

Clean and Just Energy is Calling: The Communications Industry Needs to Listen



**The need for communications
companies to advance
renewable energy and energy
justice**



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I. Executive Summary

Every day, most of us are using the internet and cellular services to stream videos, send texts, scroll through social media, and stay in touch with friends and family. Staying connected requires vast amounts of energy, much of which comes from fossil fuels.

To rapidly reduce greenhouse gas emissions and create an energy transition that benefits the people most harmed by the fossil fuel economy, the US needs to rapidly adopt wind and solar power. Corporations can play a unique leadership role in the transition to clean energy that promotes energy justice. Large corporate actors often use as much energy as entire cities or even small nations. If these market leaders contract for renewable energy that benefits Black, Latine, Indigenous and other communities facing environmental injustice, and work to improve the supply chains for clean energy, they can improve communities and provide opportunities for workers while meaningfully addressing climate change

As a major consumer of electric power, the communications industry can play a leading role in this transition.

The 10 top communications companies we looked at for this report collectively have nearly 600 million customers and \$474 billion in revenues. They are well positioned to be leaders in a transition to clean energy that creates energy justice.

Climate Impacts

Internet activities like streaming and texting and the production of computer hardware together accounted for 3.7 percent of global greenhouse gas emissions as of 2019. The climate footprint of the internet is increasing and may double by 2025¹. As communications companies continue to move to 5G, and as the amount of data stored and transmitted to their customers increases. The adoption of artificial intelligence (AI) technologies will dramatically increase their energy usage.

Key Findings

The 10 companies profiled collectively use at least 51 million MWh of energy annually, equivalent to powering 4.3 million homes, which is more households than found in each of 43 US states²

- Most of the companies are sourcing less than 10% of their energy from renewable sources, with several companies reporting 0% renewables.
- T-Mobile continues to be a leader in the industry in the use of renewable energy, reporting 100% renewable energy usage, although not all of that energy is putting new wind and solar power on the grid since they are using unbundled renewable energy credit (RECs)³ for much of their energy.
 - AT&T and Verizon are entering into significant contracts for renewable energy. And Verizon now has a goal of 100% renewable energy by 2030.
 - Comcast and Lumen have both taken minimal steps to adopt renewable energy, with renewables equaling 10% or less of their overall energy use.
- Much work remains to be done by the communications industry to leverage their market power to increase the use and availability of renewables and phase out fossil fuels.
- Many of the companies in the communications sector lack transparency regarding their environmental and climate impacts, adoption of renewable energy or clean energy goals, or any efforts to support energy justice through their energy purchases.
- Energy justice is poorly addressed by the majority of companies in the communications industry. Several companies have few, if any, publicly available policies addressing commitments to energy justice.
- Some companies do have supplier codes of conduct and/or policies on conflict-free minerals, many of which are core to the infrastructure of renewable energy

¹ https://theshiftproject.org/wp-content/uploads/2019/03/Lean-ICT-Report_The-Shift-Project_2019.pdf







































































² Comparison generated using <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

³ Renewable Energy Credits can be problematic and obscure greenwashing:

<https://www.spglobal.com/esg/insights/problematic-corporate-purchases-of-clean-energy-credits-threaten-net-zero-goals#:~:text=Using%20RECs%20also%20allows%20a,emissions%20could%20be%20sharply%20undercut.>

and have implications for energy justice, but it is unclear to what extent these policies are monitored or enforced. Several companies lack policies altogether.

2024 Communications Company Scorecard

Communications Industry Clean Energy Scorecard							
	Transparency	Renewable Energy Goal	Renewable Energy Usage	GHG Goal	Energy Justice	Overall Grade	Supply Chain Policy*
							Y
							Y
							Y
							M
							M
							N
							M
							Y
							N
							N

*For this report a grade was not assigned to the potential human and worker rights issues of supply chains, including the mining of essential minerals. Instead it is noted whether a company has a policy or not, and if there is a policy, whether it is minimal, (in the scorecard: **Y = Yes** | **N = No** | **M = Minimal**) While publicizing a policy is a good start, companies also must demonstrate how they implement their policies and ensure they are followed by their suppliers. There is more detail below about the strength of policy language in energy companies' supply chain codes.

Business case for renewable energy and energy justice

Moving to renewable energy can significantly reduce energy costs.

- An analysis by the research firm Dell'Oro Group found that telecom operators worldwide spent \$25 billion on electricity in 2021; this level of consumer power could be wielded to shift the market and influence policy. It also demonstrates the potential for savings as energy from wind and solar power is often already less expensive than that generated from fossil fuels.⁴
- T-Mobile estimates that its transition to renewable energy will save the company \$100 million over 15 years [iii]
- Consultant [McKinsey & Company notes](#) that energy makes up five percent of operating expenditures in telecoms, and as energy usage increases with 5G, energy efficiency measures and renewable energy could lower costs by 15 to 20% per year⁵.

Incorporating energy justice can also save companies money and reduce risks. Research demonstrates that Indigenous communities around the world, including in the US, are increasingly ensuring that they have free, prior, and informed consent regarding energy projects on their lands. Energy companies, including renewable energy developers, that ignore the voices of Indigenous communities are finding that projects are delayed or blocked from moving forward.⁶

Similarly, companies face reputational and legal risk from supply chains that include forced and/or child labor. Putting strong supply chain and conflict minerals policies in place, and then actively monitoring supply chains, can mitigate these risks.

⁴ <https://www.utilitydive.com/news/renewables-cheaper-energy-than-99-percent-of-us-coal-plants-just-energy-transition/642393/>

⁵ <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/the-case-for-committing-to-greener-telecom-networks>

⁶ Ignoring Indigenous rights is making the green transition more expensive | Grist

Goals for communications companies

To help drive the clean energy transition in the US while advancing energy justice, all companies in the sector should:

- Provide transparency regarding current energy usage and goals, as well as current contracts for renewable energy. All companies should also report scope 1, 2, and 3 emissions.⁷ Companies should report to the Climate Disclosure Project (CDP) to ensure their reporting is standardized and comparable to other companies in their sectors.
- Set a goal for 100% renewable energy that puts new wind or solar power on the grid by 2030 and enter into contracts to meet this goal.
- Set a net zero goal for emissions in line with the Science Based Targets Initiative by 2035. Several companies have a carbon neutral commitment, which is not as strong because it allows for carbon offsets⁸ and doesn't limit all climate emissions (including gasses other than CO2). Many companies have no commitment.

Companies must advance energy justice, based on criteria Green America developed with colleagues, through renewable energy contracts. At a time when Diversity, Equity and Inclusion efforts are under attack, companies must take a stand for equity and justice with policies and actions.

- The communications industry must ensure that the mining of critical minerals that power the renewable energy transition supports environmental justice and avoids violating human rights. The US needs renewable energy, but companies also need to use their market power to incentivize a responsible supply chain. Communications companies should include requirements for supply chain management in their requests for proposals and power purchasing agreements with energy companies.

⁷ Scope 1 emissions are from a company's direct operations. Scope 2 and 3 are indirect emissions from corporate activities that are not directly under the company's control.

⁸ <https://www.nationalgrid.com/stories/energy-explained/carbon-neutral-vs-net-zero-understanding-difference>

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- Companies must transparently disclose their energy justice goals and benchmarks to achieve those goals. They must also disclose their sourcing policies, and how they monitor and ensure compliance with those policies.
 - Companies must support supplier diversity and entrepreneurial opportunity for marginalized groups in their supply chains.
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II. Introduction

Climate change is here. With more powerful storms, dried out forests, melting glaciers, and rising sea levels, the dangers of climate change are affecting everyone, though they do not harm everyone equally. There is an outsized burden on communities that have been marginalized by racism, both globally and here in the US.

Corporations, governments, universities, and civil society must work together toward real solutions. Corporations can play a unique leadership role in the transition to clean energy in a way that promotes energy justice. Large corporate actors often use as much energy as entire cities or even small nations.⁹ If these market leaders contract for renewable energy that benefits Black, Latine, Indigenous and other communities facing environmental injustice, they can create strong benefits within these communities while meaningfully addressing climate change.

This is the third in a series of Green America's *Calling for a Just, Clean Transition*. These reports show the role the communications industry can play in moving markets and governments to using 100% renewable energy, and to motivate faster action away from fossil fuels.

In 2017, [Green America's Hang up On Fossil Fuels campaign](#) launched in recognition that telecom companies are significant contributors to the demand for energy. Then as now, energy demand is projected to ramp up as more of the developing world comes online, 5G technology becomes more ubiquitous and the internet-of-things proliferates.

A 2021 study published in *Nature Communications* estimated that the information and communications technology industry accounted for 2.1% of global greenhouse gas emissions, with half of that coming from telecommunications alone. This is similar in impact to the global shipping sector. An analysis by the research firm Dell'Oro Group found that telecom operators worldwide spent \$25 billion on electricity in 2021; this level of consumer power could be wielded to shift the market and influence

policy. According to research firm IDC, the global communications industry is forecast to grow at a compound annual growth rate (CAGR) of 5% from 2022-2026, rendering it increasingly urgent that the sector adopt clean energy that supports energy justice.¹⁰

The “Justice40” initiative, enacted by the Biden White House, aiming to deliver at least 40% of clean energy infrastructure investments to communities facing environmental injustice. Together with the clean energy incentives in the Inflation Reduction Act (IRA), signals a political climate in which the telecoms could successfully push for energy-just policies and adoption with backing from the Executive Branch.¹¹ Corporations can play an important role in driving clean energy forward, especially since renewable energy progress under the IRA has not been as strong as hoped, and wind and solar are not yet growing fast enough in the US to meet our climate goals.¹²

Key Findings

- The 10 companies profiled use at least 51 million MWh of energy annually, equivalent to powering 4.3 million homes, which is more households than found in each of 43 US states [\[ii\]](#)
- Most of the companies are sourcing less than 10% of their energy from renewable sources, with several companies reporting 0% renewables.
- T-Mobile continues to be a leader in the industry in the use of renewable energy, reporting 100% renewable energy usage, although not all of that energy is putting new wind and solar power on the grid, since they are using unbundled renewable energy credit (RECs) for much of their energy¹³.

⁹ <https://www.scientificamerican.com/article/the-ai-boom-could-use-a-shocking-amount-of-electricity/>

¹⁰ <https://www.idc.com/getdoc.jsp?containerId=prUS51261623>

¹¹ <https://www.whitehouse.gov/environmentaljustice/justice40/>

¹² <https://www.nytimes.com/2024/02/21/climate/inflation-reduction-act-progress-climate.html>

¹³ Renewable Energy Credits can be problematic and obscure greenwashing:

<https://www.spglobal.com/esg/insights/problematic-corporate-purchases-of-clean-energy-credits-threaten-net-zero-goals#:~:text=Using%20RECs%20also%20allows%20a,emissions%20could%20be%20sharply%20undercut.>

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- AT&T and Verizon are entering into significant contracts for renewable energy. And Verizon now has a goal of 100% renewable energy by 2030.
 - Comcast and Lumen have both taken minimal steps to adopt renewable energy, with renewables equaling 10 percent or less of their overall energy use.
 - Much work remains to be done by the communications industry to leverage their market power to increase the use and availability of renewables and phase out fossil fuels.
 - Many of the companies in the communications sector lack transparency regarding their environmental and climate impacts, adoption of renewable energy or clean energy goals, or any efforts to support energy justice through their energy purchases.
 - Energy justice is poorly addressed by the majority of companies in the communications industry. Several companies have few, if any, publicly available policies addressing commitments to energy justice.

Some companies do have supplier codes of conduct and/or policies on conflict-free minerals, many of which are core to the infrastructure of renewable energy, but it is unclear to what extent these policies are monitored or enforced. Several companies lack policies altogether.

Beyond the big three: why we chose to look at additional providers

In the first two *Calling for A Clean, Just Transition* reports, Green America analyzed the adoption of renewable energy and support for energy justice by the telecoms giants AT&T, Verizon, and T-Mobile by evaluating their clean energy purchases. The reports found that since we launched our campaign in 2017, the three telecoms increased their clean energy purchases substantially, but the sector still has a long way to go to reach 100% procurement of renewable energy. None of the companies were prioritizing energy justice in their solar and wind contracts.

In this version we broadened the number of companies evaluated to get a fuller picture of the communications industry's greenhouse gas (GhG) footprint, energy use,

clean energy goals, and commitments to energy justice. To that end, we included cable and internet providers as well as telecoms. The 10 companies profiled collectively use at least 51 million MWh of energy annually, equivalent to powering 4.3 million homes, which is more households than found in each of 43 US states [\[ii\]](#)

Projected growth of communications = increased market power, lobbying influence, impact on energy transition

While one of the goals of the report is to motivate a “race to the top” of renewable energy usage, Green America wants that transition to account for energy justice as well. Renewables are an important part of the solution to climate change, but there is widespread evidence that the making of renewable energy products (like solar panels, wind turbines, and battery storage) has both human and environmental costs. A [report](#) from the *Center for American Progress* states “This is a critical decade for the United States to reshape and reclaim leadership in supply chains and the global clean energy economy.” The time is now to get the production of renewables right by making human rights and justice central to the process of transitioning to renewable energy. The communications industry, with its large market share and political influence, has a role in helping to make that happen.

What do we mean by “energy justice”?

Similar to the movement for environmental justice, deliberate efforts to foster energy justice arise out of a historic pattern of *injustice* around access, affordability, participation in decision-making, and the distribution of burdens and benefits associated with energy production. In other words, the pursuit of energy justice is necessary because the ways in which energy is managed, produced and distributed follow existing patterns of systemic inequities which disadvantage and disempower communities, often based on race, class, and gender.

The Initiative for Energy Justice states:

“Energy justice refers to 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. Energy justice 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. Energy justice aims to make energy accessible, affordable, clean, and democratically managed for all communities.”¹⁴

A key component of this definition is “remedial,” recognizing that energy justice requires a correction of an existing trajectory; it is not neutral or automatic, and must be intentionally designed and enforced. As Green America noted in the previous edition of *Clean Energy Calling*, disproportionate burdens inflicted on Black, Latine, and Indigenous communities in particular are ubiquitous within the US energy industry, and the growth of the renewable energy sector has largely perpetuated inequity by skewing its benefits away from the same communities harmed by conventional energy production.¹⁵ As discussed below, environmental, health, and human rights harms associated with the production of renewable energy technology (principally, mining for critical minerals) replicates these injustices on a global scale, disproportionately harming ethnic minorities, children, and poor communities in formerly colonized and/or developing nations.

Our advocacy for the communications industry to accelerate adoption of renewable energy must integrate the pursuit of energy justice, or risk perpetuating this harm.

¹⁴ <https://iejusa.org/>

¹⁵ <https://reports.greenamerica.org/energy-justice#energyequity>

Power, Justice, and Energy Democracy

Procedural justice—equitable participation in decision-making—is a critical component of energy justice and environmental justice more broadly, as explained by several energy justice experts Green America consulted previously.¹⁶ While the energy industry in the US, for example, is regulated by the government with requirements for public participation by affected stakeholders, marginalized communities rarely have access to true power over industry outcomes, even though they may suffer the heaviest impacts. Participatory, meaningful procedural justice, therefore, requires true influence over the processes by which energy decisions are made.

Energy democracy presents a more radical—that is, addressing the root cause—solution to the historic failure of existing procedures to vest power over the energy industry with impacted communities.¹⁷

As defined by the Climate Justice Alliance:

“Energy Democracy represents a shift from the corporate, centralized fossil fuel economy to one that is governed by communities, is designed on the principle of no harm to the environment, supports local economies, and contributes to the health and well-being for all peoples.”¹⁸

Inherent in the idea of energy democracy is equitable participation in decision-making, which could extend to the transfer of ownership over the means of energy production to communities, rather than corporate-run utilities designed to profit.

¹⁶ <https://reports.greenamerica.org/energy-justice#voices>

¹⁷ <https://www.sciencedirect.com/science/article/pii/S2214629620303431#s0015>

¹⁸ <https://climatejusticealliance.org/workgroup/energy-democracy/>

Energy democracy, however, extends beyond participation in energy decision-making and is centered in economic and racial justice, workers' rights, and transformation of energy systems to regenerative frameworks. For an extensive exploration of energy democracy principles and practices and further discourse around the nexus with climate justice, see the work of the Emerald Cities Collaborative.¹⁹

Towards a Just Transition

The concept of a “just transition” extends beyond environmental injustice in the energy sector, encompassing principles and processes designed to ensure equity as society moves to a sustainable, non-extractive economic and social model. According to the Just Transition Alliance,

“Just Transition” is a principle, a process and a practice. The principle of just transition is that a healthy economy and a clean environment can and should co-exist. The process for achieving this vision should be a fair one that should not cost workers or community residents their health, environment, jobs, or economic assets. Any losses should be fairly compensated. And the practice of just transition means that the people who are most affected by pollution – the frontline workers and the frontline communities – should be in the leadership of crafting policy solutions.”

It is within this framework that, for example, those employed in extractive industries inflicting environmental harm should be consulted, provided opportunities to develop new marketable skills, and prioritized for economic opportunities within new, regenerative industries.

These concepts—energy justice, energy democracy, and just transition—are continuously evolving but fundamentally aim to capture the holistic, interconnected nature of systemic power imbalances, disproportionate harm and enrichment, and environmental degradation associated with an extractive and consumptive economy. They are key to advancing a truly sustainable transition away from fossil fuels which achieves a meaningful climate response. Their comprehensive nature, by design, bucks reliance on false solutions like industrial carbon capture, or loopholes in fossil

¹⁹ https://emeraldcities.org/wp-content/uploads/2021/04/FINAL_Scorecard.pdf

fuel phaseout policies which would only serve to enable harmful industries to “pivot” into other extractive industries (for example, plastics production). By evaluating and seeking to transform extractive, profit-driven economic models benefiting a small elite to the detriment of systemically marginalized communities, these frameworks represent the next frontier of sustainability.

III. Call to Action

Green America calls on the communications industry to use its market power and business model to dramatically increase the use of renewable energy and to spur the actions needed to address energy justice. It is often said with great fortune comes great responsibility and companies like AT&T, Verizon, Comcast and the others included in this report have the power to drive change. When they move the energy markets will shift and the injustices imposed on disadvantaged communities from systemic racism can begin to be addressed.

The climate crisis is no longer looming—it is here. Severe storms, wildfires, biodiversity loss, disease, extreme heat, sea-level rise, and other catastrophic impacts of human-induced climate change have infiltrated our global experience of life on Earth. In 2023, across the globe we saw:

- Record breaking heat waves across Europe, China, and the US in January and February, with temperatures over 100°F in some areas. This aligns with projections of more intense, frequent heat waves due to global warming.
- Bushfires raging across Australia in January 2023, enabled by extreme heat and ongoing drought conditions exacerbated by climate change. Massive Canadian forest fires burned throughout the summer, creating air pollution and turning the skies an apocalyptic orange over much of the East Coast of Canada and the US.
- Flooding in Indonesia and Malaysia in January displacing over 70,000 people, attributed to excessive rainfall.
- Coastal flooding and erosion in Louisiana, the Carolinas, and Florida from winter storms, worsened by sea level rise accelerating from climate change.

Renewable Energy and the Climate Crisis

The accelerating climate crisis calls for a dramatic reduction in the emission of greenhouse gases, with the UN calling for renewable energy to power 60 percent of electricity by [2030](#). US goals for increasing the amount of renewable energy usage will be buoyed by major industries like telecoms demanding their energy providers move to renewable sources. 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 targets of 80% reduction in carbon emissions in the energy sector by 2030, and 100% decarbonization by 2035.

Why Renewable Energy

The renewable energy industry is growing and the benefits go beyond just clean production that reduces pollution. The industry is also beneficial economically.

A recent [report](#) by E2, *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.

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

The telecom sector, and other large-scale energy purchasers in the communications industry, will benefit economically from large-scale clean energy purchases as well. Consultant [McKinsey & Company notes](#) that energy makes up five percent of operating expenditures in telecoms, and as energy usage increases with 5G, energy efficiency measures and renewable energy could lower costs by 15 to 20% per year. When T-

Mobile announced its commitment to 100% renewable energy by 2021, the company noted that the move would save it nearly \$100 million over 15 years.

Incorporating energy justice can also save companies money and reduce risks. Research demonstrates that Indigenous communities around the world, including in the US, are ensuring that they have free, prior, and informed consent regarding energy projects on their lands. Energy companies, including renewable energy developers, that ignore the voices of Indigenous communities are finding that projects are delayed or blocked from moving forward.^[v]

Similarly, companies face reputational and legal risk from supply chains that include forced and/or child labor. Putting strong supply chain and conflict minerals policies in place, and then actively monitoring supply chains, can mitigate these risks.

Renewable Energy: Getting the Supply Chain and Production Right

As last year's *Calling for A Clean, Just Transition* report²⁰ discussed at length, the energy industry has a long history of creating and perpetuating inequity—from the concentration of polluting power plants in Black, Latine, and low-income neighborhoods to underrepresentation and disparate economic benefits for women and some ethnic minorities within the energy sector. Arguably, the excessive siting of pollution-generating power plants in communities already burdened by numerous racist policies and outcomes, alone, makes renewable energy production a more equitable choice which fosters a just transition. Although renewable energy is almost always less damaging and unjust than fossil fuel combustion, not all renewable energy is produced, distributed, or managed equitably. Investment in and deployment of renewables are crucial steps in our transition from undeniably harmful and extractive fossil-fuel generated energy, and we have the potential to get renewable energy production right. As this industry grows, it must take deliberate action to create accountable supply chains that protect communities and the environment. In our *Calling for a Clean, Just Transition* reports, we found that energy companies selling

²⁰ <https://www.greenamerica.org/press-release/what-energy-justice>

clean energy are often not prioritizing energy justice, and it is important that purchasers from these energy companies mandate energy justice through their purchasing contracts.

In this section we will delve into some of the inequities and injustices that can be found within and created by the renewable energy sector.

A. Inequitable demographic representation persists within the renewables sector.

The renewable energy sector reflects systemic inequities which favor white, male leadership and workforce demographics. A 2021 study found that Black and Latine-Americans, as well as women across ethnicity, were vastly underrepresented across the renewable energy sector; only 27% of clean energy positions were held by women (who are over 50% of the US population) and only 8% of clean energy jobs were held by Black Americans, despite 13% of the US workforce being Black.²¹ White men dominate the energy sector as a whole, as well as the public utility commissions that regulate energy companies.²² ²³ A report evaluating data from 2020 indicates that overall workforce representation among Latines in the renewable energy sector is better than in the “conventional” energy sector, but the clean energy industry has failed to perform significantly better than the conventional energy sector with regard to equitable workforce representation overall, in particular as it relates to gender.²⁴

²¹ <https://www.utilitydive.com/news/report-the-face-of-clean-energy-is-predominantly-white-and-male/606502/#:~:text=White%2C%20non%2DHispanic%20men%20hold,clean%20energy%20is%20predominantly%20White>

²² <https://www.canarymedia.com/articles/utilities/the-boards-that-regulate-utilities-are-overwhelmingly-white-and-male>

²³ <https://energynews.us/2023/07/05/who-decides-where-we-get-electricity-and-how-much-we-pay-mostly-white-politically-connected-men/>

²⁴ <https://e2.org/wp-content/uploads/2021/09/E2-ASE-AABE-EEFA-BOSS-Diversity-Report-2021.pdf>

B. Clean energy affordability is not guaranteed, especially for low-income communities.

High energy burdens (the proportion of income that is spent on energy) facing low- and fixed-income residents create inequities for customers of both conventional and renewable energy. Although recent US legislation²⁵ and policy²⁶ has earmarked funding to ameliorate energy injustices, ongoing barriers to equitable participation in the transition to renewables persist.²⁷ For example, rooftop solar tax incentives have historically been inaccessible or irrelevant to low-income residents, whether because they do not have high tax liability against which to offset credits or because they rent their homes and don't have authority to install solar PV, or both.²⁸ Banks and other lenders often denied renters and low-income applicants. The prevalence of older housing stock in low-income communities can create obstacles to even the most basic of energy efficiency improvements (for example, weatherization), and rebates on efficient appliances presume that consumers have disposable income up front. There is some good news, however; creative strategies like Community Choice Aggregation²⁹ have been deployed to increase access to renewables for low-income residents.³⁰ And the growth of community solar programs nationwide is making it possible for low- and moderate-income households to access renewable energy at an affordable cost.³¹

C. Sourcing of materials for renewable energy production can create grave environmental, health, labor, and human rights injustices.

Renewable energy technologies, including solar panels, battery storage components, and wind turbines, are manufactured using a variety of raw minerals. Where such

²⁵ <https://www.energy.gov/infrastructure/clean-energy-infrastructure-homepage>

²⁶ <https://www.whitehouse.gov/environmentaljustice/justice40/?emci=d87c4422-396c-ee11-9937-00224832eb73&emdi=953dcb3a-486c-ee11-9937-00224832eb73&ceid=8720610>

²⁷ <https://www.scientificamerican.com/article/solar-powers-benefits-dont-shine-equally-on-everyone/>

²⁸ <https://news.stanford.edu/2022/11/16/solar-panels-largely-confined-wealthy-americans/>

²⁹ <https://www.epa.gov/green-power-markets/community-choice-aggregation>

³⁰ Community Choice Aggregation is not without its challenges. For deeper review of CCAs, see <https://www.nrel.gov/docs/fy19osti/72195.pdf>

³¹ [https://www.enterprisecommunity.org/blog/solar-success-how-ira-will-help-community-solar-gardens-power-affordable-](https://www.enterprisecommunity.org/blog/solar-success-how-ira-will-help-community-solar-gardens-power-affordable-housing#:~:text=For%20low%2D%20to%20moderate%2Dincome,energy%20and%20lower%20utility%20costs.)

[housing#:~:text=For%20low%2D%20to%20moderate%2Dincome,energy%20and%20lower%20utility%20costs.](https://www.enterprisecommunity.org/blog/solar-success-how-ira-will-help-community-solar-gardens-power-affordable-housing#:~:text=For%20low%2D%20to%20moderate%2Dincome,energy%20and%20lower%20utility%20costs.)

minerals are not readily available through reuse or recycling, they are typically mined from the recesses of Earth, often in developing countries, but also within the United States and potentially impacting Native American communities.³² Overseas mines are known for disproportionately utilizing the manual labor of impoverished workers, ethnic and/or religious minorities including Indigenous workers, people who are trafficked and/or enslaved, and perhaps most notoriously, children.^{33 34} In addition to exploitative and perilous labor practices, mining creates intense and long-lasting environmental degradation, including water and air pollution, biodiversity loss, and destabilization of the land resulting in catastrophic collapses.³⁵ The cascading impacts of unjust labor and environmental destruction carry with them devastating and disparate health impacts for workers and communities in proximity to mines.³⁶ The concentration of minoritized, trafficked, and child workers in the minerals mining labor force and disparate ecological and health impacts within developing countries makes this one of the most egregious forms of global environmental injustice.

D. Where companies choose to locate their clean energy infrastructure has an effect on local communities.

While the health and environmental impacts of solar and wind farms are dwarfed by those of fossil fuel-based power plants, the siting of renewable energy production can create environmental injustices. In particular, procedural justice—that is, consultation and cooperation with local communities—is a core issue, especially concerning utility-scale renewable power sited on or near Tribal lands in the US. It is important to distinguish between “NIMBYism” – opposition to wind and solar based on perceived depression of property value and/or aesthetics– and failure to seek Free, Prior, Informed Consent (FPIC) from Native American landowners who have been subjected

³² <https://www.npr.org/2024/01/29/1226125617/demand-for-minerals-sparks-fear-of-mining-abuses-on-indigenous-peoples-lands>

³³ <https://blog.ucsusa.org/charlie-hoffs/mining-raw-materials-for-solar-panels-problems-and-solutions/>

³⁴ <https://www.ilo.org/ipec/areas/Miningandquarrying/lang--en/index.htm>

³⁵ <https://www.worldatlas.com/articles/what-is-the-environmental-impact-of-the-mining-industry.html>

³⁶ https://en.hesperian.org/hhg/A_Community_Guide_to_Environmental_Health:Health_Problems_from_Mining

to generations of extraction, displacement, and undermining of their sovereign rights.³⁷ One example of a conflict between renewable energy developers and Native American cultural and biodiversity preservation is evident in California, where the Chumash Tribe has opposed the development of wind turbines less than three miles from shore.³⁸ In this instance, commentary from the Government Affairs and Legal Officer of the Santa Ynez Band of Chumash Indians suggested that the failure of meaningful procedural justice around the renewable development is a core issue: “the Sanctuary [governing the offshore wind farm] must incorporate collaborative co-management rather than performative consultation. Tribal expertise must be at the table during decision-making, not just referred to after the fact.”³⁹

Tribal communities are not alone; for example, one proposed large-scale solar farm in Florida would have impacted a historical Black community and associated cemetery;⁴⁰ the project was blocked by community opposition following failure to meaningfully engage with landowners in the residential community where it was initially planned.⁴¹ In these cases, developers of large-scale renewable projects and the agencies that approve them have often failed to adequately interact and negotiate with locally impacted communities, to the detriment of greenhouse gas reduction targets.

³⁷ <https://www.sciencedirect.com/science/article/pii/S0301421522001471>

³⁸ <https://www.governing.com/next/chumash-tribe-conservationists-oppose-offshore-wind-turbines>

³⁹ https://lompocrecord.com/opinion/columnists/governments-tribes-must-cooperate-on-offshore-wind-development-guest-commentary/article_e9546c56-6c73-5108-9083-1823a897cb58.html

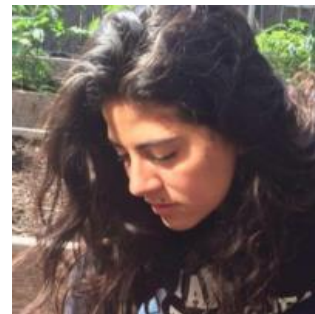
⁴⁰ <https://insideclimatenews.org/news/02012022/environmental-justice-florida-solar-preemption-legislature-desantis/>

⁴¹ <https://www.eenews.net/articles/fla-solar-plans-stoke-fight-over-environmental-racism/>

IV. What do Energy Justice leaders say about the path forward toward a just transition?

Advancing energy justice means that corporate purchasers need to look at the full range of impacts on marginalized communities, in the US and abroad, from their energy purchases. The four following interviews with energy justice and human rights leaders highlight the steps necessary for companies to pursue energy justice through their contracts for clean energy.

A. Maria Lopez-Nunez, Director of Environmental Justice and Community Development at Ironbound Community Corporation (ICC)



Clean energy projects need to actively engage with local communities to prevent furthering injustices through the siting of wind and solar farms.

Maria Lopez-Nunez has been fighting environmental racism in the city of Newark, New Jersey for years. ICC’s current struggle against a proposed gas-fired “peaker” power plant, which would be the fourth fossil fuel-fired power plant in the neighborhood—exemplifies the disproportionality of energy injustices associated with siting.⁴² Newark’s population is almost half Black, over a third Hispanic/Latino, with 34% of the city’s population having been born outside of the US and a quarter of residents living in

⁴² <https://apnews.com/article/new-jersey-state-government-newark-climate-and-environment-plants-e0ecffcade4c6e0c3200fcc425f16525>

poverty.⁴³ The health impacts, and in particular, extremely high childhood asthma rates,⁴⁴ in Newark are well-documented and yet, polluters continue to target the city.

Lopez-Nunez, who is an Appointed Member of the first White House Environmental Justice Council, noted that progress toward energy justice has been sluggish, even in the face of increased attention to racial justice issues since 2020 and a groundbreaking environmental justice law at the New Jersey state level.⁴⁵ As Green America’s 2022 report noted, procedural justice⁴⁶ is a key element in reversing environmentally racist policies and projects; trusted frontline community representatives having real input on projects that would impact them is essential.

Asked whether stakeholder input has improved in the regulatory process that governs power plant siting, Lopez-Nunez called it as she saw it: “I think they are better at documenting their stakeholder processes and providing access. I can talk to anyone now, but they’re not necessarily listening or documenting how our feedback impacted the work or not. It’s more about accessibility, not power,” she observed. “Siting impacts on environmental justice communities is a widespread issue. I really hope that the wind companies won’t replicate the same problems of the past,” she noted, acknowledging that renewable energy generation and infrastructure can create outsized burdens in the same communities that have been treated as “sacrifice zones” by fossil fuel and other industrial interests unless intentionally developed differently.

Groups working to ensure fairer processes, structures, and outcomes in the pursuit of renewable energy are creating models which can help to advance a just transition, according to Lopez-Nunez. In particular, UPROSE’s⁴⁷ Brooklyn’s Sunset Park Solar

⁴³ <https://www.census.gov/quickfacts/fact/table/newarkcitynewjersey/>

⁴⁴ <https://newark.chalkbeat.org/2020/2/21/21178668/it-takes-all-of-us-at-community-asthma-workshop-doctors-say-parent-efforts-are-key#:~:text=One%20in%20every%20four%20children,the%20national%20rate%2C%20studies%20show.>

⁴⁵ <https://dep.nj.gov/ej/law/>

⁴⁶ https://reports.greenamerica.org/energy-justice?_gl=1*1wptbrv*_gcl_aw*R0NMLjE2OTMzMjc3NTMuQ2p3S0NBandyCmFuQmhBRUVpd0F6YmhOdGZBWUITOXVLcGttekYwZkFncGI3czV2VlFFcDYwRnNXXRhhVUzdaV2t1SmdVM1UtbXc0SDFCb0NkQUIRQXZEX0J3RQ..*_gcl_au*MTU0NzU4NzY3MC4xNjkyNjUwNTE4*_ga*NjE4MDkyMjExLjE2OTI2NTA1MTk.*_ga_HTNVK3BTWB*MTY5NzU2Mjc0C4xNy4wLjE2OTc1Njl3MzguNjAuMC4w&_ga=2.85009627.35493901.1697472129-618092211.1692650519#voices

⁴⁷ <https://www.uprose.org/>

community-owned photovoltaic project⁴⁸ stood out as an example of energy democracy⁴⁹ in action, and the Native American-led SAGE⁵⁰ Development Authority is working to bring Native-owned renewable power to the Standing Rock Sioux reservation with an emphasis on equitable economic outcomes and local, women-led governance.

In the eyes of this environmental justice leader, communications providers and others who purchase energy could advance energy justice by calling for real accountability in ending investments in fossil fuel assets and infrastructure. “They need to ask ‘what is your fossil fuel phase-out plan?’ Right now, the only thing these companies are required to do is say they are phasing out of fossil fuels, but we need to hold their feet to the fire and see the details and the plan,” opined Lopez-Nunez. Indeed, so long as fossil fuel dependency persists, those communities in proximity to its production will continue to suffer.

B. Naphtal Haya: Practice Lead for Alternative Energy Storage Technologies at DNV: Mining in the Democratic Republic of the Congo (DRC)



Products supplied by the electronics, clean energy, and battery storage technologies sector are widely implicated in human rights abuses in the Democratic Republic of the Congo through their supply chains.

While the interview below focuses specifically on cobalt mining for the purposes of lithium-ion batteries, it is important to note that cobalt is also an important component

⁴⁸ <https://nonprofitquarterly.org/how-uprose-is-creating-clean-energy-in-brooklyn/>

⁴⁹ <https://climatejusticealliance.org/workgroup/energy-democracy/>

⁵⁰ <https://sagesrst.org/>

*of wind turbines, and is just one of various critical minerals necessary to transitioning to renewable energy.*⁵¹

The opinions expressed by [Naphtal Haya](#) reflect his personal views and should not be attributed to his employer, DNV.

In the Democratic Republic of the Congo (DRC), people—many of them children— toil for up to twelve hours per day in the inhumane conditions of cobalt mines for the equivalent of \$1 USD per day, and have few alternatives available to earn money for their basic needs. What does cobalt mining have to do with energy justice? Cobalt is currently a key ingredient in the batteries used to store electricity generated from intermittent renewable energy sources such as solar and wind, and thus demand for and distribution of cobalt has been accelerated by the transition to renewable energy. And it is big business, to the detriment of underpaid, underaged, and exploited Congolese workers and their environments.

While child labor and blatant exploitation may seem unthinkable to some in the West, Naphtal Haya, explained that the Congolese people have long been subjected to foreign extraction⁵² of the nation’s natural resources and workforce exploitation in service to consumer demand from the Global North. Cobalt mining associated with the renewable energy industry (as well as electronics production) is only the latest iteration of foreign-imposed environmental injustice and human rights abuse in the DRC, which extends back to Belgian colonization in the 1880’s and the notoriously brutal atrocities—including amputation—which the Belgian regime inflicted on Congolese workers in the rubber production industry.⁵³

“If you were to interview an average citizen in the DRC...they would probably say they are worse off than they would be if the cobalt industry didn’t exist,” opined Haya, adding that “really only 1% of the DRC’s population—the political elite—benefits.” A

⁵¹ <https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions/executive-summary>

⁵² https://energystoragechronicles.beehiiv.com/p/erevolution-whats-cost-pays-benefits?_gl=1*rcl77b*_ga*NDk5MmViZTMtMDQ1Zi00MTE4LTk0MTgtN2NhNWQwZDFkYmJj*_ga_E6Y4WLQ2EC*MTcxNDg0MjM0OS4yMTAuMS4xNzE0ODQyMzcxLjM4LjAuMTE5MDEwMTg0NA..*_gcl_au*ODY4MjQ2NjAzLjE3MTE3Mjk2NjE

⁵³ <https://education.nationalgeographic.org/resource/belgian-king-establishes-congo-free-state/>

clear perpetuation of environmental injustice, Congolese workers mired in poverty suffer perilous working conditions that degrade the environment and damage their health, while powerful, distant, wealthy shareholders enjoy the financial benefits of rampant extraction.

The proliferation of Environmental, Social, & Governance (ESG) compliance has shed light on such environmental justice and human rights abuses, with financiers and developers increasingly interested in enhancing their ESG performance. To generate pressure aimed at curbing these abuses and withdrawing support from the worst actors, some risk management leaders are pushing for more evaluation around supply chain disclosure.⁵⁴ Nevertheless, Haya pointed out that the industrial hold on the country is so deeply embedded that those seeking to source the mineral would have a difficult time avoiding DRC-produced cobalt, with roughly 70% of the world's supply originating in foreign-owned, DRC-based mines.

For companies aiming to avoid “dirty” cobalt, Haya stated that Supplier Codes of Conduct from companies promising responsible and sustainable sourcing are insufficient—there is little incentive to provide transparent reporting. Instead, third-party due diligence that includes auditing is necessary for firms that seek to truly avoid sourcing from (and financially supporting) companies inflicting environmental and social harms on nations like the DRC. Describing the lack of transparency and added complexity of technically “compliant” mines sourcing cobalt from unmonitored subcontractors, Haya stated that supply chain due diligence without on-the-ground auditing is not as effective as we would like to think, achieving only about 50% of the confirmation needed to satisfy true due diligence.⁵⁵

Failing to ground-truth desktop analysis with on-the-ground auditing not only provides an incomplete picture, but may actually exacerbate harm. The false sense of security (and potentially, awards, ratings, or other fodder for public relations) imbued by a

⁵⁴ <https://www.congress.gov/bill/118th-congress/house-bill/6909/text/ih?overview=closed&format=xml>

⁵⁵ Most industrial cobalt mines in the DRC claim adherence to best practices, yet it has been demonstrated that the mines use cobalt mined under subhuman conditions to bump their production levels. The ‘dirty’ cobalt typically goes unaccounted for in desktop due diligence, hence the need for ‘boots on the ground’ to confirm reporting matches reality.

misleading due diligence process is tantamount to greenwashing, and could actually do more to obscure than solve the problems associated with mining.

“Responsible mining initiatives typically designed by downstream companies for upstream activities must be continually monitored by independent actors,” Haya recommended. This is where companies, including communications providers, can make a difference. The standards for responsible mining and audit processes already exist—entities including the Responsible Cobalt Initiative,⁵⁶ the Responsible Mineral Initiative,⁵⁷ and the Initiative for Responsible Mining Assurance⁵⁸ have delineated best practices, which can then be confirmed on the ground. “Communications providers and other companies that rely on cobalt and other raw minerals should be requiring audits as part of their due diligence in supply chains,” Haya recommended.

“Consumer pressure is a good tool.” Haya observed, adding, “At this stage, the American public is hearing competing narratives. The negative impacts of the energy transition, and the fact that developed economies are getting the advantage, are not well-known. In addition to educating consumers about the human rights and environmental justice problems in the electronics and renewable energy supply chain and mobilizing them to pressure companies, organizations like Green America could also support on-the-ground monitoring efforts upstream, and promote investment in companies utilizing alternative battery chemistries that don’t rely on cobalt.”

As Haya stated in his recent article, “The e-revolution is an undeniable net positive (note ‘net’) measure against climate change and must be embraced as such. However, the welfare of the current generation trumps that of future generations and in any case, we cannot help the future by destroying the present.”⁵⁹

⁵⁶ <https://respect.international/responsible-cobalt-initiative-rci/>

⁵⁷ <https://www.responsiblemineralsinitiative.org/minerals-due-diligence/cobalt/>

⁵⁸ Home - IRMA - The Initiative for Responsible Mining Assurance

⁵⁹ https://energystoragechronicles.beehiiv.com/p/erevolution-whats-cost-pays-benefits?_gl=1*rcl77b*_ga*NDk5MmViZTMtMDQ1Zi00MTE4LTk0MTgtN2NhNWQwZDFkYmJj*_ga_E6Y4WLQ2EC*MTcxNDg0MjM0OS4yMTAuMS4xNzE0ODQyMzcxLjM4LjAuMTE5MDEwMTg0NA..*_gcl_au*ODY4MjQ2NjAzLjE3MTE3Mjk2NjE

C. Dustin Mulvaney, San José State University



When it comes to renewable energy policies and projects, the details matter a lot. As Professor of Environmental Studies at San José State University, Dustin Mulvaney’s in-depth analysis reveals, without intentional design and appropriate incentives, the renewable energy industry can create unforeseen problems and exacerbate existing inequities.

Materials

Mulvaney’s recent work includes advocating for recycling, reuse, circularity, and innovation of alternatives to critical minerals used in renewable energy products, associated with human rights abuses in mining.⁶⁰ In the US, this may not be as straightforward as it seems.

While research and development efforts are underway within the renewable energy industry to, for example, advance alternatives to lithium-ion batteries not requiring or using much less cobalt, industry players with a vested interest in the status quo may frame certain innovations as “impossible” until, of course, it is demonstrated that they aren’t.

Mulvaney elaborated, “There was a time where we projected demand for future cobalt supplies assuming every single electric car had to have [a certain amount] of cobalt in

⁶⁰ https://republicans-science.house.gov/_cache/files/3/5/35077406-6c86-4733-acb1-620ca2307945/726C9E1C20D9D6C3DEC29E631F192483.2023-11-30-dr.-dustin-mulvaney-testimony.pdf

it, but that's not the case anymore. So because we now have a much more diverse set of batteries, even China's putting in sodium-ion batteries that have no lithium.”

Transparency around innovation is also complicated by intellectual property rights. “Every manufacturer has a patent on their ‘special sauce’ for their batteries,” Mulvaney explained. Financial interests can delay deployment of more sustainable technologies where it is financially advantageous for producers to keep them close to the chest.

Another challenge to moving away from extraction of critical minerals is the cost of recycling. While our waste streams may be full of electronics, there are significant expenditures associated with building recycling infrastructure and processing waste to get critical minerals out. In order to be financially viable, the products being recycled need to have high ratios of high-value minerals to offset the costs of building new recycling plants and the energy and processing of materials involved in recycling.

Nevertheless, improving the circularity of renewable energy products is not only imperative for a sustainable and just world, it is possible and it is already being done—in Europe. In his recent testimony to Congress, Mulvaney noted that Europe’s new Battery Regulation⁶¹ would “require that battery producers meet specified social and environmental standards across the entire life cycle of the product including a product end-of-life management plan.”⁶² Contrasted to the current state of producer accountability for the life cycle of products in the US, Mulvaney explained “we only require the management of materials that are designated ‘hazardous.’” In short, the US is far behind the curve in the “developed” world in requiring the circularity necessary to curb energy injustice from critical minerals mining.

Mulvaney warned, however, that innovation and circularity cannot completely replace demand for critical minerals required for renewable energy. Echoing Naphtal Haya’s observations, Mulvaney noted that supply chain traceability, strong standards, and

⁶¹ https://environment.ec.europa.eu/news/new-law-more-sustainable-circular-and-safe-batteries-enters-force-2023-08-17_en

⁶² https://republicans-science.house.gov/_cache/files/3/5/35077406-6c86-4733-acb1-620ca2307945/726C9E1C20D9D6C3DEC29E631F192483.2023-11-30-dr.-dustin-mulvaney-testimony.pdf

rigorous auditing is necessary to halt human rights abuses in critical minerals mining. Underscoring the power of public pressure in advancing just and sustainable policies, Mulvaney noted that the US finally banned⁶³ solar panels from the Xinjiang region of China after evidence that they contained polysilicon from mines inflicting abhorrent human rights abuses on the Uyghar group.⁶⁴

“Communications companies actually have the leverage to dictate in their Power Purchase Agreements” that they will require suppliers to trace up the chain and opt out of doing business with companies that profit from human rights abuses, Mulvaney opined.

Siting

Although they are almost always incomparable to the harm inflicted by fossil-fuel power plants, renewable energy farms can have negative human and ecological impacts when not properly sited, designed, and maintained. Domestically, this can manifest in various ways.

Mulvaney described the way in which cascading effects of large scale solar farms have created unforeseen human health hazards in the US West, as one example. Often situated on or in close proximity to formerly irrigated agricultural land, solar farm construction can disturb and disperse contaminated soils, harming air quality which impacts workers and potentially, nearby communities.⁶⁵ These problems aren’t insurmountable; “I’ve seen some strategies like putting down hay bales and planting hedges, getting roots in the soil,” which can control erosion and foster ecosystem benefits.

⁶³ <https://www.nytimes.com/2021/06/24/business/economy/china-forced-labor-solar.html>

⁶⁴ <https://www.business-humanrights.org/en/latest-news/china-human-rights-allegations-could-jeopardize-us-solar-supply-chain/>

⁶⁵ <https://www.cdc.gov/mmwr/volumes/67/wr/mm6733a4.htm>

Solar farms, when replacing agriculture, can also reduce opportunities for workers. “After construction, there isn’t a lot of labor required in maintaining a solar farm,” Mulvaney noted. In contrast to the heavy manual labor involved in agriculture, in particular near the US-Mexico border, migrant workers in particular may lose access to seasonal farming jobs. Where job loss accompanies a reduction in worker opportunities, a region’s tax base could also suffer.⁶⁶

“There’s also the possibility that as large scale renewable farms are built, we lose access to wilderness,” Mulvaney acknowledged, explaining that inequitable access to green space is a growing concern in which renewable energy facilities could be implicated.

Emphasizing the role of authentic and effective stakeholder engagement in renewable energy planning and design,⁶⁷ Mulvaney advocated for community benefit agreements⁶⁸ and programmatic environmental impact statements⁶⁹ which can enhance community influence in fully scoping potential social, economic, and ecological impacts before they happen and facilitate more beneficial development pathways and mitigation strategies.

Giving the example of the Salton Sea project,⁷⁰ where an existing geothermal source will be converted to a “green” lithium mine,⁷¹ negotiations are underway which could route excise taxes to environmental justice advocacy groups to fund their engagement in these processes, as well as workforce development and employment programs and habitat loss mitigation.⁷² The air quality effect of drying on the heavily polluted Salton Sea (actually a lake), however, remains to be seen.⁷³

⁶⁶ Agrovoltatics, or agriculture which integrates solar panels, is one creative strategy to help these two industries - and their workforces - coexist. <https://www.energy.gov/eere/solar/agrivoltatics-solar-and-agriculture-co-location>

⁶⁷ <https://www.tandfonline.com/doi/full/10.1080/09640568.2022.2086857>

⁶⁸ <https://www.lisc.org/our-resources/resource/community-benefits-agreements-toolkit/>

⁶⁹ <https://www.law.cornell.edu/cfr/text/1/601.21>

⁷⁰ <https://www.cnbc.com/2022/05/04/the-salton-sea-could-produce-the-worlds-greenest-lithium.html>

⁷¹ <https://chssp.ucdavis.edu/current-context/lithium-environmentaljustice>

⁷² <https://calexicochronicle.com/2023/03/01/county-seeks-public-input-on-how-to-spend-lithium-tax-dollars/>

⁷³ <https://www.desertsun.com/story/news/environment/2022/11/29/salton-sea-u-s-oks-250-million-for-projects-tied-to-colorado-cuts/69684356007/>

Homing in on solutions, Mulvaney noted the unique power of private industry in advancing an equitable renewable energy landscape. “They have a tremendous amount of power because they don’t need to rely on the government. They can set the terms of everything through a PPA, because it’s a private contract. They should say ‘we are only going to buy power from solar developers that have community benefits agreements in place, or that put their solar farms on previously disturbed land rather than destroying an ecosystem.’” In that power lies the opportunity for getting renewables right.

**D. Charlotte Tate, Advocacy Lead,
The Coalition to End Forced Labour
in the Uyghur Region**



*Uyghur forced labor is prevalent in many products, including solar panels and other technologies used in clean energy. A number of energy companies providing clean energy to the telecom sector have been implicated in Uyghur Forced Labor, including NextEra, Enel, Engie, and Clearway, according to the Uyghur Forced Labor Database.*⁷⁴

How extensive is the problem of Uyghur forced labor in general? How many Uyghurs are involved in forced labor?

The Government of China continues to perpetrate forced labor on a widespread and systematic scale in the Uyghur Region and other regions of China, targeting the Uyghur population and other Turkic and Muslim-majority peoples on the basis of their religion and ethnicity, and subjecting them to widespread restrictions and repression of fundamental freedoms.

⁷⁴ <https://jww.org/uyghur-china-forced-labor-database/>

There is substantial evidence that the Government of China is subjecting the Uyghur population and other Turkic and Muslim-majority peoples to state-imposed forced labor through various state-sponsored programmes, focused on eliminating Uyghur culture and religious practices. Resistance to participation in these programmes is seen as a sign of extremism and may be punishable with imprisonment.

Research shows that Uyghur forced labor is widespread within the supply chains of 17+ global industries, including apparel and textiles, information and communication technology, solar industries, auto, and other sectors. For example,

- As of 2022, 35% of the world’s solar-grade polysilicon and 32% of global metallurgical-grade silicon comes from the Uyghur Region. 95% of solar panels rely on solar-grade polysilicon.
- As of 2022, 12% of the global supply of aluminum is produced in the Uyghur Region.
- 10 of the largest ICT companies’ supply chains have been linked to Uyghur forced labor.

Within the clean energy sector, which technologies are at risk of involving Uyghur forced labor?

In the solar industry specifically, as of 2021, the four leading polysilicon manufacturers in the Uyghur Region are estimated to account for 48% of the world’s polysilicon production. All four have openly admitted to participating in “labor transfer” programmes that experts agree are forced labor under international law. Further, every level of the solar panel supply chain is exposed to Uyghur forced labor, from sourcing of raw materials to the production of polysilicon, ingots, wafers, cells, and modules. This is because mining, processing, and production within the solar supply chain, including quartzite mining, metallurgical-grade silicon smelting, and solar-grade polysilicon production, is concentrated in the Uyghur Region, which has pervasive links to forced labor and abuses that, according to the UN High Commissioner for Human Rights, may constitute crimes against humanity.

Alarming, the use of Uyghur forced labor is a risk throughout the renewables industry and is not limited to the solar sector. The Chinese government has incentivized and

subsidized companies to move mining, processing, and manufacturing of raw materials such as polysilicon, aluminum, steel, and bauxite into the Uyghur Region.

Many of the components that go into wind turbines are made from materials processed in the Region, such as steel and aluminum. The world's largest steel producer and at least seven other major steel producers, operating in or investing in the Uyghur Region, have publicly advertised their participation in state-sponsored labor transfers and other oppressive state-run programs in the Region.

Electric vehicles (EVs), including component parts, inputs, and batteries, are also significantly exposed to Uyghur forced labor. A report by Sheffield Hallam University and NomoGaia found that key actors in lithium processing and distribution are deeply implicated in the Uyghur Region's state-sponsored labor transfer programs. As of 2023, the market dominance of just two of these companies in the Uyghur Region means that practically all EV battery manufacturers are at risk of sourcing materials linked to forced labor.

Aren't materials produced using Uyghur forced labor banned from imports to the US? How are they still part of corporate supply chains?

A recent report shows that the global percentage of polysilicon sourced from the Uyghur Region has decreased by 10 percent since 2020, demonstrating it is possible for industry to exit the Region and develop alternative sourcing. However, some solar module manufacturers have bifurcated their supply chains, developing alternative sources for polysilicon that companies claim have no exposure to the Uyghur Region; this response is in part due to the U.S. Uyghur Forced Labor Prevention Act (UFLPA), which bars goods from the Uyghur Region given the high risk of forced labor and the impossibility of credible due diligence. The report also shows that some of the same companies continue to source from the Uyghur Region for sales to other markets, which do not have forced labor import bans or other regulation to eliminate forced labor in supply chains.

The Coalition to End Forced Labour in the Uyghur Region calls on all companies, including in the renewables sector, to exit the Uyghur Region at every level of their supply chains immediately; this should be accompanied by governments globally

enacting import control legislation banning imports of goods made with forced labor. Further, governments must introduce additional measures that will enable diversification of renewable energy technology supply chains. This should include the use of development finance and other financial incentives, in collaboration with the renewable sector, to develop alternative supplies of materials.

What can clean energy companies do to prevent Uyghur forced labor from entering their supply chains?

The Coalition is calling on businesses in all sectors to take verifiable measures to exit the Uyghur Region, committing to a single global standard, and engaging with the Coalition on measures to ensure they're not profiting from Uyghur forced labor.

Companies must:

- Stop sourcing any raw materials, inputs, or finished products from the Uyghur Region;
- Cut ties with companies implicated in forced labor in the Region, including those that have operations in the Uyghur Region and have accepted government subsidies and/or labor transfers at those operations;
- Prohibit any supplier factories located outside of the Uyghur Region from using Uyghurs and other Turkic and Muslim-majority workers supplied through the Chinese government's labor transfer scheme;
- Apply a single global standard consistent with the legal requirements set forth in the UFLPA across their entire supply chain and avoid bifurcating supply chains; and
- Refrain from re-exporting any goods denied entry to the U.S. under the UFLPA and attempt to sell those goods in other markets.

What can purchasers of renewable energy, like communications companies, who enter into contracts with clean energy companies, do to ensure their supply chains are free of Uyghur forced labor?

All companies should urgently trace their entire supply chain, address any points of exposure to Uyghur forced labor, and fully exit the Uyghur Region including

immediately terminating any direct or indirect relationships linked to Uyghur forced labor at every tier of their supply chain.

Companies should also conduct due diligence, including desk-based research in Chinese language, to identify whether any suppliers have participated in state labor transfer programs. If participation in state-sponsored labor transfers of Uyghurs and other Turkic and Muslim-majority people is identified, the company must use any leverage it has to end those suppliers' (or sub suppliers') participation in these programs on an expedited basis. If a supplier is unwilling to end participation promptly and expeditiously, the only responsible option a company has is to end that business relationship.⁷⁵

Are there any policies or practices that would allow companies to source from the Xinjiang Uyghur Autonomous Region and prevent the use of forced labor?

No, it is not possible for a company to responsibly source from the Uyghur Region. There are no valid means for companies to verify that any workplace in the Uyghur Region is free of forced labor or to prevent the use of forced labor in these workplaces in line with human rights due diligence.

Worker interviews, which are essential to the methodology of any labor or human rights investigations, cannot generate reliable information in these circumstances. No worker can speak candidly to factory auditors about forced labor or other human rights issues without placing themselves and their families at risk of brutal retaliation; there are widespread restrictions and repression of fundamental freedoms and human rights defenders, and civic space has been shut down. Numerous audit firms have pulled out of the Uyghur Region due to the impossibility of conducting audits. Given the pervasive scope of the abuses, buyers therefore need to operate on the assumption that all products produced in part or in whole in the Uyghur Region are at high risk of being tainted by forced labor.

⁷⁵ Recommended resources on how to identify exposure to Uyghur forced labor:
Evidence Briefs published by Sheffield Hallam University
Companies operating in the Uyghur Region or alleged to use labor transfers or other programs

A. Recommendations from the Interviews

Companies committed to making a positive impact on the trajectory of justice and human rights in the renewable energy transition should adopt these practices, which seek to rectify current environmental injustices and enhance benefits of the renewables industry to communities with excluded and exploited identities:

1. Strong PPAs which require a. authentic consultation and negotiation with impacted stakeholders b. community benefits agreements with those stakeholders addressing/mitigating their concerns around impacts to health, workers, and the environment;

2. Publicly disclosed policies that require the suppliers of critical minerals to:

- a) prioritize use of reused/recycled mineral materials,
- b) commit to strong human rights standards including prohibitions on forced labor, child labor, and other abuses likely to be present in conflict zones,
- c) disclose their method of monitoring and ensuring compliance with these policies, and
- d) provide immediate remediation of any violations found;

3. Communication companies' Codes of Conduct must cover the manufacturing of components used to create renewable energy for which the companies contract.

4. Where supplier codes of conduct and rigorous audits are not able to prevent forced labor, companies should proactively prevent raw materials and goods from these regions from entering their supply chains. Communications companies should include requirements for supply chain management in their requests for proposals and power purchasing agreements with energy companies. And not all situations are the same. Due to there being no valid means for companies to verify that any workplace in the Uyghur Region is free of forced labor or to prevent the use of forced labor in these workplaces in line with human rights due diligence, the only responsible course of action is for companies to immediately exit the Uyghur Region at every tier of their supply chain and address any links to state-sponsored labor transfers of Uyghurs to other parts of China.

5. Requirements for equitable hiring/subcontracting for renewable energy, including disaggregated reporting, targets and transparent progress in equitable hiring, contracting, promoting and retaining employees from underrepresented backgrounds; and

6. Policies ensuring affordability of renewable energy for low-income ratepayers.

V. Company Rankings

This year we added to the list of companies we researched and graded. Unfortunately, most of the companies did not report to the Carbon Disclosure Project (CDP) nor share renewable energy usage or targets in company sustainability or corporate responsibility reports. The lack of transparency, which is the first step towards real progress in reducing Greenhouse Gas Emissions and advancing energy justice, illustrates how far the industry as a whole needs to go to change business as usual and protect the communities from which they profit. This report also focuses on supplier diversity and entrepreneurial opportunity for marginalized groups as a metric of energy justice, with some companies having good or partial policies, and others having none. We also assessed supply chain policies that should protect human rights, including the sourcing of conflict minerals. The adoption of these policies varied widely amongst companies. Green America applauds the companies that have policies, but as experts have highlighted, those policies need to have on-the-ground verification, which can be challenging. More information on company policies can be found here.

All data is from publicly available sources as of January 1, 2024.

T-Mobile continues to lead among telecommunication companies in progress toward the use of renewable energy. While the company claims to buy 100% renewable power since 2021, much of that comes from Renewable Energy Credits,⁷⁶ instead of directly from renewable energy projects. T-Mobile has a net zero goal, which is stronger than its competitors' carbon neutral goals; carbon neutral targets can permit offsets, undermining true progress toward renewable capacity. The company is making some progress on environmental justice and supply chain policies.

⁷⁶ Renewable Energy Credits can be problematic and obscure greenwashing:

<https://www.spglobal.com/esg/insights/problematic-corporate-purchases-of-clean-energy-credits-threaten-net-zero-goals#:~:text=Using%20RECs%20also%20allows%20a,emissions%20could%20be%20sharply%20undercut.>

Transparency: A
GHG Goal: A (Net Zero by 2040)
Renewables: 97% with RECs
Renewable Energy Usage Grade: B
Renewable Energy Goal: A (100% by 2021 with RECs)
Energy Justice Grade: C+ (good supplier diversity/limited entrepreneurial opportunity)
Supply Chain Policy: Has a good supply chain and conflict minerals policy

AT&T did make some progress in using renewable energy, but the company still lags far behind T-Mobile and is not investing in the wind and solar purchases needed from major companies to shift markets. The company is stronger than competitors in supporting diversity in its supply chains and preventing poor labor practices.

Transparency: B
GHG Goal: B (carbon Neutral by 2035)
Renewables: 14%
Renewable Energy Usage Grade: D+
Renewable Energy Usage Goal: F (no stated goal)
Energy Justice Grade: B- (good supplier diversity/good entrepreneurial opportunities)
Supply Chain Policy: Has a good supply chain/conflict mineral policies (strongest for the sector)

Verizon did make some progress since 2021 with increased renewable energy contracts. The company has a long way to go to reach 100% renewable energy, and Verizon also has not publicly released its emissions or renewable energy data to CDP since 2021, making it difficult to truly evaluate the company's progress. Verizon's record is mixed on energy justice and supply chain policies and practices.

Transparency: D+
GHG Goal: B (Carbon Neutral by 2035)
Renewables: 3%
Renewable Energy Usage Grade: D-
Renewable Energy Goal: C (50% by 2025)

Energy Justice Grade: C (limited supplier diversity/strong entrepreneurial opportunity)
Supply Chain Policy: Has a good supply chain/limited conflict mineral policy

Comcast Corporation does report to CDP and is using approximately 9% renewable energy with a goal of being carbon neutral by 2035. The company does not have a renewable energy portfolio goal, but has put some energy justice measures in place. Comcast does have a supply chain policy, but it is weak on conflict minerals.

Transparency: B

GHG Goal: B (carbon neutral by 2035)

Renewables: 9%

Renewable Energy Usage Grade: D

Renewable Goal: F (none)

Energy Justice Grade: C- (limited supplier diversity/good entrepreneurial opportunity)

Supply Chain Policy: Has a limited supply chain policy/weak conflict minerals policy

Lumen Technologies does not have a clear clean energy or GHG reduction goal and is using a very low proportion of renewable energy. We did not find clear environmental justice policies, but the company does have limited supply chain and conflict mineral policies.

Transparency: B

GHG Goal: F (none)

Renewables: 6%

Renewable Energy Usage Grade : D-

Renewable Energy Goal: F (“exploring” long term goals)

Energy Justice Grade: F (very limited supplier diversity/no entrepreneurial opportunity)

Supply Chain Policy: Has a limited supply chain/conflict mineral policies

Charter Communications does not report to CDP. The company does report out on its energy usage and greenhouse gas emissions through its own sustainability reporting. The company has a GHG reduction goal but no renewable energy portfolio

goal. We could not find meaningful support for supplier diversity or a supply chain or conflict minerals policy. The company provides some support for entrepreneurial opportunities.

Transparency: D+

GHG Goal: B (carbon neutral by 2035)

Renewables: None reported

Renewable Energy Usage Grade: F (none)

Renewable Energy Goal: F (none)

Energy Justice Grade: D (no supplier diversity/limited entrepreneurial opportunity)

Supply Chain Policy: No policies found

Frontier Communications Parent Inc does not report to CDP and has no meaningful information regarding its energy usage, renewable energy goals or usage, GHG reduction goals, energy justice goals or efforts. It has minimal environmental justice and supply chain policies.

Transparency: F

GHG Goals: F (none)

Renewables: none

Renewable Energy Usage Grade: F (none)

Renewable Energy Goal: F (none)

Energy Justice Grade: D- (very limited supplier diversity/no entrepreneurial opportunity)

Supply Chain Policy: Has a weak supply chain and no conflict minerals policy

Dish Network (now a subsidiary of EchoStar) does not report to CDP, nor does the company provide disclosures on its own website regarding GHG emissions or goals, energy usage, renewable energy usage or goals, energy justice goals or policies. It has a good supply chain policy, but a limited conflict minerals policy

Transparency: F

GHG Goals: F (none)

Renewables: None

Renewable Energy Usage Grade: F (none)

Renewable Energy Goal: F (none)

Energy Justice Grade: F (no supplier diversity or entrepreneurial opportunity policies)

Supply Chain Policy: Has a good supply chain policy/limited conflict minerals policy

Altice USA Inc. does not report to CDP. The company provides data on its GHG emissions on its website and reports having a 500kW solar installation. It does not have a GHG goal, a renewable energy goal, does not appear to have policies supporting environmental justice, and does not have a supply chain or conflict minerals policy.

Transparency: D-

GHG Goal: F (none)

Renewables: Very limited

Renewable Energy Usage Grade: F (minimal)

Renewable Energy Goal: F (none)

Energy Justice Grade: F (no supplier diversity or entrepreneurial policies)

Supply Chain Policy: No policies found

Cable One Inc. does not have a clean energy or GHG emissions goal. It does not report to CDP. The company does not report using renewable energy, nor does it appear to support energy justice or have a supply chain or conflict minerals policy.

Transparency; F

GHG Goal: F (none)

Renewables: None reported

Renewable Energy Usage Grade: F (none)







































































Renewable Energy Goal: F (none)


Energy Justice Grade: F (no policies found)

Supply Chain Policy: No policies found

2024 Communications Company Scorecard

Communications Industry Clean Energy Scorecard

	Transparency	Renewable Energy Goal	Renewable Energy Usage	GHG Goal	Energy Justice	Overall Grade	Supply Chain Policy*
 T-Mobile							Y
 at&t							Y
 verizon							Y
 COMCAST							M
 LUMEN							M
 Charter COMMUNICATIONS							N
 Frontier COMMUNICATIONS							M
 dish NETWORK							Y
 altice							N
 CABLE ONE							N

 Green America

*For this report a grade was not assigned to the potential human and worker rights issues of supply chains, including the mining of essential minerals. Instead it is noted whether a company has a policy or not, and if there is a policy, whether it is minimal, (in the scorecard: **Y = Yes** | **N = No** | **M = Minimal** While publicizing a policy is a good start, companies also must demonstrate how they implement their policies and ensure they are followed by their suppliers. There is more detail below about the strength of policy language in energy companies' supply chain codes.

Transparency: We looked at whether the company reports out on climate emissions and goals to CDP as well as disclosures made on the company's website and corporate social responsibility report.

Renewable Energy Goal: We looked to see if the company has a stated date by which it will use a stated percentage of renewable energy.

Renewable Energy Usage: We looked at what percentage of total energy used by the company comes from renewable sources.

Greenhouse Gas Goals: Does the company have a stated goal and a date by which it will reduce greenhouse gas emissions? Is this a net zero or carbon neutral commitment?

Energy Justice: We looked at how companies performed on metrics regarding the diversity in their supply chains and entrepreneurial opportunity for marginalized groups.⁷⁷

⁷⁷ Calling for a Clean, Just Transition, Part 2 <https://greenamerica.org/sites/default/files/2023-01/Calling%20For%20A%20Clean%2C%20Just%20Transition%20Pt.%202%20%282023%29.pdf>

VI. Measures of Energy Equity

Communications companies have a choice. They can potentially wield significant influence over energy justice practices as large consumers of power, which they can exercise through their energy sourcing parameters. Or they can be boosters for advocates of false solutions and greenwashing, where these policies are weak or unenforced. Supply chain examination and management is not only imperative from a business continuity and risk perspective,⁷⁸ but is increasingly recognized as a way to influence environmental and social policies of suppliers.

Green America's prior *Calling for a Clean, Just Transition* included a comprehensive list of social impact criteria which companies can incorporate into their RFPs (request for proposals), incenting energy companies to augment their impacts on communities, create economic opportunities, secure worker justice, and implement environmental and local ecosystem protection. Our research showed that energy producers often fail to advance energy justice, so large purchasers can play an important role in urging producers to forefront energy justice. In short, these procurement requirements can prompt energy producers to make positive changes in order to remain competitive for big contracts.⁷⁹

In this year's report, Green America looked to communications companies' publicly available data for indicators of commitments to energy justice or energy equity. Specifically, we searched company sites for energy justice or energy equity goals; unfortunately, none of the companies that provide communications in the US explicitly committed to measurable goals to enhance energy justice.⁸⁰ This absence underscores the fact that while greenhouse gas reductions have risen in priority, the impacts of the energy sector on humans and the intersection of those impacts with

⁷⁸ <https://onlinebusiness.umd.edu/mba/resources/what-is-supply-chain-management-and-why-is-it-important/>

⁷⁹ <https://helicon-decagon-j2dn.squarespace.com/#RFP>

⁸⁰ We acknowledge, however, that commitments and progress on reducing consumption of fossil-fuel powered energy is likely to reduce—or at least not increase—environmental racism from polluting power plants in neighborhoods burdened by polluting facilities.

racial, gender, and economic class dynamics needs to be amplified within the communications sector as a whole.

We also evaluated each communications company with attention to four policies and practices that could foster and promote energy justice. These policies and practices, when applied by communications companies in their sourcing of energy and enforced on the ground, could potentially reduce competitive advantage for the “worst offenders” of energy injustice and increase opportunity for business owners and workers who have been traditionally locked out of economic benefits of the energy sector:

- Forced labor, child labor, and human trafficking prohibitions in supplier codes of conduct
- Conflict-free minerals provisions in supplier codes of conduct
- Supplier diversity goals and metrics
- Programs designed to support businesses owned by people with identities underrepresented in the energy industry

A. Forced labor, child labor, human trafficking prohibitions in supplier codes of conduct

Supplier codes of conduct, while not a panacea against unethical practices, signal a company’s intent to operate within the law and extend that expectation to suppliers with which they do business. Absent journalistic or whistleblower exposes, enforcement of a supplier code of conduct which explicitly prohibits the use of forced labor and/or human trafficking can be the only mechanism holding companies to account.⁸¹

Among the communications companies assessed, several did have supplier codes of conduct which included prohibitions on forced labor, human trafficking, and/or child labor, however, it is not clear if these codes of conduct apply to the energy purchases

⁸¹ <https://www.dol.gov/agencies/ilab/resources/what-is-child-labor-human-trafficking>

of these companies. AT&T stood out for its robust human rights policy,⁸² and its supplier code of conduct specifies a policy against unfair labor, which includes forced labor, modern slavery, and child labor specifically.⁸³ Verizon reports having a human rights committee, statement, and engaging with third party evaluators⁸⁴ in its supply chain assessments, including its policy against forced labor.⁸⁵ T-Mobile, likewise, reports a robust supply chain assessment program, which includes ethics, labor, and human rights evaluations from a third-party risk management process.⁸⁶ DISH Network has a supplier code which prohibits the use of forced and child labor, as well.⁸⁷ Lumen Technologies'⁸⁸ and Comcast Corporation's⁸⁹ supplier codes of conduct contain language prohibiting the use of child labor, modern slavery, and forced labor, as well, albeit via brief statements.

Other companies' commitments were more nebulous. Frontier communications, for example, has an internal code of ethics that prohibits the use of forced labor and human trafficking, and goes on to state that the company "never knowingly" does business with entities engaging in such human rights abuses.⁹⁰ This language could create a loophole whereby claiming ignorance in the absence of evidence of knowledge could permit suppliers to source materials from companies that engage in human rights abuses.

⁸² AT&T - Sustainability Reporting - Human Rights (att.com)

⁸³ ATT External Word Template (attsuppliers.com)

⁸⁴ <https://www.verizon.com/about/sites/default/files/Verizon-2022-ESG-Report.pdf>

⁸⁵ Human Rights Commitment at Verizon About Verizon

⁸⁶ https://www.t-mobile.com/content/dam/digx/tmobile/us/en/non-dynamic-media/pdf/T-Mobile-2022-Corporate-Responsibility-Report.pdf?icid=MGPO_TMO_U_TMOCPSOCRS_7UL48HP at 21.

⁸⁷ <https://www.prod.dish.com/content/dam/dish/pdfs/supplier-code-of-conduct.pdf>

⁸⁸ [https://assets.lumen.com/is/content/Lumen/lumen-supplier-code-of-conductpdf?Creativeid=4dfeaaf6-9e7c-4d44-a88a-](https://assets.lumen.com/is/content/Lumen/lumen-supplier-code-of-conductpdf?Creativeid=4dfeaaf6-9e7c-4d44-a88a-9cf755d5be9d#:~:text=Suppliers%20must%20provide%20equal%20employment,discrimination%2C%20harassment%2C%20and%20retaliation.)

[9cf755d5be9d#:~:text=Suppliers%20must%20provide%20equal%20employment,discrimination%2C%20harassment%2C%20and%20retaliation.](https://assets.lumen.com/is/content/Lumen/lumen-supplier-code-of-conductpdf?Creativeid=4dfeaaf6-9e7c-4d44-a88a-9cf755d5be9d#:~:text=Suppliers%20must%20provide%20equal%20employment,discrimination%2C%20harassment%2C%20and%20retaliation.)

⁸⁹ https://update.comcast.com/wp-content/uploads/sites/33/dlm_uploads/2023/09/Code-of-Conduct-for-Suppliers-and-Business-Partners-English-US.pdf

⁹⁰ https://s201.q4cdn.com/129601114/files/doc_downloads/2023/Code-of-Ethics-Nov-2022-Posted.pdf

B. Conflict-free minerals provisions in supplier codes of conduct

The growing popularity of conflict-free minerals provisions among communications companies suggests they acknowledge their responsibilities to prevent funding human rights abuses and injustice. Where the language of these provisions is not mandatory, implicitly excludes cobalt, and/or is only applicable where a link to armed conflict is provable, however, these provisions are unlikely to avoid the grave environmental injustices facing workers and communities harmed by minerals mining for renewable energy products. It could be a simple fix, as far as supplier code language is concerned; explicitly requiring that suppliers conduct due diligence to prevent *all minerals from mining operations that fail to meet standards⁹¹ for environmental, labor, and human rights could be a good start.*

Besides renewable energy components, raw minerals are used in many of the technologies associated with communications (cellular devices being the most notorious). As such, some communications companies explicitly contain provisions in their supplier codes discouraging or prohibiting the use of minerals that are associated with the DRC, its surrounding region, and/or human rights abuses associated with conflict in the region, given their propensity to fund armed groups.⁹²

AT&T's Supplier Code of Conduct contained the strongest and broadest language, explicitly prohibiting the use of conflict minerals from the DRC and adjoining areas and/or that directly or indirectly finance or benefit armed groups ("conflict minerals"); it also reserves the right to suspend or terminate Suppliers that violate this provision.⁹³ The policy does not specify which minerals are covered, and thus by default *could⁹⁴*

⁹¹ For example, standards established by The Initiative for Responsible Mining Assurance could be used as a benchmark: <https://responsiblemining.net/>

⁹² <https://www.cfr.org/global-conflict-tracker/conflict/violence-democratic-republic-congo>

⁹³ <https://attsuppliers.com/misc/SupplierSustainabilityPrinciples.pdf>

⁹⁴ The designation of "conflict minerals" is variable, but US legislation defining conflict minerals does not include cobalt. For more information, see: <https://www.responsiblemineralsinitiative.org/about/faq/general-questions/what-are-conflict-minerals/>; <https://www.oecd.org/corporate/mne/mining.htm>; <https://www.gao.gov/assets/d20595.pdf>

potentially include cobalt, a core material in renewable energy storage products which perpetuates environmental injustice as described earlier in this report.⁹⁵

T-Mobile’s minerals policy was quite robust, and although it specified its application of the term “conflict minerals” to tantalum, tin, tungsten, and gold, it also reserved the right to apply the policy to other minerals, which could include cobalt. The policy required that suppliers of products containing these minerals either be recycled or scrap, or subject to audit and third-party verification, conduct their own due diligence, and transparently report. T-Mobile’s policy’s level of specificity, if applied to cobalt, could be effective in reducing environmental justice harms of the cobalt industry in the DRC.⁹⁶

Verizon’s policy is limited to tantalum, tin, tungsten, and gold⁹⁷ (but not cobalt), and emphasizes transparency and compliance with various laws and best practices including the traceability called for by the Responsible Mining Initiative. The language of its policy, however, is particularly soft, expressing “concern” over the funding of armed groups in DRC through conflict minerals, noting its “expectations” for suppliers, and including no specific consequences for suppliers utilizing conflict minerals. Verizon places the onus on suppliers to track and report sourcing from sub-suppliers.⁹⁸

DISH Network’s Responsible Sourcing of Minerals provision is also specific to tantalum, tin, tungsten, and gold (but not cobalt), and also requires suppliers to “reasonably assure” that these minerals do not directly or indirectly finance or benefit armed groups in the DRC or adjoining countries, though it does not explicitly prohibit minerals

⁹⁵ <https://www.unep.org/news-and-stories/story/can-democratic-republic-congos-mineral-resources-provide-pathway-peace>

⁹⁶ <https://www.t-mobile.com/our-story/working-together/suppliers/responsible-sourcing#:~:text=What%27s%20in%20scope%3F%201%201.%20Minerals%20Sourced%20from,...%207%207.%20Environmental%2C%20Social%2C%20and%20Ethical%20Performance>

⁹⁷ Specifying due diligence around these four minerals and derivatives of minerals can be viewed as “the bare minimum” in that the US Security & Exchange Commission explicitly identified them as “conflict minerals” and requires transparency around mining these materials. Even in the face of this requirement, as recently as 2023, companies are out of compliance. <https://www.reuters.com/sustainability/some-us-companies-still-failing-meet-conflict-minerals-rules-gao-says-2023-07-20/>

⁹⁸ <https://www.verizon.com/about/our-company/company-policies/conflict-mineral>

sourced from the DRC. DISH states that it follows the Responsible Business Alliance guidelines and requires due diligence and assistance complying with the Dodd-Frank Act⁹⁹ from its suppliers, but does not put suppliers on notice that their contracts could be canceled for failure to keep conflict minerals out of their products.¹⁰⁰

Lumen Technologies' supplier code is even more ambiguous, requiring only "reasonable steps to ensure" minerals do not directly or indirectly benefit armed groups that commit human rights abuses in or near the DRC. It also only pertained to tantalum, tin, tungsten, and gold, but not cobalt. There were no specific consequences advised for failure to comply, and of course, "reasonable steps" are highly subjective.¹⁰¹

In both DISH and Lumen's conflict minerals provisions, the language leaves room for the possibility that minerals could be sourced from the DRC and adjoining countries where it is impossible to prove that such sourcing actually finances or benefits armed groups and/or groups committing human rights abuses. They also do not reference cobalt at all, which ostensibly grants permission to suppliers to use cobalt sourced from DRC which inflicts environmental injustice on workers and communities in the region.

Comcast's supplier code was even weaker, implicitly allowing conflict minerals to be used by suppliers. Under its Responsible Sourcing of Materials provision, it only advised suppliers that "if [their] product does contain hazardous materials or conflict minerals, [they] must adhere to applicable laws and regulations, including regarding labeling."¹⁰²

⁹⁹ <https://www.investopedia.com/terms/d/dodd-frank-financial-regulatory-reform-bill.asp>

¹⁰⁰ <https://wwwprod.dish.com/content/dam/dish/pdfs/supplier-code-of-conduct.pdf>

¹⁰¹ <https://assets.lumen.com/is/content/Lumen/lumen-supplier-code-of-conductpdf?Creativeid=4dfeaaf6-9e7c-4d44-a88a-9cf755d5be9d#:~:text=Suppliers%20must%20provide%20equal%20employment,discrimination%2C%20harassment%2C%20and%20retaliation>

¹⁰² https://update.comcast.com/wp-content/uploads/sites/33/dlm_uploads/2023/09/Code-of-Conduct-for-Suppliers-and-Business-Partners-English-US.pdf

We were unable to locate any conflict minerals policies in publicly available information for Altice USA, Cable One, Charter communications, or Frontier communications Parent Inc.

To be meaningful, companies must ensure on-the-ground audits confirm self-reporting by their suppliers, and remediate the harm where audits reveal human rights abuses. Without such robust monitoring and enforcement of policies, codes of conduct may be purely aspirational.

C. Supplier diversity goals and metrics

Communications companies source materials and services from various types of providers, including those which generate energy. As discussed in this report and Green America’s prior issue of Clean Energy Calling, women, Black, Indigenous, and Latine people are heavily underrepresented in both conventional and renewable energy industries as workers and business owners. One of the ways in which communications firms can advance energy justice is through deliberate supplier diversity initiatives, which could create more equity of opportunity for energy providers from underrepresented identities.

An important limitation to note here is that none of the diverse supplier goals or metrics reported disaggregated data to the extent that would truly identify whether procurement from “minority-owned” companies actually might benefit business owners from racial and ethnic categories that are underrepresented in the energy industry. Aggregation of data concerning “minority-owned” businesses is quite common and lacks transparency around who benefits; the use of categories like “BIPOC” in data can often obscure the extent to which race and ethnicity-specific inequity might be perpetuated.¹⁰³

¹⁰³ <https://medium.com/cultured-network/how-using-the-term-people-of-color-masks-anti-black-systemic-racism-f595da1a0eca>

In several cases, communications companies did not disaggregate their data on supplier procurement at all beyond the category of “diverse,” which could encompass various racial, ethnic, gender, ability, and other statuses. In theory, a company could claim achievement of a diverse supplier spend goal solely through contracting with veterans and ethnic minorities who are not actually underrepresented in the sector. Nevertheless, diversity supplier goals and metrics can serve as an indicator of progress on energy justice through opportunity; we summarize communications’ companies’ diverse supplier data below.

AT&T’s supplier diversity goals and metrics were relatively transparent and robust. The company aims to spend 21.5% annually of its outsourced needs with minority-, women-, veteran-, LGBTQ+, and disabled-owned businesses, and exceeded this goal in 2022, achieving 26.3% diverse supplier spend. This included \$10.2B (16.5%) spent with minority-owned companies and \$5.4B (8.8%) spent with women-owned companies.¹⁰⁴

T-Mobile also stood out, participating in the Diversity in Clean Energy (DiCE)¹⁰⁵ partnership, designed precisely to drive inclusive practices around supplier diversity in the clean energy value chain.¹⁰⁶ According to its 2022 ESG report, T-Mobile’s procurement process scores those companies with leadership from traditionally underrepresented groups higher on key selection criteria.¹⁰⁷ The company tracks its diverse supplier spending and rewards staff who secure new contracts with traditionally underrepresented, disadvantaged, or small business owners; its diverse supplier spend increased by 38% from 2021 to 2022, with \$4.5B spent with diverse suppliers last year.¹⁰⁸ The data, however, was not disaggregated, making it unclear to what extent the most underrepresented suppliers were included.

¹⁰⁴ <https://sustainability.att.com/priority-topics/responsible-supply-chain>

¹⁰⁵ <https://dicesuppliers.com/>

¹⁰⁶ It is notable, however, that this program is led by Duke Energy, a company with historically poor performance on environmental and social metrics.

¹⁰⁷ https://www.t-mobile.com/content/dam/digx/tmobile/us/en/non-dynamic-media/pdf/T-Mobile-2022-Corporate-Responsibility-Report.pdf?icid=MGPO_TMO_U_TMOCPSOCRS_7UL48HP17ITX58D5Q34559

¹⁰⁸ https://www.t-mobile.com/content/dam/digx/tmobile/us/en/non-dynamic-media/pdf/T-Mobile-2022-Corporate-Responsibility-Report.pdf?icid=MGPO_TMO_U_TMOCPSOCRS_7UL48HP17ITX58D5Q34559

Verizon, by contrast, was less ambitious and less transparent than its “Big Three” competitors. A 2022 third-party Equity Audit noted that Verizon’s goal of spending \$1B or more directly with diverse suppliers was exceeded, and total spend (inclusive of subcontractors) in 2022 amounted to \$6.8B. The audit, however, indicated that the aggregation of data under the broad umbrella of “diverse” detracted from the effectiveness of evaluating it for true equity.¹⁰⁹

Charter communications’ ESG report indicated no clear diversity spend goal and simply stated that it has spent over \$1B on diverse supplier procurement in each of the last five years, without disaggregating the data at all.¹¹⁰

Comcast reported its diverse supplier spend for 2021 at \$4.3B direct spend and \$390M diverse spend through subcontractors; again, there was no disaggregation of the data to indicate whether the companies that received these contracts were members of groups that have been most underrepresented. Comcast did not identify an explicit diverse procurement goal.¹¹¹

Lumen Technologies’ most recent publicly available ESG report does not provide information about diverse supplier spend or goals.¹¹² An undated document indicates the company “strives” to spend at least 15% of total (including subcontractors) procurement dollars with diverse suppliers, and places the onus on larger contractors to submit a diversity subcontracting plan.¹¹³

Frontier communications, while boasting that it scored #2 in California’s diversity spend tracking and noting a commitment to diverse procurement through its internal Supplier Diversity Council, did not actually disclose how much it spent, what its diverse supplier goals were, or which categories of diversity were applicable.¹¹⁴

¹⁰⁹ <https://www.verizon.com/about/sites/default/files/verizon-covington-report-2023.pdf>

¹¹⁰ <https://corporate.charter.com/esg-report.pdf>

¹¹¹ https://update.comcast.com/wp-content/uploads/sites/33/dlm_uploads/2022/06/2022-Impact-Report.pdf

¹¹² <https://assets.lumen.com/is/content/Lumen/lumen-esg-report?Creativeid=6965257d-9815-40a6-9501-3cca81da4fa2>

¹¹³ <https://assets.lumen.com/is/content/Lumen/supplier-diversity-schedule?Creativeid=bd267408-0ab0-441d-b30d-7b673a3744f3>

¹¹⁴ <https://newsroom.frontier.com/wp-content/uploads/2023/05/frontier-esg-report-final-2022.pdf>

We were unable to find any indicators of supplier diversity goals or reporting on performance for Cable One,¹¹⁵ Altice USA¹¹⁶¹¹⁷, or DISH Network.¹¹⁸¹¹⁹

D. Programs designed to support businesses owned by people with identities underrepresented in the energy industry

Aside from directly or indirectly doing business with contractors from diverse backgrounds, communications companies can support energy justice through programs designed to enhance access to financing or professional development for entrepreneurs whose identities have been excluded from the energy sector. Again, these programs are not guarantees that people who are truly underrepresented in the energy sector will access them, nor that they will be used in pursuit of energy-related endeavors; however, the potential exists to level the field of inequity in the energy industry where companies have allocated resources to supporting equitable investments.

AT&T, for example, reported serving 96 women-, 91 minority-, and 10 disabled-veteran owned businesses through a supplier financing program.¹²⁰ Charter provided loans specifically for Latino small businesses.¹²¹

Verizon's Small Business Digital Ready training program stood out, with its third-party auditor noting that it provided training, access to \$10,000 capital grants, and discounts on products to small businesses, 55% of which were Black-owned and 53% of which were women-owned.¹²²

¹¹⁵ http://q4live.s25.clientfiles.s3-website-us-east-1.amazonaws.com/936561952/files/doc_downloads/2023/08/Cable-One-2022-Environmental-Social-and-Governance-Report.pdf

¹¹⁶ <https://www.alticeusa.com/diversity-inclusion>

¹¹⁷ <https://www.alticeusa.com/environmental-care-and-sustainability>

¹¹⁸ <https://wwwprod.dish.com/supplier-resources>

¹¹⁹ <https://careers.dish.com/about/diversity-inclusion>

¹²⁰ <https://sustainability.att.com/priority-topics/responsible-supply-chain>

¹²¹ <https://corporate.charter.com/newsroom/spectrum-invests-in-latino-owned-small-businesses>

¹²² <https://www.verizon.com/about/sites/default/files/verizon-covington-report-2023.pdf>

Comcast reported that in 2021, it has made significant investments in First Women’s Bank, Inclusiv’s Racial Equity and Resilience Investment Fund, and Clear Vision Impact Fund, all of which are aimed at increasing access to capital, employment, job training, and educational opportunities for women, people of color, and underserved communities, respectively.¹²³

T-Mobile supports the Minority Business Executive Program, which provides mentorship and development to business owners from diverse backgrounds, though its CSR report did not specify metrics or investments beyond this for small business owners.¹²⁴

Though some of the other communications companies did have small business loan programs, we were unable to locate entrepreneurial opportunities specifically aimed at correcting inequitable distribution of resources at Cable One, Frontier, Altice, Lumen, or DISH.

¹²³ https://update.comcast.com/wp-content/uploads/sites/33/dlm_uploads/2022/06/2022-Impact-Report.pdf

¹²⁴ https://www.t-mobile.com/content/dam/digx/tmobile/us/en/non-dynamic-media/pdf/T-Mobile-2022-Corporate-Responsibility-Report.pdf?icid=MGPO_TMO_U_TMOCPSOCRS_7UL48HP

VII. Conclusion

Renewable energy is obviously critical to our future if we are to mitigate the effects of climate change, which are already wreaking havoc on communities across the world. The communications industry can play a pivotal role as one of many industries using huge amounts of electricity. That purchasing power also comes with a great deal of responsibility - both in growing the market for renewable electricity and helping to make sure that growth is accomplished with respect for human rights and the environment, and proactive avoidance of further ecological destruction and human rights atrocities where materials originate. In this report we have seen some improvement from T-Mobile, AT&T and Verizon with more purchases of renewable electricity. The communications companies we added to the report have a great deal of work to do to phase out their purchase of electricity supporting fossil fuels.

On issues of energy justice, however, overall, the communications companies assessed have made little to no progress. This is unacceptable, as companies with this much influence need to lead in taking responsibility for protecting and creating opportunities for marginalized communities.

The responsibility also extends to mining for the materials needed for the growing renewable energy market. If companies continue business as usual, communities in all corners of the globe will continue to suffer human rights abuses and environmental degradation. The opportunity to get the supply chain cleaned up is now— before the demands for renewable energy multiply. And as customers of many of these companies, we all have the voice to communicate to them that they need to do the right thing.