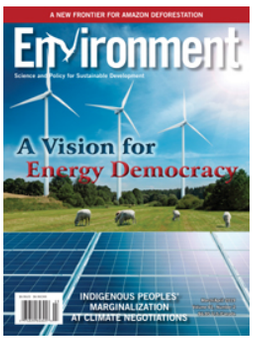

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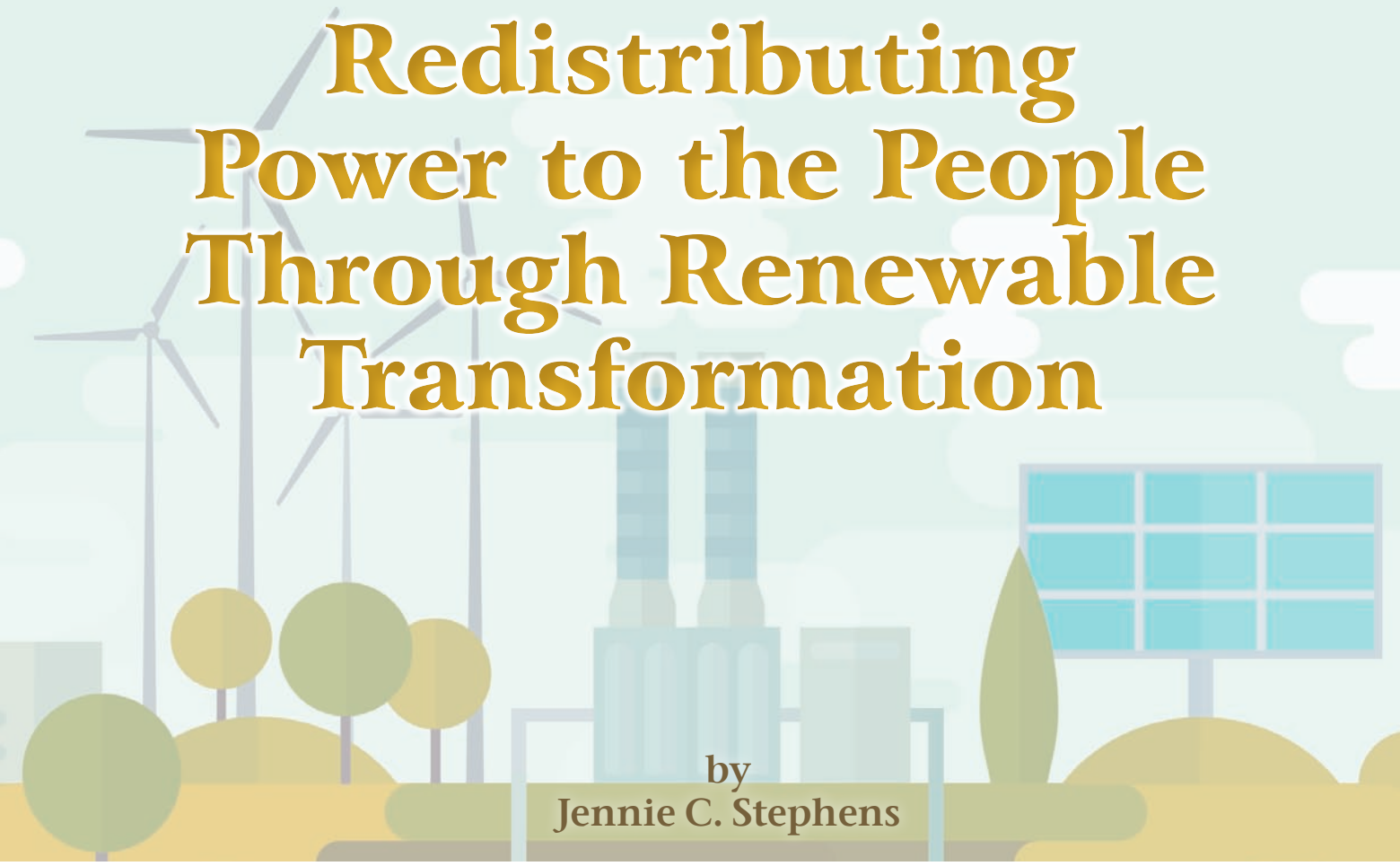
Energy Democracy:

Redistributing Power to the People Through Renewable Transformation



by
Jennie C. Stephens

As the expansion of renewable energy accelerates, the transformative potential of moving away from fossil fuel reliance is becoming increasingly clear. Around the world, individuals, communities, organizations, cities, states, and countries are recognizing that renewable energy offers much more than just reliable clean electricity, pollution reductions, and climate mitigation. In addition to these environmental benefits, the renewable energy revolution also provides potential to transform society by redistributing jobs, wealth, health, and political power more equitably.

Energy democracy is a growing social movement that prioritizes this potential for redistributing power to the people through renewable transformation. Energy democracy acknowledges how fossil-fuel-based energy systems and the associated massive corporate profits of large multinational energy companies have perpetuated inequities, exacerbated disparate vulnerabilities, and promoted widespread injustices among and within communities around the world. By highlighting the negative societal impacts of fossil-fuel-based concentration of power and wealth, the principles of energy democracy connect energy system change with an associated transformation toward a more socially just and equal society.[1]

Energy democracy recognizes that replacing fossil-fuel-based infrastructure with renewables is much more than a technological substitution; the social changes associated with this transition could be transformative. Energy democracy focuses on harnessing this progressive social change potential by embracing a vision of more distributed, locally based energy systems with a regionally appropriate mix of different renewable sources satisfying 100% of society's energy needs.

Whether the renewable energy transition delivers on this potential of re-

distributing power depends, however, on how renewable energy is deployed, and who is included and excluded in the benefits of a renewable-based society. The energy democracy vision, therefore, provides a valuable lens to guide participation, governance, and priorities of the renewable energy revolution. Advancing the vision of the energy democracy movement requires prioritizing local and community-controlled renewables and scaling-up and mainstreaming cooperative-model, publicly owned energy infrastructure.[2]

Energy Cooperatives and Public Ownership

Energy cooperatives are one mechanisms to redistribute the power. Energy cooperatives are owned and managed by the members of the cooperative so they enable locally focused decision making reflecting local priorities. In addition to energy cooperatives, other mechanisms for moving away from investor-owned utilities toward public ownership of energy infrastructure include promoting more municipal utilities.[22]

By explicitly acknowledging and connecting how energy systems impact political, economic, institutional, and cultural aspects of society, energy democracy reframes energy system change as an opportunity to redistribute political and economic power. By explicitly connecting societal issues that are not generally linked, energy democracy provides a broad social, political, and cultural framework to connect social justice, energy, and climate change.

Harnessing the Social Change Potential of Renewable Energy

The energy democracy movement recognizes that a future society based on distributed renewable energy generation differs fundamentally from current societal structures that are based on conventional, centralized, fossil-fuel-burning energy generation. The transformative social change potential of renewable energy can be understood by highlighting three fundamental differences between renewable energy and fossil-fuel-based energy:

1. Renewable energy can be deployed in local, small-scale installations, in a dispersed and distributed way. This enables individuals, households, communities, and organizations to own and manage their own energy infrastructure. Renewable energy resources are available in every region of the world, with a different mix in different places. The potential for distributed self-sufficiency in energy supply, therefore, has transformative potential because of widespread opportunities for local control and local economic benefits around the world. Due to the unequal global distribution of fossil fuel resources, fossil-fuel-based energy systems do not provide this same potential for local and distributed ownership and control.

Alternative clean energy.

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2. Renewable energy relies on sun, wind, water, or geothermal to provide the "fuel" to generate power. Unlike fossil fuels, these resources are "renewable," which means they are perpetual and free. Once initial investments have been made in technologies to harness these renewable resources, individuals, households, and communities can leverage the steady and free "fuel" source. Given that the sun does not always shine and the wind does not always blow, intermittency is a challenge with renewable energy systems; however, advances in grid management technologies and the expansion of locally appropriate heterogeneous mixes of different renewable energy technologies can smooth out the limits of intermittency. Despite intermittency, renewables are perpetual and steady; there is an extremely high level of certainty that the sun will travel across the sky each day, wind patterns will persist over time, water will always flow downhill, and geothermal heat will always dissipate. While renewable electricity generation is not free, the renewable "fuel" (sun, wind, water, and geothermal heat) is free. Renewable energy does, of course, require some operation and maintenance, although the costs of many renewable technologies are concentrated in initial installation, with minimal longer term operation and maintenance costs.
3. In addition to being perpetual and predictable, sources of renewable energy are generally abundant and widely accessible. In every part of the world, a locally appropriate mix of different renewable resources is available. This means that individuals, households, and communities do not need to compete for access to a scarce resource in the way that there is fierce constant competition for limited uncertain fossil fuel resources.[3] These qualities of abundance and accessibility allow renewable energy the potential to offer long-term stability for widespread local adoption, providing the foundation for future energy systems that are decentralized and much more accessible and inclusive than fossil-fuel-based energy systems have been.[4]

These three fundamental differences between a renewable-based society and a fossil-fuel-based society are not yet widely discussed in mainstream public discourse about energy. The energy democracy movement is working to get these qualities to be more widely appreciated in energy policy and in local and regional energy decision making while also connecting these qualities with specific positive social impacts.

Resist, Reclaim, and Restructure: Three Types of Social Activism

Energy democracy focuses on ensuring that as technological change occurs, there is simultaneous intentional consideration and commitment to three kinds of social activism: resisting, restructuring, and reclaiming energy systems.[5]

Resisting Fossil Fuel Dominated Energy Systems

Resisting the dominant legacy fossil-fuel-based energy systems includes resisting processes, and technologies, as well as institutional and cultural norms. Resistance includes efforts to delegitimize the fossil fuel industry, to reduce the political influence of fossil fuel interests, and to halt investments in fossil fuel infrastructure that are perpetuating fossil fuel reliance. Examples of efforts of resistance include protesting oil and natural gas pipelines (i.e., the TransCanada Keystone XL Pipeline Project or Dominion Power's Mountain Valley Pipeline in Virginia), divesting from fossil fuels, and advocating for keeping fossil fuels in the ground (see the #KeepItInTheGround campaign).[6] Recent attempts to hold fossil fuel companies liable for expensive and disruptive climate impacts is another form of resistance. Holding fossil fuel companies accountable for their decades-long strategic misinformation campaign designed to confuse the public on the science of climate change is yet another form of resistance.[7]

Liability of Fossil Fuel Companies

A growing coalition of activists, lawyers, and government officials has been attempting to hold fossil fuel companies liable for deception and climate damages. Several communities in California are suing ExxonMobil for climate damages; New York City has a climate lawsuit claiming that five major oil and gas companies are responsible for more than 8% of global sea-level rise and 9% of global temperature rise. The Union of Concerned Scientists maintains a climate accountability scorecard that analyzes and ranks eight leading fossil fuel companies on their climate change actions.

Reclaiming Energy Infrastructure

Reclaiming ownership and management of energy systems and energy infrastructure is another key category of social activism. This involves reconfiguring patterns of ownership, profits, and management so that large corporate fossil-fuel-based interests are not concentrating wealth and power by sustaining fossil fuel dependence. Shifting toward more distributed, locally controlled energy infrastructure that is managed by smaller, local, cooperatively owned business results in more direct community-level economic benefits. Community solar projects and cooperative models of energy infrastructure ownership are examples of efforts to reclaim energy systems.

Renewable energy: Solar panels and wind turbines.

iStock/imacoconut

Restructuring Energy Systems

Restructuring energy systems involves redistributing and reconfiguring the networks of energy systems. Restructuring requires reestablishing basic assumptions of centralized energy systems to enable widespread integration of distributed renewable generation. Restructuring includes grid innovations, as well as ambitious targets for ramping up renewable generation. The 100% renewable energy goal is a key aspect of the vision for restructuring energy systems.

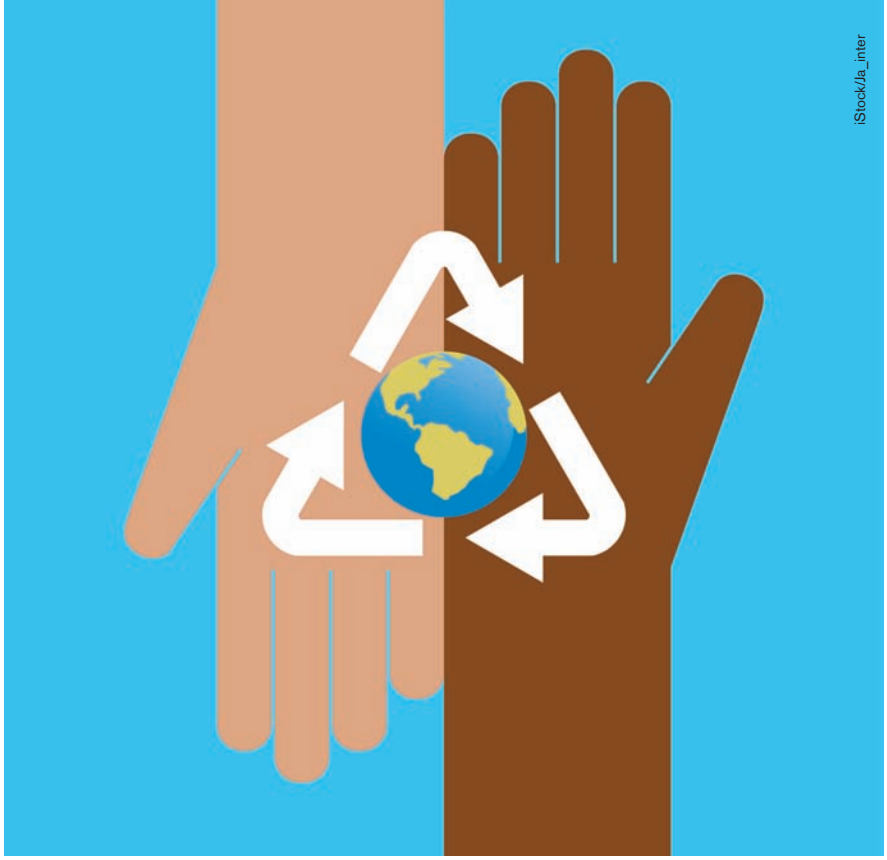
Resisting Is Hard

While challenges exist in each of these three areas of energy democracy activism, in some clear ways resisting fossil fuel interests has proven to be the most difficult. While promoting the 100% renewable energy goal and advocating for community control and ownership of energy require creative strategies to counter mainstream in-

Community Solar Projects in Vermont

Community solar projects have been developing all over the world. In the United States in the state of Vermont community solar was made possible when the Vermont legislature approved group net metering that allowed multiple customers to own a single renewable generation unit and share the output. Various ownership models have been promoted as representing "community solar," despite stark differences among these models with respect to the community of owners and allocation of benefits of ownership. The community solar projects that fully embrace energy democracy ideals in Vermont, such as the Boardman Hill Solar Farm, the Randolph Community Solar Farm, and White River Community Solar, prioritize full community ownership and careful long-term stewardship of the land. These community solar projects were planned and financed by the participants, which encourages broad access and opens opportunities to those who might not have sufficient land or financial resources to participate independently in renewable energy generation. Each project is owned and managed locally and collectively. The basic approach employs a nonprofit limited liability company (LLC); the LLC owns the technology, the tax credits, and the renewable energy credits, in addition to the electricity. This serves to change the communities' relationships to the energy system; instead of simply being passive consumers of electricity, members of the community are long-term engaged energy citizens and "prosumers." The commitment of these projects to local production also extends to the choice of locally based businesses as the installers, which further extends the local economic benefits and supports employment opportunities. These community solar projects also take seriously the responsibility for long-term land stewardship; each site has been carefully chosen, the relationships with the landowner are integral to the project, and the commitment to the health of the land beyond the lifetime of the project is a core concern to the community members.[23]

stitutions and assumptions, attempts to reduce the power and influence of the fossil fuel industry continue to be widely dismissed by many as impractically radical. The power of the fossil fuel industry, including its decades-long strategic misinformation campaign to confuse the public about the climate risks of fossil fuel reliance, continues to be very strong. The fossil fuel industry's strategy has been so effective that climate change denial and acceptance of fossil fuel reliance have both now become culturally and politically mainstream among many communities, political parties, and organizations (particularly in the United States).



Energy democracy connects environmentalism with social justice and racial equity.

Cities in the United States Powered by 100% Renewable Energy

Several cities in the United States have already achieved the 100% renewable energy goal for electricity generation. Different factors have contributed to how and why each of these cities has moved toward 100% renewables. The city of Burlington, Vermont, recently received international fame for becoming one of the first cities to achieve 100% renewable electricity. This was achieved by the municipal utility, Burlington Electric Department, by prioritizing local renewables including wind energy, hydroelectric power, and a biomass power plant. The City of Georgetown, Texas, generates 100% of its electricity from a large solar farm, and the City of Greensburg, Kansas, meets all of its electricity demand from a 12.5-MW community wind farm.

Diversity and Inclusion in Energy Democracy

As energy democracy explicitly connects social justice priorities with renewable transformation, diversifying who benefits form energy system change is a foundational principle of the movement. The energy sector has always been male-dominated; energy decision-making has, therefore, often excluded a diversity of perspectives including those of women, minorities and vulnerable and disadvantaged individuals and communities.[8] The energy democracy movement acknowledges this legacy and focuses on integrating diverse interests and supports inclusive efforts to connect grass-roots activism, technological innovation, and restructuring governance systems for community-controlled and dispersed energy.[9] The energy democracy movement, therefore, is also about resisting systems of oppression, including racism and sexism, that have been supported and reinforced through fossil-fuel-reliant energy systems.

Recent scholarship looks at diverse narratives emerging about what energy democracy means in practice and considers the range of approaches to operationalizing, or implementing, this vision.[10] Organizations that self-identify as contributing to the energy democracy movement have different approaches to articulating the social groups to be connected and empowered, embrace varying theories of change and stability, and work to enact institutional change at different scales.[11] As a social movement, energy democracy is in itself a diverse and inclusive coalition of different individuals and organizations.

Energy democracy is aligned with the idea of a "just transition," which prioritizes addressing issues of justice and equity as society transitions to a more sustainable future.[12] Energy democracy is also aligned with the priorities of energy justice, a set of concepts that has emerged from concern for the lack of reliable and affordable energy for vulnerable communities.[13] Within this framing, the renewable energy transition is a mechanism to deliver justice to underserved communities in the United States in black and brown communities and indigenous communities. Energy justice

often highlights linkages between health and well-being impacts of traditional fossil-fuel-based energy, inequities in access to renewable energy, environmental racism, and disproportionate impacts of climate change on vulnerable populations and women.[14] Energy democracy also aligns with the concept of embodied energy injustices, which refers to the often-hidden and distant injustices related to fossil fuel extraction that are not typically considered in local or regional energy decision-making.[15] Energy democracy connects and builds on each of these concerns and links energy system change with the positive potential for social justice and social change.

Fossil-Fuel Systems Concentrating Wealth and Power Through Energy

Throughout the world, energy investments have long been dominated by fossil fuels. Since the industrial revolution when the burning of fossil fuels first enabled a few well-situated individuals to scale up manufacturing and accumulate wealth, multinational fossil fuel companies have become ever more powerful. As corporate profits grew, the lucky few who benefited from expanding fossil fuel reliance engaged in political strategy to continue to expand fossil fuel dependence.[16]

Throughout the world, many governments and many individual political leaders have leveraged the power of aligning with fossil fuel corporate interests to take advantage of financial and political gains. This political influence of fossil energy companies can be seen in many countries; recent developments in the United States, however, demonstrate the blatant influence of large energy companies on elected officials.

Responding to Fossil Fuel Interests in U.S. Politics

Energy democracy activism has been particularly strong in the United States as corporate fossil fuel interests have had huge influence in politics at multiple levels; local, state, national and international. The U.S. energy democracy movement is responding to concern about the powerful influence of fossil fuel energy companies on politics and policy and on the critical need to connect livelihoods and jobs with responding to climate change. Concerns about growing socioeconomic and racial inequities in the United States, coupled with the Trump administration's official endorsement of an "energy dominance" platform, has given powerful momentum to the energy democracy movement. In many respects, the Trump administration's adoption of "energy dominance" as their guiding principle can be considered the antithesis of energy democracy.[17] Energy dominance explicitly celebrates the ways in which fossil fuel extraction and the perpetuation of fossil fuel dependence concentrate wealth and power among a few

Grid Alternatives provides worker training for solar installation.

Resisting fossil fuel extraction through fracking.

Coal-fired power plant.

corporate and political elites. Energy dominance also focuses on the competitive nature of fossil fuel energy and how those who have access to exploiting and profiting from fossil fuel resources have control over those who do not. The Trump administration's use of the notion of "dominance" provides a blatant example of how energy systems are linked to patriarchical system of oppression and control. In the United States, the energy democracy movement is gaining momentum in response to concerns about growing socioeconomic and racial inequities and the Trump administration's focus on energy dominance.

Recent Energy Democracy Protests in the United States and France

Recent protests and civil disobedience in both the United States and France can be considered a part of the energy democracy movement. In the fall of 2018, the Sunrise Movement, a coalition of youth advocating for the Green New Deal, successfully held protests in Washington, D.C., and around the country to change the national discourse connecting energy, climate, and social justice. In solidarity with the Sunrise Movement protests, the youngest member elected to the U.S. House of Representatives, Alexandria Ocasio-Cortez (Democrat from New York), has endorsed the Green New Deal and demonstrated impressive leadership on the issue, recruiting more than 20 other members of Congress to support the proposal. The Green New Deal, which has now become a contentious priority for many democrats in 2019, is a radical plan to drastically reduce greenhouse gas emissions within a decade and reduce poverty with federally supported clean-energy jobs. By explicitly connecting the creation of green jobs, social justice, and equity with the need for the United States to respond to climate change by moving away from fossil fuels and transitioning to renewables, the Green New Deal has become a mainstream proposal. The Green New Deal represents a very different kind of climate policy for the United States to consider; decades of largely unsuccessful climate policy debate have focused on tweaking markets by putting a price on carbon emissions or controversial proposals for a carbon tax.

Recent protests to President Macron's fuel tax in France, the so-called yellow-jacket protests, can also be viewed as part of the energy democracy movement. These protesters have been letting the political powers know of the need to shift their climate policy strategy, away from regressive taxes that end up exacerbating economic inequities, toward strategies that empower and bring benefits to disadvantaged communities.

Job Creation and Job Loss During the Renewable Revolution

The energy democracy movement acknowledges that renewable energy

transformation will be disruptive; the shift from fossil-fuel-dominant systems to renewable-based systems is a radical change. The level of societal disruption has great potential for positive social change, but this level of disruption also has potential for negative impacts to some people, communities, and organizations. The transition from fossil fuels to renewable energy will create jobs, especially when renewables are distributed in a locally appropriate heterogeneous mix – and this transition is also creating job losses in the fossil fuel energy area. All too often, efforts to support job training and create new energy jobs are not strategically linked to specific communities where job losses in fossil fuel jobs are abundant. In South Africa, for example, coal miners, who have been losing jobs as coal mining declines, have not been provided with government support for job training or opportunities for new jobs. The possibility here, as proposed in the Green New Deal in the United States, is to have massive government investment in renewable energy jobs distributed throughout the country, especially in communities that are suffering the economic hardships of fossil fuel decline.

Gender diversity in solar installation jobs.

Operationalizing Energy Democracy

The movement for a renewable energy transition includes grass-roots activism, technological innovation, and efforts to restructure governance systems for community-controlled and dispersed energy systems. Although a robust movement, achieving the vision of energy democracy is extraordinarily complex and challenging in practice—requiring the sustained focus of a diverse public, coherent messaging capable of overcoming disinformation campaigns led by powerful interests, and coordination among multiple decision-making entities. Recent scholarship looks at diverse narratives emerging about what energy democracy means in practice and considers the range of approaches to operationalizing, or implementing, this vision.[18] Organizations that self-identify as contributing to the energy democracy movement have different approaches to connecting and empowering different social groups, embrace varying theories of change and stability, and work to enact institutional change at different scales.

Early uses of the term "energy democracy" occurred in 2012 at the Lausitz Climate Camp in Germany and a global trade union roundtable, Energy Emergency, Energy Transition, held by the Global Labor Institute (GLI) at Cornell University.[19]

Protesting fossil fuel reliance at the 2014 People's Climate March through Manhattan, New York.

Organizers at the GLI global roundtable drafted a framing document that established the three broad energy democracy objectives: *resist, reclaim, and restructure*.[20]

Redistributing Power to the People

For many around the world where fossil fuel reliance is still powerful, the vision of energy democracy may seem naive and perhaps even utopian. As energy system changes continue to accelerate, how can individuals, communities, and organizations advance the principles of energy democracy in the face of powerful corporate interests that are committed to maintaining their profitability at all costs?

Outlined next is a series of action steps that can be taken to advance energy democracy and redistribute power to the people:

1. Stop investments in future fossil fuel infrastructure. Given the 40- to 50-year lifetime of most infrastructure, current or future investments in fossil fuel infrastructure are perpetuating the legacy system that concentrates wealth and power among a powerful elite.
2. Disrupt the current fossil-fuel-based energy systems. Although disruption of the status quo is difficult in the near-term, dismantling fossil fuel reliance is essential to allow for the scale of change that is needed.
3. Prioritize distributed and local energy over large-scale centralized energy.
4. Support energy cooperatives.
5. Constantly strive for more equitable ownership and access to energy decision-making by race, gender, and socioeconomic status.

Skepticism/Cynicism About Energy Democracy and a 100% Renewable Energy Future

There is much skepticism and cynicism about the principles of energy democracy and about the vision of a 100% renewable energy future. Among a set of international energy experts who are mostly scientists or engineers, there is intense debate about the viability of a 100% renewable energy future.[21] Despite general agreement on a basic technical feasibility of 100% renewable, especially among those who are willing to concede that perhaps per capita energy consumption could or should decline, many claim that it is impossible to achieve 100% renewable energy given the level of infrastructure lock-in that energy systems around the world have to deal with.

This controversy seems to revolve around what level of change, radical versus incremental change, different people, experts and organizations think is possible. Many seem to assume incremental change is the only possibility, while others are open to considering radical change. As is evident from the success of the youth Sunrise Movement in the United States, younger people appear to be more open to radical societal shifts, while older people assume major change is not possible. Given the inevitable climate changes ahead and future climate disruptions that will impact people in disproportionate ways, radical change may not only be possible, but it may be necessary. The energy democracy movement acknowledges and embraces the possibility and the potential for radical social change.

Renewable Energy Alone Does Not Necessarily Promote Equity and Justice

Energy democracy offers a very specific lens on the renewable energy transformation. Energy democracy is a particular pathway for energy system change, but it is not the only path. Without careful consideration of social justice and who in society is benefiting and

who is being excluded, humanity could move to a 100% renewable energy world that is corporate controlled by a handful of large and powerful global renewable energy companies. We could also move to a 100% renewable energy world that emphasizes large centralized corporate-controlled renewable energy installations that continue to perpetuate, rather than reduce, vulnerabilities, injustices, and inequalities around the world.

Thus, energy democracy is a specific optimistic vision of the future. At this point in human history when fascism and authoritative governments seem to be strengthening, energy democracy is a powerful and hopeful alternative vision that is compelling and attractive.

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