizes BIPOC and frontline communities, energy affordability for low-income households, and a Just Transition. Least cost planning within such an alternative framework, coupled with robust regulatory oversight, could at least alleviate some of the present problems.

**“Bridge.”** In the transition to 100% regenerative energy, industry and the utilities will often make an argument that bridge fuels, such as gas plants, are necessary. 100% policies should include language that explicitly opposes the expansion of the use of such bridge fuels and promotes opportunities to significantly reduce the reliance on bridge fuels, by, for instance, using solar plus storage to replace peaking gas plants. 100% policies should also offer an opportunity to insert a managed retirement of gas plants in the policy.

Changing the incentives for utilities in the context of increasing renewables, including distributed generation, will require changes in regulations. New York and other states are considering such changes in proceedings that go under the rubric of “grid-of-the-future.”

**Market-based and carbon trading policies.** While a plethora of states are developing 100% policies,

advocates should develop a real 100% regenerative energy policy that prioritizes and benefits BIPOC and frontline communities and results in actual emissions reductions in these communities, while not perpetuating the same for-profit extractive system. Advocates should be mindful of policy concepts that may often be pushed by the fossil fuel industry, utilities, and even environmental groups to continue to utilize market-based and trading systems and those that keep using gas for baseload generation. These policies focus on false solutions without centering equity and community process. For instance, the use of carbon trading using carbon offsets can simply allow continued carbon emissions and be very harmful to BIPOC and frontline communities both in the U.S. and the Global South.

**“Market Purchase Energy.”** Market purchase energy is not clean energy for BIPOC and frontline communities. Often times, this market energy still shifts the burden on the most vulnerable communities—some energy is sold as renewable energy with the use of Renewable Energy Credits to enable said energy to be sold as clean, even when it is not. When we rely on market purchase energy to solve climate change, we allow further environmental injustice.

# Glossary of Terms

**Area Median Income (AMI):** “[T]he midpoint of a region’s income distribution – half of families in a region earn more than the median and half earn less than the median. For housing policy, income thresholds set relative to the area median income identify households eligible to live in income-restricted housing units and the affordability of housing units to low-income households.”<sup>154</sup>

**Biofuels:** Biofuels produce industrial pollution. The production of biofuels largely depends on oil and water. Machinery needed to cultivate the crops emits large carbon emissions and growing the plant source requires the use of large volumes of water that could strain local water resources. Fertilizers, herbicides, and pesticides are also used to cultivate crops for biofuels, resulting in water pollution and environmental pollution.

**Biogas:** Includes digester gas, landfill gas, and any gas derived from an eligible biomass feedstock.

**Biomass:** Any organic material not derived from fossil fuels, including, but not limited to, agricultural crops, agricultural wastes and residues, waste pallets, crates, dunnage, manufacturing, construction wood wastes, landscape and right of way tree trimmings, mill residues that result from milling lumber, rangeland maintenance residues, biosolids, sludge derived from organic matter, wood and wood waste from timbering operations, and any materials eligible for “biomass conversion” as defined in Public Resources Code Section 40106.

**BIPOC:** Black, Indigenous, and people of color. Also see “Frontline” definition.

**Carbon neutral:** In the physical sense, carbon neutral can mean renewable electricity generation for 100% of the requirements of a house, building, or community on an annual basis, but not necessary at every moment. Renewable electricity is exported to the grid when surplus electricity is generated and electricity from the grid is imported with whatever carbon content it may have. The net result on an annual average basis is zero emissions since the renewable electricity that is exported reduces consumption of fossil fuel electricity by third parties who do not have renewable electricity generation.

Carbon neutral is also used in the market sense when local polluting, carbon-emitting generation is supposedly offset through trading of pollution permits with some entity that claims to reduce a corresponding amount of emissions. This is vastly different from physical carbon neutrality and often creates injustices, for instance in land rights, and the illusion of carbon reduction rather than real progress towards it.

**Carbon free:** A carbon free energy source is one that does not inherently have emissions of carbon dioxide at the point of electricity generation. Nuclear energy is an example. Note that all energy sources, including nuclear, involve carbon emissions in construction and, in the case of nuclear, in fuel mining and processing. Carbon-free as a term is only meaningful when applied to the point of generation.

**Clean coal:** Clean coal is a marketing ploy used by big polluters to convince the public that high-tech coal plants produce less polluting coal, such as reduced sulfur dioxide and nitrous oxide emissions or carbon capture. However, clean coal has been found to actually require more coal and cost much more than renewable energy and the technology simply does not work.

**Energy assistance:** A program undertaken by a utility to reduce the household energy burden of its customers.

- Energy assistance includes, but is not limited to, weatherization, conservation and efficiency services, and monetary assistance, such as a grant program or rate class for lower income households, intended to lower a household's energy burden.
- Energy assistance may include assistance provided to enable direct customer ownership in energy assets or other strategies if such strategies achieve a reduction in energy burden for the customer above other available conservation and demand-side measures.

**Energy assistance need:** The amount of assistance necessary to achieve a level of household energy burden established by the department or commission.

**Energy burden:** The share of annual household income used to pay annual home energy bills. A widely accepted maximum energy burden for residential bills is 6% of gross income.

**Environmental racism:** The disproportionate impact of environmental hazards on Black communities, Indigenous people, and people of color. '**Environmental justice**' is the movement's response to environmental racism. '**Environmental equity**' is not environmental justice. 'Environmental equity' is the government's response to the demands of the environmental justice movement. Government agencies, like the EPA, have been coopting the movement by redefining environ-

mental justice as "fair treatment and meaningful involvement," something they consistently fail to accomplish, but that also falls far short of the environmental justice vision. The environmental justice movement is not simply seeking to redistribute environmental harms, but to abolish them.

**Frontline community:** Typically defined as the population most impacted by multiple and cumulative sources of pollution and climate impacts due to proximity to toxic factories, fossil fuel refineries, neighborhood oil drilling, freeways, and the like, often without access to clean drinking water or public investment. The inability of these communities to cope with the related health impacts can be compounded by poverty, unemployment, and lack of access to education. The following are common indicators to identify a BIPOC and frontline community:

- Poverty
- Linguistic isolation
- Housing burden
- Asthma
- Cardiovascular disease
- Living adjacent to hazardous waste facilities
- Air quality PM2.5
- Drinking water contamination
- Pesticides prevalence

**Fuel Switching:** Fuel switching is when inefficient and higher polluting fuels are switched out for clean efficient alternatives. If done correctly, fuel switching can reduce energy consumption, lower costs for users, and potentially lower emissions. Fuel switching may be used in refrigeration, air conditioning, and power generation.

**Geothermal:** Natural heat from within the earth, captured for production of electric power.

**Grid:** The electrical transmission and distribution

system linking power plants to customers through high power transmission line service.

**Hydroelectric:** A technology that produces electricity by using the kinetic energy of flowing or falling nonmarine water to turn a turbine generator

Just Transition: “[A] framework for a fair shift to an economy that is ecologically sustainable, equitable and just for all its members. After centuries of global plunder, the profit-driven, growth-dependent, industrial economy is severely undermining the life support systems of the planet. An economy based on extracting from a finite system faster than the capacity of the system to regenerate will eventually come to an end—either through collapse or through our intentional re-organization. Transition is inevitable. Justice is not.

A Just Transition requires us to build a visionary economy for life in a way that is very different than the economy we are in now. Constructing a visionary economy for life calls for strategies that democratize, decentralize and diversify economic activity while we dampen down consumption, and (re)distribute resources and power. Just Transition initiatives shift the economy from dirty energy to energy democracy, from funding highways to expanding public transit, from incinerators and landfills to zero waste, from industrial food systems to food sovereignty, from gentrification to community land rights, and from rampant destructive development to ecosystem restoration. Core to a Just Transition is deep democracy in which workers and communities have control over the decisions that affect their daily lives.”

— “From Banks and Tanks to Cooperation [and Caring], Movement Generation.

**Kilowatt (kW):** A measure of 1,000 watts of electrical power.

**Landfill gas:** Created in the process of decomposition of waste in landfills. It is a mixture of methane, carbon dioxide, and other gases.

**Megawatt (MW):** 1,000 kilowatts. One megawatt is about the amount of power needed to meet the peak demand of a large hotel.

**Microgrid:** The Microgrid Exchange Group defines a microgrid as follows: “A microgrid is a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid. A microgrid can connect and disconnect from the grid to enable it to operate in both grid-connected or island-mode.”<sup>155</sup> Microgrids are usually connected to the larger grid at a single point from which they can exchange power. During a grid outage, this single connection is opened so the microgrid can supply the loads internal to it—that is, it operates in “island mode.” Microgrids can be for single institutions or campuses, they can be community microgrids, and sometimes, generally in remote areas, they are not connected to the larger grid (aka “macrogrid”).

**Regenerative Ecological Economics:** “[A]dvancing ecological resilience, reducing resource consumption, restoring biodiversity and traditional ways of life, and undermining extractive economies, including capitalism, that erode the ecological basis of our collective well-being. This requires a re-localization and democratization of primary production and consumption by building up local food systems, local clean energy, and small scale production that are sustainable economically and ecologically. This also means producing to live well without living better at the expense of others.”<sup>156</sup>

**Renewable Natural Gas:** Also known as biomethane, renewable natural gas comes from polluting sources such as landfills and factory farms, often located in disadvantaged communities.

**Renewable Energy:** The IPCC defines renewable energy as “[a]ny form of energy from solar, geophysical, or biological sources that is replenished by natural processes at a rate that equals or exceeds its rate of use.”<sup>157</sup> This definition includes plant biomass if the biomass is replaced in the

approximate time of use, such as on an annual basis. This is rarely the case; it is even rarer that soil carbon balance is taken into account, which is essential since the context is climate protection. Showing that any biomass is renewable would be costly and complex. For practical purposes, therefore, it is simplest to exclude biomass from implementable renewable energy programs.

**Sacrifice zones:** "Fenceline communities" of low-income and people of color, or hot spots of chemical pollution where residents live immediately adjacent to heavily polluted industries or military bases. Quite often, this pattern of unequal protection constitutes environmental racism.

**Zero net carbon:** A highly energy efficient building that produces on-site or procures enough carbon-free renewable energy to meet the building operations' energy consumption annually.



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