Green America

Take Action

Calling for a Just, Clean Transition *Part One: Energy Justice*

What does the term "energy justice" mean to you? And who do you envision being impacted by calls for "energy equity"?

This *Calling for a Just, Clean Transition* report builds on prior versions of Green America's *Clean Energy Calling Reports*, which analyzed renewable energy use and greenhouse gas emissions of the major telecommunications companies, AT&T, Verizon, and T-Mobile.

Calling for a Just, Clean Transition will be released in two parts: part one covers the disproportionate damage caused by fossil fuels to historically disinvested communities and the climate and delves into the goals of the energy justice movement, including working to ensure that the benefits of the transition to clean energy accrue to those most harmed by fossil fuels. Part two (set to release in Spring 2022) investigates the status of clean energy use by the major telecom companies and ventures to assess the performance of their energy procurement on key principles of energy justice.

In *Calling for a Just Transition, Part 1*, we discuss the challenges to stabilizing our global climate and actions needed to reduce greenhouse gas emissions, focusing on emissions stemming from the production of electricity, which accounts for 25% of climate change-inducing pollution.[1] We discuss how the production of dirty energy harms people in disinvested communities - especially Black, Latino, and Indigenous communities - and highlight the need to rectify these generational harms and support communities in benefiting from the transition to a clean energy economy.

In keeping with Green America's mission to harness economic power by holding corporate actors accountable, this report aims to catalyze climate advocacy which prioritizes equity as central to, and embedded in, any definition of success for climate progress. Without meaningful efforts to ameliorate injustices relative to climate and energy, climate action risks ignoring opportunities to rectify harms to communities burdened by legacies of injustice and misses the mark on fully advancing societal good.

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Why Energy Justice?

As we strive for a world that reverses course on environmental degradation and paves a sustainable path forward, our recipe cannot treat equity as an add-on. Equity - or inequity - is the broth in the stew, either resulting in a hearty meal with benefits for all, or a sour brew which feeds some while poisoning the rest of us.

The shift to clean energy provides enormous environmental and social benefits as compared to fossil fuels – environmental, health, and economic.

At the same time, women and disinvested communities are not benefiting equally from the rapid shift to clean energy in the US. In this report:

- We hear from voices in the energy justice movement in case studies highlighting professionals working on the front lines to advance equitable, clean energy initiatives.
- We unveil a list of social justice criteria we urge companies to include in clean energy contracts. These criteria will help to assess the extent to which electric power production aims to rectify racial, gender, and other inequities resulting from energy production and within the energy sector, reduce environmental harms, and support workers' rights.
- We aim to raise the bar for energy companies seeking reputations as corporate stewards and shine a bright light on energy equity issues, so energy producers are compelled to prioritize them.

Clean Energy Benefits for People and the Planet

The transition from fossil fuels to truly clean energy (solar and wind) will create enormous environmental and public health benefits.

- Fossil fuels-linked air pollution causes 355,000 premature deaths per year in the US, and disinvested communities - specifically Black, Latino, and Indigenous communities - bear the brunt of this, with Black Americans experiencing 1.54 times the exposure to particulate matter compared to the population overall.[2]
- Natural gas, touted by the fossil fuel industry and its supporters as being cleaner than coal, is nearly as bad as coal. Natural gas combustion results in elevated risks of cancer and other health risks for populations living near wells, and methane pollution that has over 80 times the global warming potential of CO2 over a 20-year period.[3]

The transition to clean energy is also resulting in better energy industry jobs overall.

- A recent report, *Clean Jobs, Better Jobs*, found that clean energy jobs on average pay an hourly wage that is roughly 25 percent higher than the median, and that clean energy jobs pay more than fossil fuel jobs.
- Jobs in the clean energy sector are also more likely to be unionized than in the economy overall – although there is ample room for growth – which leads to better pay and

benefits.[4]

- Clean energy jobs also employ more people; three times as many as fossil fuel extraction and generation.[5]

The transition to clean energy is creating clear benefits for workers and communities. The challenge now is to ensure that those benefits are equitably distributed to the most disinvested communities and people who were, and continue to be, most negatively impacted by our decades-long reliance on fossil fuels. Like the energy sector overall, people of color - Black, Latino, and Indigenous people in particular - and women across races are underrepresented in clean energy jobs so far. Communities where clean energy projects are installed may not see lower electric rates or other direct benefits from the installation. As the country increasingly transitions to wind and solar power, it is essential that equity considerations are kept front and center.

Telecoms and Clean Energy

Part two of the report (slated for publication in spring 2022) will assess the major telecom companies' progress towards clean energy and energy justice. The evaluation will examine the three largest telecom companies - Verizon, T-Mobile, and AT&T - concerning their greenhouse gas emissions, and the extent to which the electricity they purchase is generated by companies leading (or lagging) on selected energy justice markers. Starting in 2017, Green America's *Hang Up on Fossil Fuels* campaign has urged the three largest telecoms to rapidly transition to renewable energy, and in response, they've made some of the largest corporate purchases of solar and wind power. Now, in order to address climate change and promote equity, all three companies need to transition to 100% renewable energy by 2025 and need to do so in a way that centers benefits to workers/business owners in disinvested communities, including those most harmed by fossil fuels.

One of the most powerful ways corporate clean energy purchasers can advance equity is through the choice of energy producers they choose to meet their clean energy commitments. Energy producers vary widely in their adoption of justice, equity, diversity, and inclusion measures and the impacts they are having on disinvested communities. Our energy justice assessment looks at publicly available information on the extent of community stakeholder consultation and decision-making power, power plant siting, energy burdens,

and economic opportunities provided by the companies to people with underrepresented identities in the energy sector.*

Goals of this Report

We hope this report begins or supports your understanding that the clean energy transition is one that must, at every turn, ask the question: "Will these actions rectify existing inequity, and intentionally create opportunities for those who have been excluded from its benefits?" And we hope that where the answer suggests a perpetuation of exclusion of communities and individuals bearing the brunt of dirty power production, you are inspired and empowered to demand that those accountable to you do things differently- whether they be the companies you support with your dollars or the officials you elect with your votes.

We also hope that this report accelerates the efforts of corporations to incorporate energy justice into their clean energy transitions. It is not enough for corporate actors to announce a clean energy goal. They need to fully evaluate and remediate the impact on disinvested communities and people who have been left out of the energy economy to manifest the full benefits of the shift to 100 percent solar and wind power.

**The authors would like to acknowledge that these energy justice markers, though devised before the publication of ACEEE's Leading with Equity Initiative Report, do track closely with that report's identification of procedural equity, distributional equity, and structural equity categories against which to score government and utility policies. ACEEE reported having adapted this framework from a 2014 publication titled Equity in Sustainability: An Equity Scan of Local Government Sustainability Programs by Angela Park. Although the energy justice markers we use in this report fit well within the categories of procedural, distributional and structural equity, they were devised and chosen by the authors based on their own assessments and expertise.*
Drehobl, A. 2021. ACEEE's Leading with Equity Initiative: Key Findings and Next Steps. Washington, DC: American Council for an Energy Efficient Economy. https://www.aceee.org/sites/default/files/pdfs/leading_with_equity_final_12-7-21.pdf.

The Climate Crisis: Code Red

The climate crisis is no longer looming—it is here.

The climate crisis is no longer looming—it is here. There are no shortages of reports, op-eds and news stories[6] underscoring the fact that increasingly severe storms,[7] wildfires,[8] biodiversity loss,[9] disease,[10] extreme heat,[11] sea-level rise,[12] and other catastrophic impacts of human-induced climate change have infiltrated our global experience of life on Earth. The disruption scientists foretold for decades is no longer a distant projection, and even

politicians previously aligned with climate-denial factions acknowledge that sea-level rise is a problem.[13]

The costs—human and financial—are overwhelming.[14] In the US during 2021, as unprecedented flooding swept Tennessee, wildfires raged stronger than ever in California, a deadly record-breaking heat wave hit the Pacific Northwest,[15] and the intensity of a tropical storm took New York by surprise, a renewed sense of urgency and influx of resources from the Biden administration presented hope, and a slim window of opportunity. But in order to deflect the most devastating impacts of climate change, climate scientists in the 2021 Assessment Report[16] from the Intergovernmental Panel on Climate Change (IPCC) agree we must slow the rate of global warming to no more than 1.5 degrees Celsius/2.7 degrees Fahrenheit above pre-industrial levels[17]—and that this intervention is becoming increasingly unlikely, given the rate at which the developed world continues to emit greenhouse gases and the temperate commitments recently made by the UN at COP 26.[18]

The Biden administration initially signaled an urgent and clear commitment to reducing emissions; one of Biden's first acts as president was re-joining the global Paris Agreement[19] commitment to reduce emissions to keep warming from surpassing 1.5 degrees Celsius. To achieve that and avoid crossing the critical two degree warming threshold—where conditions could deteriorate such that our ability to grow food could be compromised[20]—America is All In estimates that the power sector will need to cut its emissions 83% to meet the U.S. goals of reducing emissions 50% below 2005 levels.[21] The current (Q1 of 2022) federal legislative failures to back commitments through the Build Back Better Act,[22] as well as a continued proliferation of fossil fuel development authorized by the Biden administration,[23] elevates the importance of private sector action to accelerate a just, clean energy transition.

With the US' insatiable appetite for energy, and economically disadvantaged countries striving for increased energy access to support enhanced living standards, reducing emissions consistent with IPCC recommendations seems an overwhelming prospect. Nevertheless, it is a challenge we can overcome. One key component: aggressive, urgent, and full transition to renewable energy.

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“The fastest and largest way to cut emissions by 2030 is likely through the way we generate electricity.”

“The fastest and largest way to cut emissions by 2030 is likely through the way we generate electricity,” NPR’s Science Desk’s Lauren Sommer states, referencing the US’ Paris Agreement commitment to cut greenhouse gases 50% by 2030.[24] As the proportion of energy generated from clean, renewable sources increases, a corresponding proportion of fossil fuel-generated energy should decrease, though this assumes energy demands remain static (which is unlikely).

A comprehensive approach to halting the worst effects of climate change will require increased energy efficiency and accompanying decreased electric demand; investment in and preservation of wild forests, peat bogs, and restorative agriculture which capture and store carbon already present in the atmosphere[25]; and rapid movement toward decarbonization in numerous sectors including transportation, buildings, and industry.** Nevertheless, the siting of energy production is a a critical priority and a focus of this report.

By focusing on increasing the proportion of energy produced by solar and wind, and moving toward the

elimination of fossil fuel-generated power, we can make relatively quick, highly effective progress toward reducing emissions.

It's an ambitious and necessary proposition. The US must install 85 GW of renewable energy (solar and wind) each year through 2035 to achieve emissions reductions targeted in the current proposed Clean Electricity Performance Program legislation, which aims for 80% reduction in carbon emissions in the energy sector by 2030 and going to 100% decarbonization by 2035. The country is on track to bring on 63 GW of new renewable energy in the next two years and more expansion is needed to hit the 85 GW target.[26] The Solar Energy Industries Association (SEIA) has set a target for solar to make up 30% of U.S. energy generation by 2030, an increase from the previous target that the association says better aligns with the urgency of climate change and growing federal support.[27]

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***An important distinction should be made between preservation and restoration of natural ecosystems for resilience, carbon capture, biodiversity, and other ecosystem benefits, and "nature-based solutions" which permit fossil fuel companies to "offset" emissions by creating monoculture farms that may displace people in order to serve corporate ESG targets. For more context, see Beware Industry-Backed 'Nature-Based Solutions' Scam, Warns Global Climate Coalition (commondreams.org)*

No False Solutions: Greenwashing and Authenticity in Clean Energy

Image: Kaunas, Lithuania, Biomass power facility. It can take decades for a newly planted tree to grow and sequester the same amount of carbon released when a tree is cut for biomass.

When companies are seeking changes to their energy sourcing portfolios, it's imperative that they are authentic in their pursuit of clean energy and reject "false solutions."[28] [29]

Not all energy production bearing the name of "renewable" is truly clean, when environmental and social impacts are fully considered. Most notably, energy production using natural gas, biomass power, nuclear power, waste-to-energy incineration, and carbon capture and storage (CCS) technology are billed as "renewable energy" even though in practice, they either emit carbon, present other dangerous environmental risks, or both. Claims that natural gas is necessary to aid in "bridging" the transition to clean energy are contradicted by recent

economic analyses,[30] and reports indicate natural gas investments have become a losing proposition financially.[31]

The Biden administration is under pressure to halt the proliferation of Liquid Natural Gas given its inequitable, damaging impacts.[32] Biomass burning both emits carbon and toxic chemicals, and destroys important carbon storage potential from previously living trees/plants.[33] It can take decades for a newly planted tree to grow and sequester the same amount of carbon released when a tree is cut for biomass.[34] According to Dogwood Alliance, a North Carolina-based organization working with communities to protect southern forests from industrial logging, "Wood pellet production is twice as likely to occur in environmental justice-designated communities."[35] CCS has been rightly criticized for being energy intensive in and of itself, as well as presenting risks to the public by injecting carbon into the ground with unknown long-term impacts to the surrounding community.[36] The financial efficiency of CCS has been called into question, as well.[37] In all cases, these methods of generating energy historically and inevitably also disproportionately burden communities that already suffer cumulative environmental impacts.

Companies seeking to truly advance climate goals and invest in renewable energy must critically assess energy producers' claims that their power is produced "renewably", with solar, wind, and efficiency being legitimate clean energy sources.

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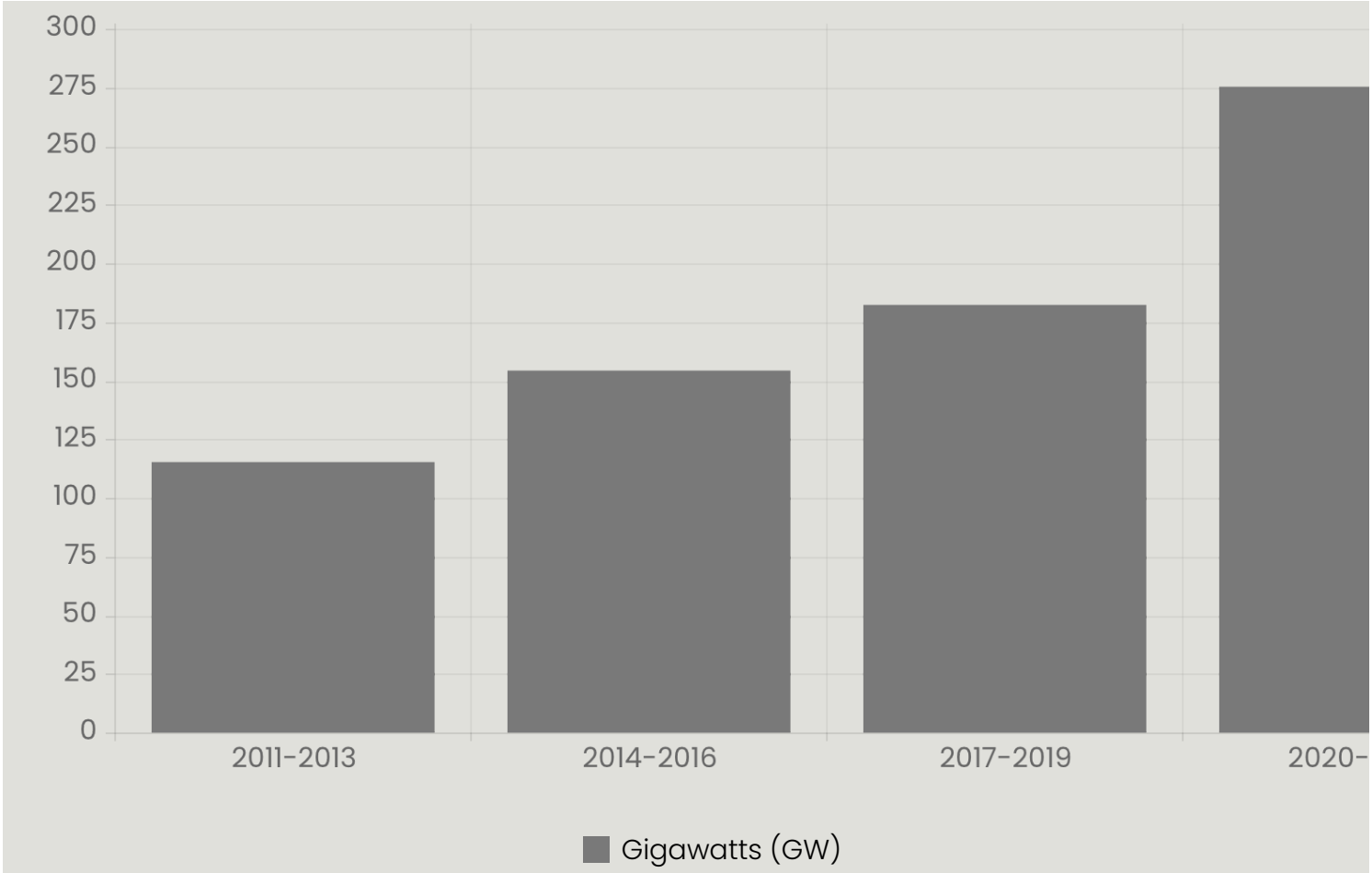
Renewables on the Rise

The last decade has produced rapid growth in both solar and wind-generated power industries, spurred by a combination of factors including decreased costs via economies of scale, policy initiatives, and the cultural feedback loop resulting in increased popularity.[38]

Like many sectors in 2020, solar developers experienced the strains of supply chain disruption during the COVID-19 pandemic. In the first half of 2020, residential and commercial markets in the US stalled; however, these recovered and experienced growth throughout the rest of the year. Sol developers had to increase prices in the second quarter of 2021 due to rising commodity prices and increased shipping costs throughout 2020. Supply constraints did not cause solar projects to be canceled but did result in delays or contract renegotiations to ensure installations could be completed. Smaller solar companies with less existing inventory than larger businesses were forced to increase prices on projects. SEIA projects that if prices remain high due to supply constraints, the effects will be felt by most of the solar industry by early 2022.[39]

Global average annual net renewable capacity additions, 2011-2022



Data Source: International Energy Agency - "Exceptionally high capacity additions become the "new normal" in 2021 and 2022, with renewables accounting for 90% of new power capacity expansion globally."

It's not all negative, however; globally, renewables were the only energy source that experienced increase in demand in 2020 – expanding more than 45%, almost 280 GW, from 2019 – despite the pandemic. This growth was led by global wind capacity additions which increased more than 90 in 2020 to reach 114 GW. The demand increase was driven in great part by policy demands in Chi which was responsible for over 80% of the increase in annual installations as new onshore wind and solar PV projects.[40] As for the United States, in 2020, a record of nearly 9.6 gigawatts of utility-scale solar capacity came online, bringing the total installed capacity to roughly 48 gigawatts.

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capacity to roughly 48 gigawatts. ”

As the World Resources Institute recently noted, however, growth of these industries is likely subje to an “S Curve”; that is, a point at which rapid growth begins to level off, absent intentional and effective methods of sustaining aggressive expansion.[41]

As policymakers and renewable energy companies and investors plan for a sustained clean energy transition, it is imperative that the question of equity is front and center in both policy and implementation.

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Energy and Equity: An Overview

Structural racism,[42] gender inequity,[43] anti-LGBTQ discrimination,[44] and other forms of systemic oppression have plagued the United States since its inception and undergird its institutions.

It is no surprise, then, that inequitable outcomes along societal stratifications persist around the impacts of and access to energy, its costs and burdens, and access to its benefits. In response to this reality, activists increasingly tackle the specific pursuit of energy justice, defined as "the goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those disproportionately harmed by the energy system," which, "explicitly centers the concerns of communities at the frontline of pollution and climate change ("frontline communities"), working class people, Indigenous communities, and those historically disenfranchised by racial and social inequity."[45]

At the urging of environmental and social justice advocates, the Biden Administration acknowledged the need for investments in a clean energy transition to be directed toward ameliorating past harms and creating opportunities for environmental justice communities. The administration promised that federal agencies would direct 40% of new climate and clean energy investments into disadvantaged communities (Justice40 Initiative) and as of December 2021, the US Department of Energy has begun to roll out grants and programs in support of this initiative;[46] of course, the extent to which this promise is fulfilled remains to be seen.

Environmental justice advocates, including at least one member of the White House Environmental Justice Advisory Council, have critiqued the 2021 infrastructure package for falling short on explicit language to designate benefits in accordance with Justice40,[47] and others note that state governments will have outsized control over expenditures.[48] The environmental justice community will likely need to carefully watchdog and advocate to ensure that federal dollars are being spent in alignment with Justice40 objectives. State-level

recognition of the need to rectify inequity is also increasing; Maine, Illinois, Colorado, Massachusetts, Hawaii, and Connecticut all passed legislation in 2021 aimed at improving energy equity.[49]

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Inequity intersects with energy in several major ways:

1. Emissions-generating energy production on-site (i.e. fossil fuel-fired power production) disproportionately burdens marginalized people in disinvested communities[50]—power plants using fossil fuels and emitting toxins which degrade air and water quality are overwhelmingly located in neighborhoods that are predominantly Black, Latino, Indigenous communities, and poor,[51] and disproportionately impacts women in these communities.[52]
2. The broader impacts of climate disruption resulting from fossil-fuel combustion energy generation excessively negatively impact marginalized people, as well.[53] For example, in the US and across the globe, the stressors of sea-level rise, ocean acidification, severe storms, drought, heat waves, and wildfire[54] cause more harm to people who are Black, brown,[55] women,[56] disabled,[57] and poor. The gravity of this injustice is especially magnified, considering that households in the stated community groups contribute less, on average, to climate change-causing emissions. Similarly, internationally, the Global South bears the brunt of climate disruption, even though per capita emissions outputs by the developing world are dwarfed by that of heavily industrialized nations like the US.[58] Although these impacts fall under the term "climate justice" (not solely energy

justice), the magnitude of harm and its inextricable link to electric production compels us to give it attention in this report.

3. Black, Latino, and Indigenous communities are more likely to suffer an increased energy burden under existing energy infrastructure; in other words, a larger proportion of these incomes go to powering homes, as compared with white energy consumers.[59]
4. The benefits of the clean energy economy—economic and otherwise—have skewed away from marginalized people and clean energy jobs disproportionately benefit white men.[60]

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Dirty Power Overly Impacts Frontline Communities at the Local Scale

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The US Environmental Justice movement[61] [62] arose, in part, out of clear evidence that communities of color bear disparate impacts[63] across the nation—a term recognizing that where environmental degradation is overly concentrated in communities with specific demographics, environmental injustice is being inflicted. A disparate impact need not be intentional—in other words, even if a community's demographics are not the *stated* reason for imposing those burdens, where the *effect* amounts to disproportionate harm through systemic marginalization, the injustice remains.

This concept applies across other areas of the law, as well; without this delineation, companies causing harmful environmental impacts on already suffering communities could (and have) simply cited cost, zoning, or other factors which, on their face, are unrelated to demographics. Fortunately, after years of pressure from social and environmental justice advocates, US law has recognized that the outcome matters; where environmental degradation creates a disparate impact on an already disadvantaged community, it can be defined as an environmental justice issue and under certain statutes and case law, halted.

In practice, however, power plants using fossil fuels and emitting toxic chemicals are still overwhelmingly sited in underinvested communities, including communities already facing cumulative burdens (for example, where there is already a sewage treatment plant and a transportation hub).

According to a National Association for the Advancement of Colored People (NAACP) report, 68% of African Americans[64] live near a coal-fired power plant.

As a result of disproportionate toxic exposure, "African-American children are three to five times more likely than white children to visit an emergency room due to an asthma attack and two to three times more likely to die of an asthma attack."[65]

This tragic disparity is unsurprising when one considers data like those reported in "Fumes Across the Fence-Line," a recent study by the Clean Air Task Force, which found that "African Americans are exposed to 38 percent more polluted air than White Americans, and they are 75 percent more likely to live in communities that border a plant or factory."[66] "Latinos are also disproportionately exposed to these toxic chemicals. A 2016 report from the Clean Air Task Force states that "the air in many Latino communities violates air quality standards intended to protect human health" and "Latino children are more likely to die from an asthma attack than white children."[67]

Indigenous communities face a unique burden, in that despite legal classification as sovereign nations,[68] corporate and governmental encroachment persists, with detrimental impacts to land, water, air and species upon which they depend economically and culturally.[69] In recognition of the uniquely sovereign nature of tribal nations, the movement[70] to require free, prior and informed consent ("FPIC") of tribal nations before developing on or near their territories specifically addresses the level of stakeholder autonomy and power needed to honor sovereign rights.[71]

One glaring and notorious example of a violation of FPIC relating specifically to energy justice is the forcible development, sanctioned by the Trump Administration, of the Dakota Access Pipeline.[72] The oil pipeline presents a direct threat to the drinking water supply for the Standing Rock Sioux people, whose human rights were violently violated during the Standing Rock protests in 2016; the pipeline was built nevertheless, in direct conflict with FPIC.[73] In a context of historical colonization, displacement, genocide and ongoing oppression against Indigenous people in what is currently the United States, this movement is unfortunately, necessary and ongoing. As a result, the discourse around corporate ESG (Environmental, Social and Governance) includes the corporate responsibility to ensure FPIC in investments and corporate impact.[74]

“Where a company promises to balance its dirty power production with clean power by developing renewables only in wealthy or rural areas—hence theoretically “canceling out” its emissions—marginalized communities continue to bear the brunt of dangerous, toxic emissions. ”

One important and insidious development to note is the proliferation of “net zero” targets, which can lead to emissions-producing power generation being further concentrated in overburdened communities. Where a company promises to balance its dirty power production with clean power by developing renewables only in wealthy or rural areas--hence theoretically “canceling out” its emissions--marginalized communities continue to bear the brunt of dangerous, toxic emissions. This sort of inequitable distribution of burdens--resulting from the false assumption that emissions reductions are all created equal and treated as fungible--is evident in the environmental injustice problems created by carbon trading schemes.[75] For companies like the telecoms, supporting the development of clean energy onto the grid in communities that would benefit most from emissions reductions--not just where it’s cheapest to develop--is imperative.

The harmful impacts of fossil-fuel power production in environmental justice communities are well-known and yet persistent. Even under the hopeful scenario that no *new* fossil-fuel powered generation capacity is brought online, existing fossil fuel generation is currently harming frontline communities, and will continue to do so as long as it is in operation.

Fossil fuel-generated power, at its very essence, perpetuates cycles of environmental and health disparities.

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Climate Change Impacts are Harder on Disinvested Communities

Pollution coming directly from dirty power plants isn't the only problem that disproportionately impacts communities of color and low-income communities.

Climate change, as accelerated by fossil fuel combustion, disproportionately impacts communities of color in the US, as well as disproportionately impacting people in developing countries, small-island developing states (SIDS) and across the global South—the vast majority of whom are Black or brown. From devastating impacts of increasingly severe storms, to increased exposure to drought, to susceptibility to losses in biodiversity from climate change, it is the most marginalized who suffer the most dire consequences of climate change—even while contributing the least to the problem.[76] In the US, a 2019 study found that "air pollution is disproportionately caused by white Americans' consumption of goods and services, but disproportionately inhaled by [B]lack and Hispanic Americans."[77]

In the US, a 2019 study found that "air pollution is disproportionately caused by white Americans' consumption of goods and services, but disproportionately inhaled by [B]lack and Hispanic Americans."[77]

In the US, Hurricane Harvey in 2017 generated disparate levels of flooding throughout Texas, in which racial and ethnic minorities, as well as low-income households, were more heavily impacted by floods than white and affluent neighborhoods.[78] In the same year, Hurricane Maria devastated the island of Puerto Rico, a United States commonwealth,[79] and the response by the United States government to widespread devastation, extended power outages, and insufficient basic supplies was notoriously attributed to environmental racism.[80] While local solar generation plus battery storage proved to be helpful in establishing resilience to power outages among some residents in New Orleans following Hurricane Ida,[81] the burden of resilience cannot be imposed on individuals alone, and may be unavailable to the many marginalized families that do not own their homes, and unaffordable to those who do.

Particularly in urban centers, activists are bringing attention to the disproportionate extreme heat burden that Black and brown communities face as the globe warms.[82] Heat waves, exacerbated by the heat island effect in environmental justice communities lacking green space,[83] pose outsized risks to marginalized people by increasing the cases of heat stroke, respiratory issues, and exacerbation of other pre-existing medical conditions.[84] For example, heightened temperatures contribute to ground level ozone, which aggravates asthma; where people living in heavily urbanized environments are more prone to asthma to begin with, this feedback loop of degraded air quality makes communities even more vulnerable.

It's imperative, in light of these realities, that companies serious about rectifying social injustice reduce their contribution to the problem, by reducing their emissions and ensuring that they are not supporting industries that relegate dirty power production to overburdened communities. Put simply, more fossil fuel combustion results in more emissions, which cause faster, more severe climate impacts. This leads directly to more harm to marginalized people. When companies take action to reduce emissions by procuring clean, equitably developed energy instead, there is an extent to which some of the burdens placed on marginalized communities is reduced by default.

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Inequitable energy burdens: Paying More for Less

Inequity[85] persists at the electric socket, as well. The "energy burden"—the proportion of income used to power a home—on Black, Latino, and Indigenous[86] households is much higher than in white households not classified as low- or fixed-income.[87]

This is often a function of inefficient, non-weatherized housing and outdated, inefficient heating and cooling systems in environmental justice communities, as well as statistically lower household incomes overall. A recent report found that energy burdens increased as a result of the COVID-19 pandemic, as well.[88] Even more troubling, households living below the

poverty line were three times more likely than higher-income households to have their electric service disconnected for non-payment during the pandemic.[89]

The historic patterns of inequitable energy burdens which continue today, however, supersede the pandemic and result in what has been coined "the energy paradox," in which "per capita emissions are higher in Caucasian neighborhoods than in African-American neighborhoods, even though the former live in more energy-efficient homes (low energy use intensity). This emissions paradox is explained by differences in building age, rates of home ownership, and floor area in these communities," and "historical housing policies, particularly "redlining."[90] Research has even shown that replacing inefficient lightbulbs--often regarded as "low-hanging fruit" which reduces residential energy use--can be cost prohibitive and unavailable in low-income neighborhoods.[91]

The American Council for An Energy Efficient Economy (ACEEE) found that the financial energy burdens on Black, Hispanic,[93]** and Native American households were 43%, 20% and 45% higher than the burdens on non-Hispanic white households, respectively.[94]

The outcome, irrespective of the reason, underscores just how deeply linked energy and racial/ethnic inequity are in the U.S.: "According to the American Association of Blacks in Energy, African Americans spend on average $41 billion on energy, yet only hold 1.1 percent of energy jobs and gain less than .01 percent of the revenue from the energy sector. On average, African Americans also pay a higher proportion of their income on energy than the general population."[92]

The American Council for An Energy Efficient Economy (ACEEE) found that the financial energy burdens on Black, Hispanic[93] and Native American households were 43%, 20% and 45% higher than the burdens on non-Hispanic white households, respectively.[94] To quote Deputy Director for Energy Justice at the US Department of Energy Shalanda H. Baker, **"communities of color are disproportionately subsidizing an energy system that is killing them."**[95]

Disparate energy burdens extend even to the capacity of marginalized communities to partake equitably in moving to affordable clean power through solar installations, for example. One recent study conducted in California found that due to underinvestment in the power grid in disadvantaged communities, including majority-Black neighborhoods, on-site solar generation would be limited unless special--and expensive--batteries are made available.[96]

In some cases, a lack of access to the electric grid creates outsized burdens for folks who have to travel and acquire fuel for generators; Native Renewables is one group seeking to create access and reduce energy burdens for Native Americans by assisting with off-grid solar installations.[97] Underinvestment in infrastructure plaguing environmental justice communities presents cascading and cumulative disadvantages that extend to energy inequity.

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** *Green America recognizes and acknowledges the discourse around the use of the term "Hispanic" verses "Latino/Latinx" to describe individuals with heritage from Spanish-Speaking countries in Latin America, that "Latinx" and "Hispanic" are not racial classifications, and that individuals may identify as "Black" and/or "White" as well as Hispanic/Latinx. The terms used in referencing these statistics mirror those from the cited report.*

Clean Energy Economy Cannot Exclude Women & Communities of Color

Reducing the disproportionate impacts of energy generation and the disparate costs of energy, however, is not enough to create equity.[98] **There are numerous *benefits* to clean energy production and the transition to a clean energy economy, and real energy justice demands that they also be equitably distributed.** Most obviously, the clean energy movement presents a multitude of economic opportunities for those who partake in this now-flourishing industry. Here, too, marginalized people—especially Black people and women—are underrepresented and locked out of leadership.

A recent report found that Black workers are underrepresented in the clean energy economy by 40%, and women, despite making up over half of the workforce, represent less than 30% of all workers in the sector. By contrast, 6 out of 10 clean energy jobs are held by non-Hispanic whites, the vast majority of whom are men.[99] To be clear, the energy industry as a whole is notorious for overrepresentation of men[100] and whites;[101] while clean energy companies perform slightly better in this regard, the path to a clean energy transition presents an opportunity to break with fossil fuels' exclusionary culture.

Of note, these statistics reflect disparities among the clean energy economy *workforce*, specifically--that is, they do not speak to disparities in high-level leadership and ownership of companies engaging in the clean energy economy. As recently as October 2020, data indicated that Fortune 500 CEOs are still overwhelmingly white and male.[102] Executive-level leadership among racial minorities across the corporate sector continues to lag relative to their proportions of the US population, with only a slight improvement among Hispanics.[103] In the energy sector specifically, women are significantly underrepresented in leadership positions, with only 12% of senior management positions held by women.[104]

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Companies Can Make a Difference to Foster Energy Justice

One critical way in which companies including the telecoms - the focus of Green America's *Hang Up on Fossil Fuels* campaign - can facilitate *equitable* distribution of clean energy benefits is through their choice of clean energy supply. That is, it's not enough to simply ensure that power purchased is from, for example, a solar farm.

To maximize social benefits, companies need to source from clean power companies that intentionally create opportunities and benefits for marginalized people.

Examples include clean power companies that are minority and/or women-owned or led, that provide community solar project services sited locally and serving low-income housing, that have robust and proven hiring and promotion practices to facilitate diverse and inclusive leadership, and clean power companies that advocate for equitable and sustainable laws and regulations.

By contrast, while a power producer may have a portion of its power production portfolio generated by wind or solar, it may also actively lobby against policies which would advance energy justice, fight to site fossil fuel-powered power plants within already-burdened communities and realize most of its profits from dirty power sources that continue to exacerbate the climate crisis. Sourcing from such a utility company, even when the energy is "clean", cannot be genuinely framed as a choice in support of energy justice, when one considers its investment in perpetuating existing environmental injustice. In common parlance, a company "talking out of both sides of its mouth" cannot be framed as a socially or environmentally responsible choice.

To help companies make better choices and truly advance energy justice, Green America created the Social Impact List for RFPs. This list includes a set of criteria against which companies including the telecoms can judge the social impact of their prospective energy sources, enabling decision-making that better supports energy justice progress. As noted by the Greenlining Institute, which advocates at the intersection of environmental and social injustice, **"Historically, when public utilities contracted with outside suppliers, they did so using an 'old-boy' network, which denied economic opportunity to businesses owned by people of color and by other historically marginalized groups."**[105] It will take intentional and methodical choices on the part of company leadership to ensure that procurement is handled differently than it has been in the past.

Energy justice is both environmentalism and social justice. The inextricable connection between social oppression and environmental degradation means a solution for either must tackle both. In fact, the intersections between racism, sexism, classism, fossil fuel production, environmental degradation, health, and climate change are firmly entrenched,[106] and artificial compartmentalization creates gaps and delays that we cannot afford.

A clean energy movement that does not proactively correct inequitable distribution of its costs and benefits is failing to fully live up to its promise.

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Voices From the Energy Justice Movement

Leaders at the intersection of social justice and energy are working to ensure that the clean energy transition moves forward explicitly addressing the historic and current inequities in the energy industry. In this section, we'll highlight the perspectives of several leaders in the energy justice space, doing the work of fostering inclusivity specifically in the solar energy field.

Vote Solar: Engaging Affected Communities is Critical

Olivia Nedd, Policy Director, Access & Equity Program at Vote Solar, emphasizes the need for policy development around energy to include the people being most impacted. Her role at Vote Solar, which aims to advance clean, just energy at the state legislative and regulatory levels, is intervention.

"Sometimes those of us in the clean energy transition movement become so focused on deploying megawatts that we don't stop to think about who is benefitting."

Olivia Nedd, Policy Director, Access & Equity Program at Vote Solar

"Sometimes those of us in the clean energy transition movement become so focused on deploying megawatts that we don't stop to think about who is benefitting. Who has access to the technical assistance, lawyers, modeling experts? How are these decisions being co-created (or not) with impacted communities?" Nedd poses. Noting that oftentimes clean energy policies advance without appropriate consultation with EJ communities, she laments results where "the connection between what people are asking for and the policies being discussed just doesn't exist."

For example, when it comes to solar deployment, the barriers facing low-income and communities of color may be glossed over or not addressed at all, including owning older homes with pressing repair needs and/or not having access to home ownership (and thus, control over the home's roof) at all. To truly create an inclusive movement toward clean energy, these considerations of equity need to be "baked in" to the regulations in ways that account for and rectify disparate levels of access. **"What I'm looking for are tangible results that matter to people on the ground, in communities, now,"** Nedd clarified, adding that for most people in EJ communities, this comes down to creating a tangible benefit for the community that didn't exist before—whether that is a reduction in energy burden, or a benefit having nothing to do with energy at all.

Nedd pointed to one innovative strategy that spurred community solar deployment in Washington, D.C.[107] as demonstrative. The city's Solar for All program aims to bring the benefits of solar energy to 100,000 low to moderate income households. This program led the development of community solar and solar on affordable housing complexes, that's resulted in reduced electric bills, and the cost savings resulting from the project was applied to other critical community needs, including expanded childcare and safety measures. "True community solar," she explained, "is not the same as a utility program where a customer is actually financing a large solar farm; instead, the benefits go directly to the community, as in this case."

New Mexico's recent community solar bill[108] was a demonstration on how to develop clean energy policy equitably, in Nedd's estimation. She explained that the legislature essentially demanded that a collaborative and inclusive process inform the bill, which led to the launch of New Mexico's Community Solar Working Group. "I think what was key to the success of that bill was the leadership of individuals like Joseph Hernandez and Mayane Barudin, Tribal Liaison from the Kewa Pueblo, who literally went out into the community and fostered participation." This inclusion and amplification inform Nedd's recommendations for companies seeking to improve their contribution to energy justice—she implored companies, including the telecoms, who engage around clean energy policy to ask "who is showing up to speak? Do the people making decisions really have all the information? Or is access to the process exclusive?"

WE ACT for Environmental Justice: Ensuring Inclusion in the Clean Energy Economy

"It's the exclusion of real participation in decision-making that leads to all of the other environmental harms," explained Jasmine Graham, Energy Justice Policy Manager for WE ACT for Environmental Justice (WE ACT). WE ACT is the oldest organization in New York dedicated to "ensuring that people of color and/or low-income residents participate meaningfully in the creation of sound and fair environmental health and protection policies and practices." Furthermore, WE ACT has acted as the incubator for an innovative worker-owned minority business enterprise (MBE), known as Solar Uptown Now Services (SUNS) Cooperative.[109] SUNS was formed with the recognition that "to fully realize the economic benefits of a green economy, people of color need to secure an ownership stake in the solar and other renewable energy companies that power their communities."[110]

"It's the exclusion of real participation in decision-making that leads to all of the other environmental harms." Jasmine Graham, Energy Justice Policy Manager for WE ACT for Environmental Justice (WE ACT)

Graham told Green America that SUNS directly empowers its worker-owners to make decisions around projects it undertakes, including being positioned to negotiate key aspects of contracts like ensuring prevailing wages. "This is fundamentally different from the typical 'worker exploitation model,'" Graham explained, adding that this approach, "empowers workers to make sure that the benefits of the clean energy economy accrue to the people (mostly of color) who are working to make it happen."

SUNS evolved from a collaboration with Solar One and WE ACT to provide free training in OSHA 30 for basic construction and solar installation to low-income and people of color. When, despite their qualifications, the solar workers were having difficulty being hired by outside

companies, 10 graduates worked with the Bronx-based Green Worker Cooperatives to learn about operationalization of a cooperative.[111] This collaborative design was made possible by WE ACT's service as an incubator, highlighting the role of community-based organizations in tangibly implementing energy justice and to facilitate the ownership stake and autonomy that real energy justice entails. And it's working—SUNS recently signed a new contract to install over a megawatt of solar PV on rooftops throughout NYC.

Solar Uptown Now Services (SUNS) Cooperative Installation - WE ACT

WE ACT also engages in advancing community solar, but Graham was quick to point out that WE ACT specifically prefers projects that are community-sited and owned which deliver benefits locally and accomplish far more in the way of energy justice than, for example, large solar farms owned by utility companies and serving distant customers. Irrespective of ownership, ensuring that clean energy cost savings are equitably and locally distributed is essential. WE ACT's Community Power project illustrates this method.[112] Solar installed on

buildings owned by the New York City Housing Authority specifically and intentionally delivers low-cost, clean energy to surrounding residents living in affordable housing.

Asked what she thought about the role of the telecoms industry in energy justice, Graham told a personal story. In 2020, just days after moving into an apartment in Danbury, CT, the area was hit with a severe and unexpected storm[113]—increasingly common due to climate change. Power was down for close to a week for many in the area, including Graham. "Within 24 hours, I lost all cell service, because the cell tower generators stopped working and generators weren't sufficiently providing back up power; meanwhile, many roads were impassable," Graham recounted. "I didn't know the area well, and it took me almost two hours to get to my grandma's house—which was 20 minutes away-- for supplies, because Google maps wouldn't function." She went on, **"As climate disasters become more common and humans rely more and more on WiFi and cell service for basic needs, it would behoove the telecoms industry to get serious about ensuring its own energy supply isn't contributing to the climate crisis, and is reliable when these disasters happen."**[114]

Solar Uptown Now Services (SUNS) Cooperative Installation - WE ACT

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Breaking Barriers: Creating Resilience in Burdened Communities

When climate-fueled disasters hit, they hit poor, Black, Brown, and Indigenous communities hard. With chronic underinvestment in infrastructure and services, the impacts are often long-standing, as well; it is not uncommon in the aftermath of today's weather disasters for power to be out for days or even weeks, and this tends to be truer for communities already burdened by environmental injustice.[115] [116] For Chandra Farley of ReSolve Consulting and Founder of the Good Energy Project, this reality is not something to passively accept, and ensuring support during these times is an energy justice imperative.

"When we're talking about these concepts, my question is 'where can we demonstrate a *tangible* benefit of energy equity and energy justice?" Farley explained. Often, the technical conversation around energy seems disconnected from the everyday energy needs of residents in communities. Community resilience hubs powered by clean and stable energy sources marry pragmatic and urgent community needs with loftier, seemingly theoretical climate goals. While serving as the director for Just Energy at the Partnership for Southern Equity, Farley teamed up with key partners to create the Breaking Barriers project, aimed at establishing community resilience hubs to address emergency needs in some of the most energy-burdened zip codes in Atlanta.[117]

Paramount to making this happen is the installation of a solar microgrid and battery storage, eliminating dependency on the electric grid during an outage and creating an oasis during and post disaster. Farley identified the source of inspiration for Breaking Barriers in news of various initiatives with synergistic potential. "Groundswell, a member of Partnership for Southern Equity's Just Energy Circle, was piloting resilience hub projects in the DMV area," Farley noted, "and meanwhile the regulators here in Georgia were approving the utility's plan to own and operate battery energy storage projects."

With the Atlanta University Center Consortium, an association of several major Historically Black Colleges & Universities (HBCUs), located in the heart of a community burdened by disproportionately high energy costs, the team identified the institution as a community anchor for the project. Farley pointed to the importance of networks and relationships; having already worked with Art Frazier at Spelman College on improving the energy and water efficiency of buildings across the campus, Farley and her team of organizers were well positioned to approach the Center.[118] With technical assistance from National Renewable Energy Lab's Solar Energy Innovation Network and the local utility, Morehouse College will host one hub on campus, and a separate hub will be embedded in another choice location within the community. The implementation of the project is contingent on additional funding, which the partners continue to pursue.

Farley echoed the advice of all energy justice advocates Green America consulted around community leadership. Light-heartedly lamenting the simplicity of the answer to the question "how to work with communities," she answered, "ask them what they need!" She illustrated the absolute imperative of community consultation with a story about siting: **"We looked at the map and saw what appeared to be a great site for a resilience hub. After speaking with the community, we learned our assumptions were off."** In this case, factors like inaccessibility for seniors or issues with the surrounding neighborhood would be deterrents which could reduce actual use of the site. **Without listening to the community, she noted, the project team "wouldn't have had the benefit of knowledge that comes with lived experience, which is necessary to create tangible community benefits."**

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"The whole reason community solar exists is because of inequitable access to renewable energy," says Matt Hargarten, Vice President of Campaigns for the Coalition for Community Solar Access. "Energy equity is the impetus and forming public/private partnerships helps to remove some of the barriers to getting it done."

The Coalition brings together nonprofits and businesses across sixteen states around its mission to empower every American energy consumer with the option to choose local, clean, and affordable community solar; its members work to advance helpful policies, best practices, and implementation solutions to create "access to solar for all."[119]

Hargarten stressed that **"Unlike fossil fuel and big scale projects, community solar is small, low profile, quiet, clean," adding that the projects can produce tax benefits that are directed toward programs that the community chooses, from school funding to food security.**

Leslie Elder, the Coalition's Mid-Atlantic Director explained that community solar projects also work to improve aged infrastructure in areas where needed investments have fallen short: "The grid is in bad shape all over, but especially in rural, low-moderate income and BIPOC communities. The developers of community solar projects use their own capital, up front, to make necessary improvements and the costs aren't passed on to the customer in the way they would be through a rate case. This includes interconnection costs; we're talking millions of dollars per project."

Deploying community solar projects, like any new method, presents challenges and learning experiences for developers and policy proponents. Where customers are faced with potential cost increases, privacy concerns and burdensome paperwork requirements, engagement is likely to be thin.

Also, Elder stressed the fact that building trust is essential to actually making the programs work. **"You need to recognize that building long-term relationships with communities is essential; servicing frontline communities means working with people who have suffered historical trauma around energy development, among many other harms."** Without the

development of trust, backed up by integrity in actions and accountability for mistakes, community solar projects are unlikely to reach full subscription, undermining the potential for benefits to accrue to the communities they are aiming to serve.

Another challenge to success, which the Coalition for Community Solar Access is seeking to overcome in partnership with the Local Solar For All Coalition, is a dearth of policies intentionally aimed at creating energy justice.[120] "Even where developers want to ensure community benefits, sometimes the incentives just aren't there," Hargarten explained. The Local Solar for All Coalition, in response, is aiming to advance legislation that would allocate federal dollars for expanded investment tax credits on renewable energy specifically serving low-moderate income households. **"Biden's Justice40 goals cannot be met without community solar,"** Hargarten opined, and funds specifically designated to promoting community solar investments in burdened communities are essential to supporting their development.

"New Jersey is a leader in this space," Elder noted. "The policies there have teeth, so you see the investment happening." She went on to explain some of the more nuanced challenges that require government intervention to streamline the pathway to the most beneficial types of projects. For example, solar siting on a brownfield (former industrial site) providing energy to a frontline community seems, at first glance, to be an efficient way to create a benefit with minimal environmental and social burdens. "But it's more expensive—you might need to stabilize the earth more, there may be a structure there that needs to be reinforced or removed. You have to incentivize that kind of strategic project."

Even as these challenges remain, Hargarten pointed out that community solar is becoming a much more viable way to achieve a just transition. Costs are going down, states are passing helpful policies that direct benefits intentionally to low-moderate income communities, and federal goals are prioritizing community solar.[121]

Like all of the energy justice advocates Green America spoke with, Elder emphasized the critical importance of consultation with communities. "You can't build community solar if the community hates it; you need landowner buy-in. We definitely need more early-on facilitation around siting and especially within frontline communities, to create an open dialogue about what's really possible."

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Where Do the Telecoms Fit Into This Picture?

The *Clean Energy Calling* Report is designed as a deep-dive assessment of the impact of the major players in the telecoms industry on the current climate crisis and its potential to help advance a clean, just energy economy. In 2017, Green America's *Hang up On Fossil Fuels* campaign launched in recognition that telecom companies are currently significant contributors to the demand for energy; this is projected to ramp up as more of the developing world comes online, 5G technology becomes more ubiquitous and the internet-

of-things proliferates. Specifically, telecoms operators account for 2-3 percent of total global energy demand, and even with strategies to reduce reliance on emissions-generating power production and decrease energy waste in telecoms operations, this demand will escalate rapidly.[122]

As global society becomes ever more dependent on telecoms to conduct business and connect communities, telecoms also have the potential to influence national policy around clean and just energy. Telecoms companies already invest heavily in federal lobbying;[123] as the political influence of telecoms grows, its impact on national energy policy has the potential to advance or thwart the clean energy transition and energy justice trajectory.

For example, where telecom companies inject clean energy and energy-just sourcing into their strategic planning and operations, they may be incented to pursue national budgeting mechanisms that reward those investments (i.e., tax breaks or incentives), rather than backing or being neutral on fossil fuel-friendly subsidies. In fact, the "Justice40"[124] initiative by the Biden White House, aiming to deliver at least 40% of clean energy infrastructure investments to EJ communities, signals a political climate in which the telecoms could successfully push for energy-just policies with backing from the Executive Branch.

Unfortunately, two major telecoms, AT&T and Verizon, are using their influence to oppose the funding measures in recent clean energy legislation. AT&T and Verizon belong to the Business Roundtable, which lobbied against the corporate tax funding in the Build Back Better bill that would have provided over $500 billion in funding for renewable energy.[125] AT&T and Verizon also both made donations to Joe Manchin's Country Roads PAC in 2021, and Manchin's opposition to the Build Back Better bill derailed the legislation in December 2021.[126]

Such anti-climate progress action extends to propaganda in the case of AT&T; a 2021 Reuter's report found that the company funded One American News (OAN), notorious for spreading climate disinformation and other right-wing conspiracy theories.[127] AT&T's DirecTV platform ultimately dropped the network following public pressure, but denied the decision was driven by advocacy.[128]

The exploding popularity of ESG[129] considerations and emphasis on corporate responsibility by investors and advocates means such leadership by the telecoms is imperative as more and more companies are under pressure to "green" and incorporate social justice practices into their operations. Telecoms could take action to become leaders in this space. According

to one report, the communications sector as a whole "scores" better than other industries with respect to support for racial justice;[130] if aggressively pursued as a priority objective, the telecoms could become a conduit for advancement on energy and environmental justice. In fact, the same report scored the energy sector as a whole, *dead last* with regard to its racial justice policies and practices. Given overall trends in top industries where the "E" metrics far exceed the "S" accomplishments, the telecoms companies would need to make robust systemic changes, including their contracts for energy, to truly lead in the energy equity and social justice arenas.[131]

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Energy Sourcing: Where the Rubber Meets the Road

Perhaps the most tangible way in which the telecoms, and other corporations, can contribute to a just transition to clean energy is in the choices of their sources. Government bodies and corporate entities often rely on external contractors to fulfill specialized needs or acquire goods and services which they do not have the capacity to fulfill internally. In this procurement process, the acquiring corporation or government will issue a Request for Proposals (RFPs), and companies submit proposals or "bids" to fulfill the requirements of the RFP.

Companies and governments are empowered, through this process, to require environmental and social parameters as criteria for selection in the bidding process, which presents a powerful opportunity to select for just, cleanly-produced energy. As more companies interject environmental and social criteria into RFPs, power companies can be compelled to raise their own standards for equity and environmental responsibility in order to be competitive in winning bids.

With this in mind, Green America compiled a categorical criteria list to be used as a starting point for RFP requirements which would foster this shift. Here, we explain how the criteria on this list facilitates progress on inequity and environmental impacts, in order to move the telecoms (and other companies) toward a socially just, clean energy transition in energy procurement operations.

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Green America's List of Criteria for RFPs

Communities

Recognizing that frontline and environmental justice communities are often excluded from decision-making processes[132] about energy production and heavily impacted by siting of energy facilities[133] in their backyards, Green America recommends that contracted firms incorporate the following into their proposals and the contract:

- Commit to use only regenerative and non-extractive clean energy solutions that reduce pollution in environmental justice communities. Formally exclude waste-to-energy incineration and woody biomass power from what is considered renewable.

  It is well-established that fossil fuel burning power plants

emit dangerous toxic chemicals, infiltrating air and water, and imposing serious health hazards which disproportionately impact low-income and communities of color.[134] RFPs should explicitly exclude power purchases which contribute to these negative impacts by excluding fossil fuel-burning sources of energy production. Additionally, although some power companies may market technologies as "green" due to waste reduction[135] and a technical definition of fuel sources as "renewable,"[136] companies serious about energy justice need to look deeper.

It is increasingly recognized that "waste-to-energy" (the burning of trash to generate power) emits large quantities of greenhouse gases, undermining climate goals, and without cutting edge emissions-control technology and monitoring, frontline communities are at risk from toxic pollution.[137] Similarly, the incineration of woody biomass (trees) emits greenhouse gases, decreases carbon sequestration offered by living forests, and results in far more carbon than is currently accounted for.[138]

- Renewable energy projects should be sited in accordance with the desire of the community and benefit environmental justice communities to ensure that the most impacted communities receive the health and economic benefits of the clean energy produced.

  While there are generally benefits[139] to the siting of clean energy production infrastructure and facilities in environmental justice communities, there are also cases where siting could exacerbate disproportionate burdens.[140] For the best outcomes, siting should be done in consultation with the target community to ensure benefits are maximized and burdens are minimized.

- Projects built on or near tribal lands must recognize tribal sovereignty rights and include the leadership and consultation of Indigenous communities, particularly around energy sovereignty.

  As noted earlier in this report, a tenet of environmental justice with regard to tribal nations is the imperative to obtain free, prior, and informed consent (FPIC) when proposing to build on or near sovereign tribal land. RFPs should ensure that FPIC is obtained and Indigenous communities consulted, with appropriate concessions made to tribal nations for use of land impacting them.

- Incorporate processes for co-governance and collective accountability with frontline communities, as well as consultation with Tribal nations, where applicable.

  Where facilities are sited in or near frontline communities, formal and effective mechanisms should be established and followed to include community leaders in decision-making around facility operations (for example, proposed expansion, mitigation technologies, hours of operation). Formal mechanisms for accountability where agreements are violated or community input ignored should be in place and employed where appropriate, without obstruction.

- Proactively include representatives of the community to fully participate in decision-making processes that could impact them.

  In addition to establishing processes by which community leaders can participate fully in decision-making, power producers should be held to account to proactively solicit feedback, including good faith outreach, ample notice with appropriate publication, collaborative scheduling, language access/translation, and other necessary accommodations to ensure participation.

- Ensure accountability established by processes is adhered to, as judged by previously agreed upon criteria formed in collaboration with communities.

  Processes are only effective to the extent they are followed. Power producers should have accountability measures in place to ensure that if processes to include participation of affected communities are evaded or manipulated to advance power company interests, there will be deterring consequences imposed. The accountability measures for ignoring processes should be established in collaboration with community leaders.

- Foster local community control of energy production and benefits from energy production.

  Where power production is sited within or near impacted communities, economic benefits of the project - including jobs/contracts for developing, operating, and maintaining the project - are more likely to remain in the community. Additionally, where clean energy sited within an overburdened community enables decommissioning of emissions-producing power in the area, the siting produces a direct reduction in pollution.

- Not raise electric utility rates to pay for fossil fuel infrastructure or the company's mismanagement of industry by-products, such as coal ash ponds, if the firm has a history of reliance on or involvement in fossil fuels.

  Subsidizing fossil fuel generation and its impacts is directly contradictory to a just, clean energy transition. Under no circumstances should ratepayers be burdened with increased rates in order to fund the infrastructure or consequences of dirty power production, least of all low-income ratepayers and those living in overburdened communities.

- Ensure energy affordability and offer low-income energy assistance to under-served and environmental justice communities. This includes (but is not limited to) supporting rooftop solar on public and affordable housing; supporting community solar projects; and other actions to reduce the energy burden on lower- and middle-income households and ensure accessibility to renewable energy.

  As previously discussed in this report, low-income and environmental justice communities suffer disproportionately high energy cost burdens. A proactive mechanism to facilitate equity is providing financial financial relief to reduce this burden, and provide equitable access to on-site renewable energy. Power producers investing in these programs and avoiding harms should be prioritized for procurement.

- Ensure any public events or comment periods related to the project are widely publicized in relevant media and fully accessible to residents in environmental justice communities.

  Transparency in proposed projects, and the opportunity for participation in decision-making, require reaching people where they are and ensuring appropriate accommodations. This may include expansion to new media markets, physical posting on-site in community venues (including houses of worship, community centers, popular commerce sites), and facilitating two-way language translation and accommodations for persons with disabilities. In-person public meetings should be held in easily accessible locations within the community, with redundancy in various timing options to accommodate working peoples' schedules.

- Form Oversight Boards and Technical Advisory Groups that are composed of environmental justice communities and

frontline leadership.

Formal and official advisory input from the community is preferred, in addition to broader public participation opportunities. Where power companies form boards to advise on siting, mitigation technology, hours of operation, and other factors impacting frontline communities, leadership positions with decision-making power on recommendations must be vested with people who are regarded as community leaders by the community.

- Provide track records for community responsiveness and engagement around issues impacting the community.

  Power companies bidding on RFPs should provide verifiable records that detail community engagement, including how and where notice was provided for public input, the mechanism by which input was received, which community leaders were engaged, and what the producer did to maximize engagement. Where possible, companies should ground-truth these records with verification by leaders within the community.

Economic Opportunties

Entrepreneurship presents unique opportunities for individuals to create wealth, control their own resources, unleash innovation, and surpass institutional barriers to advancement that exist within companies. Although entrepreneurial success among some historically excluded groups is growing,[141] women and minorities face barriers to entrepreneurship, resulting in a significant gap.[142]

As recently as February 2021, one report indicated that women-

led start-ups received only 2.3% of venture capital funding in 2020.[143] Black-owned businesses may have difficulty accessing loans,[144] Latino(x) business owners face challenges in obtaining financing,[145] and barriers to indigenous communities reduce entrepreneurial opportunities, as well.[146] Companies can help level the playing field to create more opportunity for entrepreneurship among women and communities of color by prioritizing them in the procurement process.

When issuing RFPs, preference will be given to firms that are owned and led by historically excluded groups, especially Black, Latino(x), Indigenous people and women. Contracted firms ("firms") must incorporate the following into their proposals and the contract:

- Commit to a preference for minority-owned and women-owned contracts and subcontracts.

RFPs should explicitly include a preference for primary and subcontractors that are owned and controlled by women and minorities, with particular emphasis on Black, Latino(x), and Indigenous contractors.

- Conduct a good faith search for contractors who are minority and/or women-owned.

As mentioned previously in this report, it is insufficient for companies to rely on informal networks or past business relationships to find contractors, if they are to spur progress toward increased equity. To avoid perpetuation of the status quo, companies should conduct thorough searches for power companies that are owned and controlled by those historically excluded from the energy sector.

- Strive for a minimum of 30% subcontracts within the next five years to be with minority-owned and women-owned companies. Develop plans to increase the minimum threshold as minority-owned and women-owned businesses in the sector increase. Report out publicly on progress in achieving this goal.

Given the legacy of exclusion in the clean energy space and in entrepreneurship more generally in the US for women and minorities, companies may have difficulty procuring energy directly from women and/or minority-owned energy companies. In this instance, where a good faith search does not yield women and/or minority-owned contractors, companies can require a minimum threshold of 30% of subcontracts be granted to women and minority-owned businesses, with a preference for women who are also Black, Latino(x), and Indigenous.

- Ensure that selection criteria for RFP bids do not inadvertently discriminate in favor of white and male-led contractors.

RFPs should not include, and bids should not be accepted based on, criteria which is more likely accessible to historically advantaged people. For example, where unnecessary to perform the work, requirements for certain types of education, membership in male and white-led industry associations, leadership roles within male and white-led coalitions, and similar credentials may discriminate in favor of white men. As non-Hispanic white men already disproportionately benefit from the clean energy industry, these types of ancillary qualifications should not factor into procurement decisions.

- Publicize RFPs for clean energy contracts within environmental justice communities, including trade groups and community-based organizations committed to minority and women entrepreneurs.

To facilitate notice and access to RFPs, companies seeking to procure energy should publish RFPs broadly, specifically targeting

networks and associations that focus on increasing opportunities for women and minorities, especially Black, Latino(x), and Indigenous. Pre-release or preliminary notifications "behind the scenes" to existing networks and partnerships should be avoided.

- Support efforts to expand small business training, grants, and associated support which create clean energy entrepreneurship opportunities for people in environmental justice communities.

Given the historic and current disproportionate impact of power production on environmental justice communities, companies seeking to enhance their contribution to a just, clean transition should consider investing in programs which provide support to women and minority-owned businesses located in EJ communities.

Worker Justice

Worker rights and protections are central to social justice. When seeking to procure energy, companies should explicitly require that those bidding on RFPs adhere to best labor practices and use unionized workforces.

Preference will be given to firms with unionized workforces.[147] Contracted firms ("firms") must incorporate the following into their proposals and the contract:

- Support job creation, workforce development, and contract awards for Black, Latino(x), and Indigenous workers.

Preference should be given to energy companies that support,

politically and financially, efforts to create jobs and invest in workforce training for people of color. For example, where a company is located in a state that is striving to allocate funding for clean energy workforce development focused on communities of color, lobbying in support of such an initiative, and committing to hire graduates of such programs would be supportive of equity in the labor force.

- Incorporate diversity, equity, inclusion, justice, and belonging (DEIJB) throughout its workforce and across leadership roles or must have stated goals to increase diversity and reform culture in the sector.

In either case, DEIJB should include measures for accountability. As noted previously in this report, the energy sector as a whole, including clean energy businesses, suffer a dearth of diversity, with white men being disproportionately overrepresented, especially in leadership positions. Companies with firm commitments to increase diversity across the industry and within their spheres of influence should be given preference.

Measures to hold the company accountable to DEIJB commitments should include independent analysis of performance at regular intervals, anonymous surveying of staff and transparency in releasing survey results, publishing progress on DEIJB efforts on the company website, and ensuring that progress is measured through consistent/comparable indicators from the baseline metrics. Additionally, telecoms and other companies, when procuring energy from sources that are overly homogenous where other options are unavailable, should require companies to improve diversity in order to remain eligible contractors.

- Engage organized labor early in the process so that local contractors are notified and provide a strong neutrality policy to respect workers' rights to organize.

To ensure local and union contractors have ample opportunity to place bids, companies seeking to construct clean energy should notify labor organizers about projects, preferably before bidding begins. Companies should staunchly avoid negative messaging/stay silent concerning unions and their efforts and abide by a strong neutrality policy, to ensure workers are not dissuaded from joining efforts to organize.

- Engage with good faith collective bargaining or remain neutral in unionization efforts.

Employers are required by law[148] to enter into good faith collective bargaining; companies that attempt to evade, manipulate or otherwise undermine[149] unionization efforts to reach collective bargaining agreements should not win energy procurement bids.

- Ensure use of Project Labor Agreements (PLA), Community Workforce Agreements (CWA), and/or prevailing wage requirements for all construction.

Pre-arranged contracts like PLAs[150] and CWAs[150] enable the terms and conditions of construction projects to be negotiated by labor representatives to ensure fair treatment, prevailing wages, community benefits, and other worker advantages. Companies seeking to procure energy should seek suppliers that adhere to the best practices of using these mechanisms to ensure fair labor standards.

- Build and maintain the project under a Responsible Contractor Policy that includes affirmative performance, labor, environmental, and safety standards along with transparency and whistleblower protections.

To ensure that labor standards are upheld and not evaded by engaging subcontractors without worker protections, energy

companies that utilize Responsible Contractor Policies[152] should be prioritized for procurement.

- Include materials transportation, construction, operations, and maintenance in any responsible contractor policies or community workforce agreements.

Subcontracts to companies performing supportive services to prime contractors and/or other subcontractors should also be held to the standards established by responsible contractor policies and CWAs, even where those subcontracts are several steps removed from the prime, and even where those subcontracts surpass the timeline for prime contracts (for example, operation and maintenance).

- Practice local hiring, especially among frontline communities and women of color, and especially among Black, Latino(x), and Indigenous communities.

Local hiring in frontline and communities of color can help to diversify the energy sector and make progress toward distributing the benefits of the clean energy economy equitably. Local hiring also fosters economic benefits to the community in which energy is being sited, which can lead to overall improvement and strengthening of the local economy and thereby, its community services.

- Practice "fair chance hiring," so that prior conviction records are not a barrier to accessing good jobs.

Black and to a lesser extent, Latino(x), people are incarcerated at rates far higher than their proportions of the overall population in the US.[153] By practicing "fair chance hiring,"[154] employers can more equitably present opportunities for employment within the clean energy sector in ways that also reduce recidivism and improve public safety in the communities where projects are sited.

- Ensure jobs created by the project offer pay, benefits, and career opportunities consistent with area standards for conventional energy jobs.

Competitive compensation and opportunity can help to attract and retain candidates and contribute to strong workforce morale. For the clean energy transition to be effective and just, workers must be treated and rewarded fairly.

- Use federally registered apprenticeship programs to build a local workforce with equity targets to increase workforce diversity.

Also offering numerous benefits for employers, apprenticeship programs can foster equitable participation in training for those who cannot afford unpaid internships or other mechanisms for workforce development. They can also serve to enhance work culture through mentorship and professional development.[155]

- Provide "employee share"[156] programs to enable worker ownership of equity in companies.

Also highly beneficial to employers, employee share programs create literal investment by employees into the companies in which they work.

Environmental and Local Ecosystem Protection

Even the production of clean energy requires the use of land and in the case of offshore wind, ocean and sea bottom; interactions with wildlife and natural resources can and do occur. Developing clean energy infrastructure, to varying degrees, entails construction including the use of heavy equipment and vehicles, and is not devoid of local environmental and ecosystem impacts.

Companies seeking to procure clean energy that is generated in an environmentally responsible way should prioritize procurement from companies using best practices to mitigate local environmental and ecosystem impacts.

Contracted firms ("firms") must incorporate the following into their proposals and the contract:

- Construct projects that protect the local environment.

One innovative example of this is the deployment of "agrivoltaics",[157] whereby solar arrays are combined with projects that benefit the surrounding ecosystem. Where clean power production can simultaneously foster benefits to the surrounding environment, they should.

- Site (where practical), clean energy projects close to where the energy is used or projects should be sited on grids that have the highest emission factors, and thus the greatest potential to reduce emissions.

For maximum efficiency and reduced need for added transmission capacity, it is ideal to site clean energy projects close to the communities they power; notwithstanding the efficiency factor, this must be done in consultation and with the consent of communities impacted, especially environmental justice communities. Siting clean energy so that they contribute power to particularly "dirty" electric grids also serves to augment the benefit of clean generation; more emissions are avoided when clean sources displace particularly dirty sources.[158]

- Ensure that projects will identify and consider species of concern and their habitat (i.e., Tier 1 and Tier 2 analyses under the U.S. Fish & Wildlife Service Land-Based Wind Energy Guidelines and state equivalents) and consult with federal and state agencies to incorporate relevant science-based

recommendations, data, and information regarding protection of species.

Projects should never be built in critical habitats. When seeking to procure clean energy, companies should perform due diligence to ensure that siting and operations have been planned and implemented in such a way as to avoid impacts to species at risk and their habitats. Ideally, clean power generation and infrastructure should be sited on former brownfields that are inappropriate for uses other than industrial sites.[159]

One example of such a project is currently planned in New Jersey, where a former oil-fired power plant will be converted to a "connector", facilitating the delivery of offshore wind power to the grid without disturbing beaches or residential areas,[160] and similarly, an offshore wind connector in Massachusetts is planned for what was formerly the largest coal-fired plant in New England.[161]

- Voluntarily exceed the standards set by local, state, and federal regulators regarding wildlife and habitat preservation.

Complying with the law is the bare minimum; clean power companies that take extra steps to create additional buffers, employ technological advances to reduce impacts and wildlife interactions, and proactively implement measures to protect wildlife and habitat beyond what is required should be the preferred choice for procurement.

- For wind projects, ensure the project meets standard best management practices (e.g., WEGs, American Wind Energy Association BMPs), and that there is a bird and bat conservation strategy.

Wind turbines have substantial potential to produce emissions-free, renewable power; they do, however, pose a threat to flying wildlife (although much less than the threat from the fossil fuels

they are replacing). Advances in research around siting and technology are underway,[162] and wind companies that intentionally implement best practices should take priority in procurement processes.

- For solar projects, ensure that the PV modules and inverters are EPEAT certified, as available.

Life-cycle analysis of products is an important consideration that should be considered in choosing clean energy generation. For solar PV components, the Electronic Product Environmental Assessment Tool (EPEAT) identifies products that "meet environmental performance criteria that address: material selection, supply chain greenhouse gas emissions reduction, design for circularity and product longevity, energy conservation, end-of-life management and corporate performance.[163]

- Ensure that all relevant environmental studies have been completed.

Clean energy companies should willingly provide a checklist of all completed environmental studies assessing impacts to land, water, wildlife and other natural resources.

- Ensure projects protect environmental easements and prime or important farmland.

Clean energy companies should conduct due diligence concerning conservation and agricultural easements and design projects to avoid encroaching on land burdened by easements.

- Ensure and prove that all appropriate permitting is in place.

Clean energy companies should tender authentic documentation proving that they acquired all relevant permits to conduct the project, especially those required by environmental agencies.

Green America developed the above provisions with resources and recommendations from Just Solutions Collective, Vote Solar, and Elizabeth Silleck, Silleck Consulting Services, LLC. A primary resource was the Comprehensive Building Blocks for a Regenerative & Just 100% Policy.

New criteria and clarifications to the above may be added as best practices evolve in this growing sector.

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