initiative for energy justice

# The Energy Justice Workbook

## GUIDANCE ROOTED IN ENERGY JUSTICE.

We designed this Workbook to address the question that frequently arises in the context of equity and energy policy: **What is energy justice?**

# The Energy Justice Workbook

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**The Initiative for Energy Justice provides law and policy resources to advocates and policymakers to advance local and state shifts to equitable clean energy.**

Our team formed the Initiative to address the persistent gap between grassroots communities at the frontlines of the climate justice fight and those sitting at relevant policymaking tables. We connect grassroots-led solutions with the best-available data, evidence, and scholarship. Through concrete technical policy tools and project models, we support frontline communities, justice-based organizations, and policymakers to foreground equity in a just transition to renewable energy.

# Notes

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# Executive Summary

## The Case for an Energy Justice Workbook and an Energy Justice Scorecard

In recent years, advocates, academics, and policymakers have begun to navigate the transition away from fossil fuels to clean and renewable energy sources. As policies emerge within this transition, stakeholders have debated whether, and how, such policies can (or even should) include issues of equity and social justice. Marginalized communities, which include communities at the frontline of pollution and climate change ("frontline communities"), and those historically and presently disenfranchised by racial, economic, and social inequity, have emphasized the need for equity and justice in the creation of new energy policies. Similarly, some policymakers have expressed interest in equity-centered policy but lack detailed guidance on how to do so.

Despite a growing desire for equity-centered energy policy, a lack of consistent terminology concerning energy equity and energy justice hinders the ability of stakeholders to advance clear policy. This Workbook addresses this gap. The Workbook builds a bridge between theories and practices of energy justice, and develops an Energy Justice Scorecard that provides guideposts to advance equity-centered energy policy. The key audiences for this Workbook include community advocates and policymakers. The Workbook should serve as a guide for activists and advocates on the ground working for energy justice at the state level, and to assist policymakers seeking to understand how to incorporate energy justice into their emerging energy policy frameworks.

## What is Energy Justice?

Energy justice cannot be separated from environmental justice and climate justice. The complex lived experiences of marginalized communities reveal an interconnectedness among environmental, climate, and energy justice that would seem to require that energy policy acknowledge the unique ways that environmental harms and climate-related harms affect frontline communities. As such, building on the environmental justice and climate change movements, legal and social science scholars have introduced the concept of "energy justice," which encompasses tenets of procedural, distributive, and recognition justice sought by advocates, academics, and policymakers.

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 marginalized communities. Energy justice explicitly centers the concerns of frontline communities and aims to make energy more accessible, affordable, clean, and democratically managed for all communities. Those involved in the movement for the transition away from fossil fuels to renewable energy often frame energy justice, energy equity, and energy democracy as a part of a broader "just transition" to a low-carbon regenerative economy that will remedy the injustices of the fossil-fuel energy system and extractive economy across multiple sectors. This Workbook uses the term "energy justice" because it synthesizes and lift ups the traditions of justice-based scholarship, and draws on recent activist practice around energy equity and energy democracy.

## Workbook Organization

The Workbook is broken up into three sections. Section 1 provides an overview and synthesis of energy justice, as discussed by frontline advocates, social scientists, and legal scholars. This section begins by defining and summarizing fundamental energy justice principles and terms in order to create understanding and

commonality among key players working to advance principles of energy justice. Section 1 goes on to analyze the principles and terms unique to practitioners, scholars, and policymakers independently.

The authors note that advocates tend to center the voices of frontline communities and attempt to remedy past harms faced by these communities due to the current energy system. Conversely, academic and legal scholars tend to focus on procedural and distributive justice. While the research shows commonality in their emphasis on procedural and distributive justice, the analytical frames differ in two regards: (1) the scope of energy justice and its connection to related "justice" concepts; and (2) the centering of traditionally excluded voices in energy policy. The Workbook combines these separate approaches to energy justice within a unified framework that draws on the practitioners' unique perspectives as well as the theoretical approaches of social scientists and legal scholars.

Section 2 introduces an Energy Justice Scorecard created by the Initiative for Energy Justice. The Scorecard is intended to help those engaging with the energy transition to determine if a policy incorporates energy justice principles, specifically procedural and distributive justice. The Scorecard offers five energy justice indicators: 1) **Process:** Have marginalized communities participated meaningfully in the policymaking process with sufficient support?; 2) **Restoration:** Does the policy aim to remedy prior and present harms faced by communities negatively impacted by the energy system?; 3) **Decision-making:** Does the policy center the decision-making of marginalized communities?; 4) **Benefits:** Does the policy center economic, social, or health benefits for marginalized communities?; and 5) **Access:** Does the policy make energy more accessible and affordable to marginalized communities? The scorer then sums the value of each indicator (1 to 5 based on congruence to the principle) to determine the effectiveness of the policy as it relates to energy justice.

## Applying the Energy Justice Scorecard: California and New York Case Studies

In order to demonstrate the applicability of the Scorecard to various policy initiatives, Section 3 uses the Scorecard to evaluate emerging community energy policies in both California and New York. Community energy (or community solar) refers to offsite structures that generate power shared by multiple electricity customers. Community energy policies that achieve energy justice strive to supply local communities with renewable energy in an integrated and equitable way, for example through community generated, owned, or managed energy systems.

## The California Case Study

Section 3 begins with a focus on two community energy programs in California, the Enhanced Community Renewables (ECR) program and the Community Solar Green Tariff (CSGT). Both of these policies were projected to benefit customers otherwise excluded from other renewable energy programs. More specifically, ECR was intended to provide communities with the benefits of access to nearby offsite renewable energy, while CSGT was intended to provide alternatives to net energy metering and ensure the growth of distributed renewable energy among frontline communities.

ECR allows customers to contract directly with a developer and subscribe to a specific project for all or a portion of their energy needs. Customers receive a credit from the investor-owned utility (IOU) based on their subscription to project developed by a third-party. Unfortunately, ECR did not lead to any realized projects and receives only 7 out of 25 when applied to the Scorecard. The ECR program failed for three main reasons: (1) the conversation around the ECR was continually delayed, (2) the pricing structure was flawed, and (3) there were barriers in the process and mechanisms of participation leading to a lack of procedural and distributive justice. In the end, ECR failed to accomplish the goal of expanding access to renewable energy for Californians unable to benefit from onsite solar.

CSGT is projected to be fully implemented in 2020. CSGT will allow individuals to subscribe to solar energy associated with new installations within five miles of their community and will provide residential customers on the CSGT 100% renewable energy at a 20% discount. This encourages communities to find new methods for maximizing the use of rooftop space and other areas for solar production. The CSGT receives a 14 out of 25 when applied to the Scorecard.

The CSGT will allow for more energy access to low-income communities, but still scores low in benefits to frontline communities and access to decision-making by these communities.

Despite the relatively low scores of both the ECR and CSGT programs, the Scorecard gives future community solar policymakers the ability to foresee potential barriers and inequities, and create new solutions to avoid these barriers.

## The New York Case Study

The authors also use the Energy Justice Scorecard to score New York's Community Distributed Generation (CDG) program, which ultimately receives a score of 14 out of 25. CDG was created as a part of Reforming the Energy Vision (REV), a regulatory reform platform that was created in response to Superstorm Sandy, an unprecedented storm that led to widespread power outages and revealed vulnerabilities in New York's energy system.

CDG is one of the many dockets created under REV. Like the ECR and CGST policies developed in California, CDG allows electricity customers to participate in an offsite energy generation project. While CDG provided an avenue for participation from frontline communities in the policymaking process, ultimate policy decisions about CDG design failed to reflect that participation. In particular, CDG failed to center economic, social, and health benefits for traditionally excluded populations.

## Key Takeaways from Case Studies

The California and New York case studies share similarities in demonstrating three key takeaways of what is necessary for community energy policies that achieve energy justice: (1) community participation in policy development, (2) sound energy pricing and valuation structures, and (3) sustainable business models that balance both targeting priority customers and consumer protection. The case studies also point to three objectives required for equitable community solar: (1) project feasibility, (2) equitable participation, and (3) community control.

The use of the Scorecard in each case study helps to validate the root causes for the successes and failures of a given policy. This tool gives actors the ability to evaluate existing energy policies as well as inform their approach to proposed energy policy. This Workbook hopes to not only bridge the gaps among activists, academics, and policymakers, but also to provide an accessible tool to facilitate thoughtful conversations, creations, and applications of energy policies that encompass the field of study and practice of energy justice.

# Introduction

Around the country, states have begun to act in the absence of clear federal guidance on climate. We are witnessing a sea change through a suite of policy actions, from ambitious renewable energy targets, to rooftop solar programs, community energy legislation, and market innovations such as community choice aggregation. In the face of this rapidly-evolving landscape, those disproportionately harmed by the fossil-fuel based energy system ("frontline communities") and more broadly, marginalized communities (including, but not limited to, environmental justice communities, indigenous communities, low-income and working-class communities, and communities of color)—seek to place equity and distributive justice at the heart of new policies addressing the transition away from fossil fuels to clean and renewable energy sources. As noted by industry observers and community activists alike, this energy transition offers an opportunity to reshape the socio-economic relationships created by energy policy choices. It creates an opening to center the concerns of frontline communities in the creation of energy policy. For example, the energy transition offers an opportunity for communities to own and control clean energy resources while reducing localized environmental and health impacts associated with the burning of fossil fuels.

Energy justice has emerged as both a field of study and practice to guide the energy transition, but the inconsistency surrounding definitions and use threatens the coherency of the field and the ability to advance clear policy guidance actually rooted in energy justice. Scholars in both social science and law have begun to grapple with the theoretical aspects of energy justice as well as its practical applications. In parallel, advocates have also begun to engage in a diversity of activities connected to energy justice and its corollaries, energy equity and energy democracy. Although scholars and practitioners frequently rely on energy justice and energy equity to animate parallel strands of study and practice, these two constituencies are not in active conversation and these parallel strands rarely, if ever, intersect. In light of the varied landscape, we choose to use the term, "energy justice" because we find it to be the most unifying terminology for this overarching concept that can synthesize and lift up both the traditions of justice-based scholarship, and recent activist practice around energy equity and energy democracy.

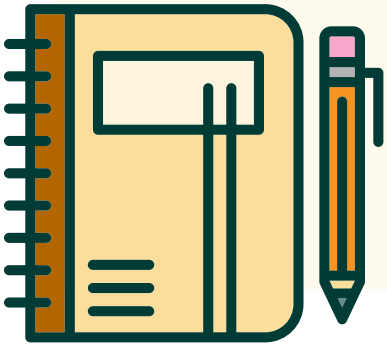
Taking advantage of the opportunity for structural transformation in our energy system requires that equity be placed at the center of emerging policy frameworks; however, community participants in policy debates concerning the energy transition often lack concrete details for energy policies that actually do place equity at the center. Similarly, policymakers lack theoretical grounding and practical frameworks to create and implement equity-centered energy policy. This Workbook addresses these gaps, and builds a bridge between theories and practices of energy justice to facilitate operationalizing energy justice through energy policy. The key audiences for this Workbook include community advocates and policy makers. The Workbook should serve as a guide for activists and advocates on the ground working for energy justice at the state level, and to assist policymakers seeking to understand how to incorporate energy justice into their emerging energy policy frameworks.

## How to use this Workbook

The pages that follow provide a broad overview of "energy justice," synthesizing energy justice (and similar terms) as framed by practitioners in the field, as well as by scholars explicitly writing about energy justice.

The Workbook proceeds in four sections. Section 1 provides an overview and synthesis of energy justice, as discussed by frontline advocates, social scientists, and legal scholars. The section ends with a summary of the key energy justice principles that should animate transitional energy policy. Section 2 lays out an energy justice scorecard that may be used by advocates and policymakers to evaluate and design transitional energy policy. Section 3 uses the scorecard developed in Section 2 to evaluate emerging community energy policy in California and New York. We have also included a Glossary and Appendix for easy access to commonly used terms and the data we've relied on in our analysis.

The energy policy landscape is dynamic, and energy justice is context specific. However, basic principles of justice endure. We designed this Workbook to be highlighted, dog-eared, and referenced as the policy landscape evolves. The framework provided herein should be used to provide key benchmarks to guide energy policy discussions. We also designed this Workbook to address the question that frequently arises in the context of equity and energy policy: **What is energy justice?**



## Section 1

# Defining Energy Justice:

## Connections to Environmental Justice, Climate Justice, and the Just Transition

*Summary:* **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 historically harmed by the energy system ("frontline communities"). Energy justice explicitly centers the concerns of marginalized communities and aims to make energy more accessible, affordable, and clean clean, and democratically managed for all communities. The practitioner and academic approaches to energy justice emphasize these process-related and distributive justice concerns.

Energy justice connects to, and builds upon, the deep scholarly and grassroots traditions of the environmental justice and climate change movements.[1] Those involved in the movement for the transition away from fossil fuels to renewable energy often frame energy justice, energy equity, and energy democracy as a part of a broader "**just transition**" to a low-carbon regenerative economy that will remedy the injustices of the fossil-fuel energy system and extractive economy across multiple sectors.[2] Advocates engaged in just transition work, through the leadership of the Climate Justice Alliance and the support of Movement Generation, have adopted the following model to reflect their efforts.

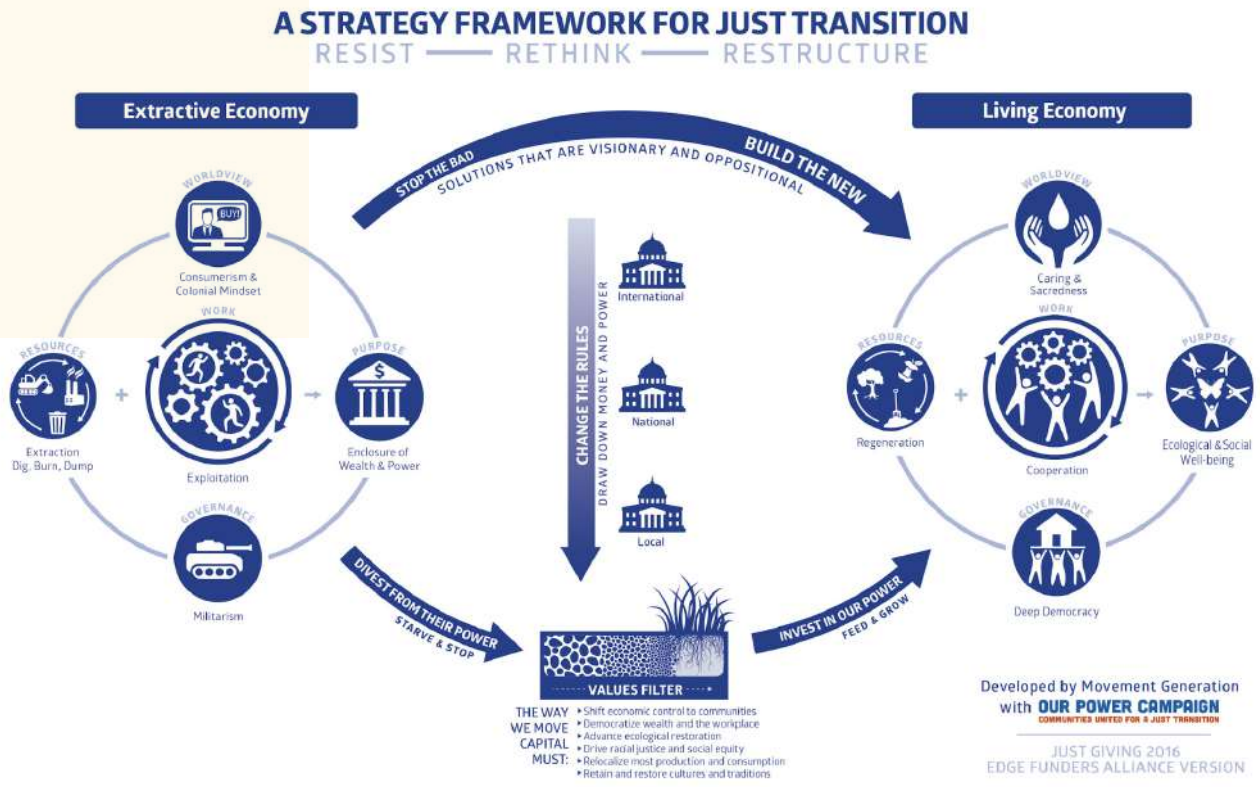



**Diagram 1:** Movement Generation Just Transition Framework [3]

Energy justice (also referred to as "energy equity") is integral to the just transition, as it addresses fairness and equity concerns within the current, extractive energy system, and incorporates aspects of "deep democracy," cooperation, and regeneration that feature in the just transition frame. Energy justice has several dimensions, itncluding:

- **energy burden**, which refers to the expense of energy expenditures relative to overall household income;[4]
- **energy insecurity**, which refers to the hardships households face when meeting basic household needs;
- **energy poverty**, which refers to a lack of access to energy itself;[5] and
- **energy democracy**, the notion that communities should have a say and agency in shaping their energy future.[6]

Issues of racial, economic, and social justice are not new aspects of political discourse in the United States; however, their nexus with issues of energy and the environment is a relatively recent phenomenon. Furthermore, the focus on "equity" within the energy justice frame indicates that policy approaches should work to level the playing field for those long disadvantaged under the existing energy system, rather than simply provide for "equal" opportunities for all under the new system.

**Diagram 2** illustrates the framing of energy justice within the broader movement for a just transition, as well as how the component parts of energy justice fit together.

### What is the origin of energy justice?

Energy justice closely connects to terms familiar to both practitioners and scholars in the field: **environmental justice** and **climate justice**. Environmental justice emerged in the early 1980's as both an activist practice and field of scholarship in the wake of damning evidence that communities of color often faced disproportionate environmental burdens, and that the suite of recently passed environmental laws did little to protect such communities from environmental harm.[7] Eventually, in response to a mounting body of evidence produced by activists[8] and academics alike,[9] in 1994, President Bill Clinton issued Executive Order 12898 directing federal agencies, to "the greatest extent practicable and permitted by law . . . make achieving environmental

justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States. . . ."[10] Although some scholars have questioned the efficacy of the environmental justice movement, as well as its utility as a policy tool,[11] others have noted the importance of relying on the environmental justice movement to inform the current transition away from fossil fuels.[12] In any case, environmental justice spawned the climate justice movement, which addresses the acute climate change issues facing communities of color and working class communities.

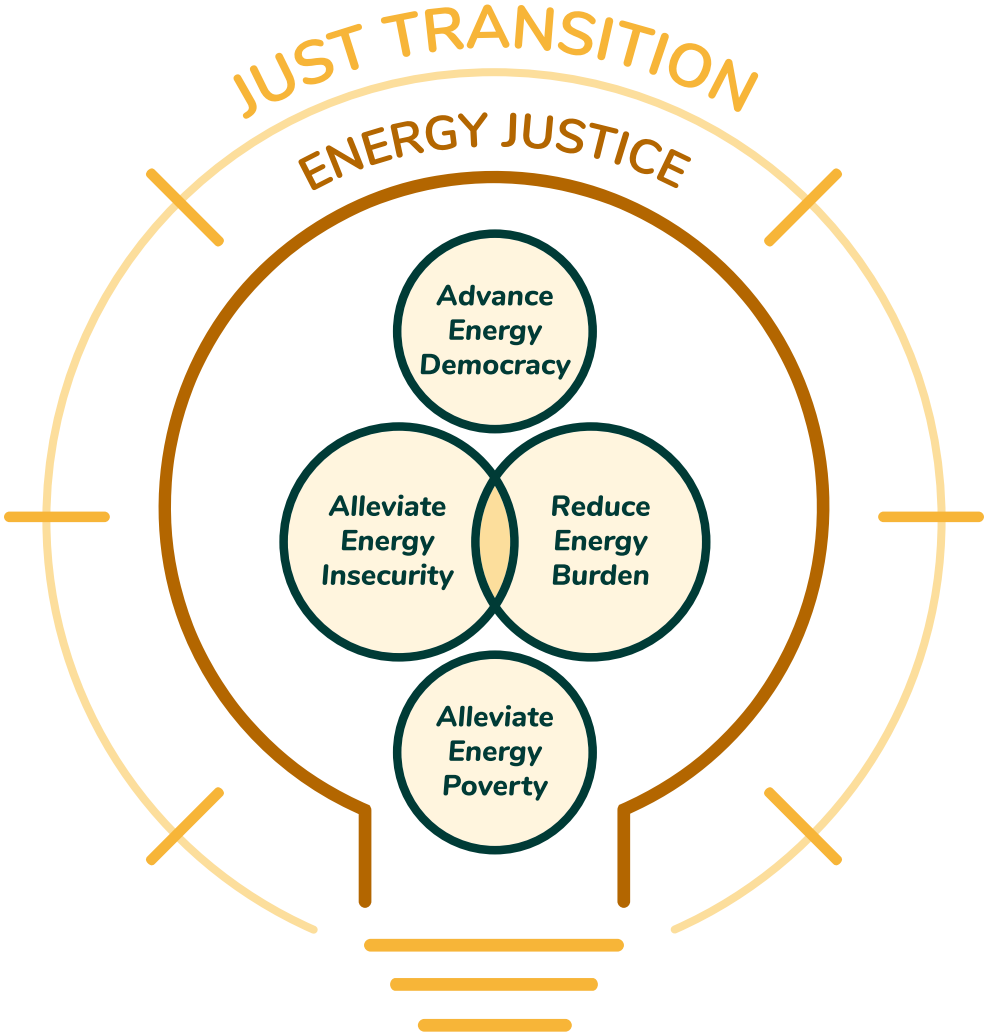



**Diagram 2:** The Goals of Energy Justice

While environmental justice might be seen as more of a domestic, United States-centric, movement focused on local concerns,[13] climate justice is decidedly global in scope. The movement emerged in the late 1990's and 2000's in light of the recognition that climate change would disproportionately affect those in the Global South, who did very little to contribute to creating the problem of climate change in the first instance.[14] Around the world, those with the least ability to respond to the impacts of climate change—the poor and people of color, including island nations and indigenous peoples—would bear the brunt of its effects. In the United States, climate justice advocates broadly recognize that the poor and people of color in this country will suffer the deepest impacts of climate change, given legacies of legalized segregation, redlining, and disinvestment that have left communities of color and the poor on land and in economic circumstances that make them the most vulnerable to climate change impacts. Moreover, such communities lack the economic resources to easily "bounce back" from climate change related events.[15]

High water marks of the climate justice movement include:

- **2010:** The creation of the People's Agreement in Cochabamba, Bolivia in 2010, where participants called for the creation of an International and Climate Environmental Justice Tribunal with the legal capacity to "prevent, judge, and penalize States, industries and people that by commission or omission contaminate and provoke climate change."[16] The People's Agreement was the product of the People's Conference on Climate Change and the Rights of Mother Earth after the disastrous 2009 United Nations meeting in Copenhagen to address climate change;

- **2014:** The People's Climate March organized by activist groups, where 400,000 people gathered in New York City to center "the leadership of Indigenous communities, communities of color, and working-class white communities" in the climate movement;[17] and

- **2019:** In the summer of 2019, a coalition of environmental justice organizations and national organizations aligned to create an "Equitable and Just National Climate Platform" which set forth a "bold national climate policy agenda" to advance "economic, racial, climate, and environmental justice."[18] The Platform calls for a commitment to limit global warming to 1.5 degrees Celsius through the mobilization of community, government, science and research, and industry resources "toward the development of just, equitable, and sustainable long-term comprehensive solutions" that "acknowledge and repair the legacy of environmental harms on communities inflicted by fossil fuel and other industrial pollution."[19] The Platform further argues for new leadership to "advance solutions in ways that meaningfully involve and value the voices and positions of [environmental justice communities]."[20]


Both environmental justice and climate justice weave together the requirements of procedural and substantive (or distributive) justice. In the case of environmental justice, key principles of the movement include fair distribution of the burdens of development, and involvement in all aspects of "the development, implementation and enforcement of environmental laws, regulations and policies."[21] Climate justice proponents, on the other hand, argue for policies that address the disproportionate burdens that will be borne by vulnerable communities due to climate change, even going so far as to argue for distributive justice in the form of reparations.[22] Further, as noted by the Climate Justice Alliance, *actual* climate justice requires that voices of communities of color, indigenous peoples, and the working-class be placed at the forefront of discussions concerning climate.[23]

Energy justice emerges from this rich history. As Eleanor Stein elegantly summarizes, the general view of scholars is that an energy just world involves equitable sharing of benefits and burdens involved in the production and consumption of energy services.[24] It is also one that is fair in how it treats people and communities in energy decision-making.[25] Further, key concerns of the field are:

- issues of access,
- distribution of harms,
- fairness of energy decision-making to ensure that decisions do not infringe on human rights and civil liberties, and
- informed participation.[26]

Sections 1.1 and 1.2 provide an in-depth review of the conceptual underpinnings of energy justice theory and practice. **Diagram 3** illustrates the environmental justice, climate justice, and energy justice movements, as well as the primary claims within each. As the diagram reflects, the movements and analytical frameworks are rooted in similar ideologies and goals. Moreover, they run on parallel and overlapping paths.

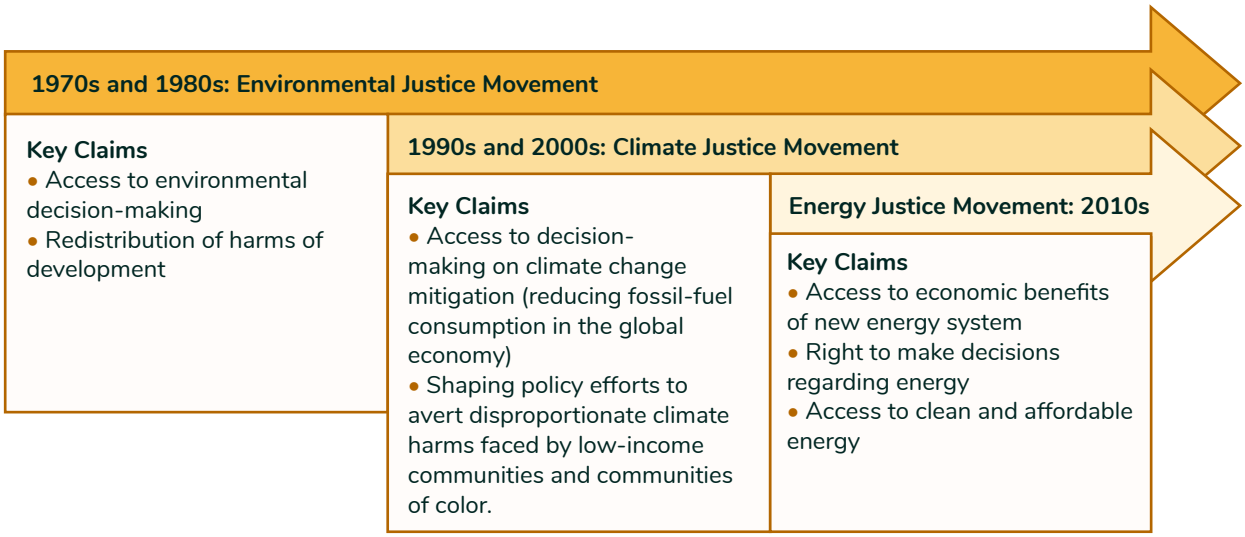



**Diagram 3:** Movements for Environmental Justice, Climate Justice, and Energy Justice

The following Section discusses how "energy justice" and the range of terms associated with it are used in practice as well as in academic circles (mainly social scientists and legal scholars). Before that discussion, however, we offer a synopsis of terms used in this section and the sections that follow:

| Frequently Used Terms | Definition |
|---|---|
| **Climate Justice** | Remediation of the impacts of climate change on poor people and people of color, and compensation for harms suffered by such communities due to climate change.[27] |
| **Energy Burden** | Amount of overall household income spent to cover energy costs.[28] |
| **Energy Democracy** | The notion that communities should have a say and agency in shaping and participating in their energy future.[29] |

| Frequently Used Terms | Definition |
|---|---|
| **Energy Insecurity** | "The inability to meet basic household energy needs"[30] due to the high cost of energy. |
| **Energy Justice (and Energy Equity)** | 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 historically harmed by the energy system. |
| **Energy Poverty** | A lack of access to basic, life-sustaining energy. |
| **Environmental Justice** | Recognition and remediation of the disproportionately high and adverse human health or environmental effects on communities of color and low-income communities.[31] |
| **Just Transition** | A transition away from the fossil-fuel economy to a new economy that provides "dignified, productive, and ecologically sustainable livelihoods; democratic governance; and ecological resilience."[32] |

# Section 1.1 - Energy Justice In Practice

In *Framing Energy Justice: Perspectives from Activism and Advocacy*, Sara Fuller and Darren McCauley interrogate energy justice in the context of activist and advocacy movements, seeking to illuminate for the scholarly community the ways that energy justice is defined by those on the ground and the communities that experience the direct impacts of the energy system from "cradle to grave." The authors observed "energy justice on the ground," and found no consistent, "single energy justice frame." Instead, they found "the existence of multiple and diverse mobilizations around energy justice[,]" and localized expressions of justice. Rather than attempt to explain practitioner and advocate approaches to energy justice using tools designed by scholars, this Workbook acknowledges the unique perspectives and understandings of energy justice as defined by those engaged in the work on the ground. This expertise, grounded in the lived experiences of advocates, provides an invaluable perspective to inform equity-centered energy policy.

## Our Approach

*Summary*: We reviewed the public-facing statements of practitioners and advocates engaged in advocacy work around energy policy. We also met with frontline leaders and organizations engaged in energy policy efforts. With a few notable exceptions,[33] practitioners and advocates tend to rely less on "**energy justice**" and more on terms like "**energy equity**" and "**energy democracy**" in their work. Although the terminology differs, the usage commonly focuses on frontline-led approaches to energy policy that center the economic, social, and health concerns of marginalized communities.

## Our Survey of the Field

Energy justice mirrors the distributive and procedural justice demands of the environmental justice and climate justice movements, and encompasses several goals including:

- Transitioning the power and control over the means of energy production into the hands of the community,
- Ensuring fair and equitable distribution of the benefits and burdens of energy production activities, and
- Centering the concerns of marginalized communities.

To gain an understanding of existing community-based approaches to and understandings of energy justice, we relied mainly on a review of advocacy statements concerning "energy justice." Our own experiences working with frontline organizations around the country also informed our understandings of energy justice practice. Our approach to understanding what was happening in the field began with a simple, internet-based search to cast a wide net for activist groups using the terms "energy justice," "energy democracy," or "energy equity" in their mission statements. The search was then narrowed to groups that specifically defined these terms in a way that creates a framework for their mission. Additional sources were found by looking at sources cited in academic papers about community activism and energy justice frameworks. Another key search method was working from a list of known organizations based on past association with the authors of this Workbook, which helped to fill in gaps in regional representation.

Originally, our search included only those organizations that specifically used the term "energy justice" in their work. However, many advocacy groups favor the phrase "energy democracy" when talking about issues pertaining to developing energy transition frameworks with a social and environmental justice focus. We then expanded the search to include this terminology, as well as the phrase "just transition," which is also used to describe the transition away from an extractive economy to a regenerative one. The use of these terms – energy justice, energy democracy, and just transition – provides much the same frame for advocacy groups as the phrase "energy justice" provides for academic investigations. The resulting list, further discussed in Appendix B, represents a nation-wide survey of U.S. organizations.

Our own experience in the field mirrors what we found in the written material. As a whole, practitioners and advocates at nonprofit organizations we work with don't use the term "energy justice" in common practice, but show general receptivity toward it. This includes individuals we know in different regions around the country, including the South, Northeast, Midwest, and West. Some advocates occasionally use the term energy justice themselves, and others are part of alliances that have member organizations within their alliance that use the term. Some colleagues use the term "energy justice" interchangeably with a "just energy system," while others use "just energy" but not "energy justice."

Many of our partners use the term "energy equity" in a way that is either entirely or substantially interchangeable with how we define energy justice in this Workbook. Some practitioners use the term equity when talking about energy, though not necessarily "energy equity" as a phrase. For example, some use specific phrases such as "equitable deep decarbonization" and "equitable energy system."

Despite the work of organizations clearly falling under the umbrella of "energy justice," this term is almost never used in their mission statements or writing. Generally, the word "justice" is used only to incorporate a social, racial, or environmental justice approach to the energy transition framework, rather than to aid in the development of a new framework specifically for the just energy transition. Therefore, while activist groups are clearly contributing to the dialogue on what achieving energy justice looks like, they are currently not working with the vocabulary utilized within the academic community. This disconnect threatens the efficacy of scholarship to reach practitioners, and could lead to broader confusion concerning the meaning of energy justice among policymakers.

> *"The disconnect between practice and academia could lead to broader confusion concerning the meaning of energy justice among policymakers."*

## Prevalence of "Energy Democracy"

With respect to our analysis of practitioner approaches, the term most often used to describe the missions of organizations engaged in equity-based energy policy work is "energy democracy." Based on our research, it seems that "energy democracy" is especially favored in among groups in the U.S. advocating for a community-empowerment component to energy transition activities. The use of the term "democracy" within the U.S. context could serve two strategic purposes within the movement.

First, energy democracy might portray the importance that involvement from the community plays in these groups' vision for just energy systems. It is clear that these organizations feel that justice in energy generation, distribution, and transition activities will be achieved only if the decision-making power and control over the systems lies in the hands of the community affected by that system.[34] A way of accomplishing that goal is by putting that system under democratic control and allowing for social and economic participation in that system. Further, as emphasized by Denise Fairchild and Al Weinrub in *Energy Democracy*, "deep democracy," meaning, centering the engagement of poor people, people of color, and groups traditionally marginalized within energy transition policy discussions, goes further than mere economic and social participation in the energy system.[35] Under the Fairchild and Weinrub analysis, energy democracy requires not only basic participation in the design of the new energy system, but a deeper structural transformation of the social and economic structures underpinning the energy system.[36]

The second purpose of using "energy democracy" could relate to the long, and frequently problematic, history of the term "democracy" in the American context. Democracy is a core value in American political and social systems, and linking this concept, which evokes feelings of patriotism and equity, to the energy transition movement is likely to yield more positive outcomes than linking the movement to "social justice" or "racial justice", which can evoke a more negative, or polarized, response. The use of patriotic phrasing could therefore be strategically important in policy advocacy efforts, where public and political support is crucial.[37]

Groups using the term "energy democracy" tend to include the following concepts of community empowerment in their work.

- **Community Ownership:** the community owning and controlling the sources of energy production;
- **Community Decision-making:** community having a democratic say in the means of energy production and distribution; and
- **Power Decentralization:** Empowerment of those closest to the means of production, geographically, socially and economically.

These concepts indicate a desire to redistribute economic and political power away from centralized energy producers to smaller subsections of society. Advocates press for meaningful community involvement to eradicate many of the inequalities and injustices that currently plague the energy system, such as the disproportionate ecological, economic, and social harms that currently affect low-income communities and communities of color.[38]

A significant number of nonprofit professionals we work with also use the term energy democracy. Most appear to view energy democracy as meaning something at least slightly distinct from energy justice or energy equity. Some view energy democracy as a component within a larger frame of energy equity. More specifically, some view energy democracy as focusing on ownership of distributed generation, while energy equity considers the entire energy system, including utility-scale generation and transportation energy. Others consider energy democracy as describing the tangible objectives within the broader, intersectional vision of energy equity.

While energy democracy appears to be the most commonly used term among those working at the intersection of equity and energy, many use energy equity to mean something slightly broader in scope than energy democracy: using energy policy to actually center the concerns of those harmed by the existing energy system. Some advocates either use or resonate with energy justice as perhaps a more holistic and compelling frame.

In the advocacy sphere, advocates place less emphasis on a uniformity of terminology describing the work than scholars of energy justice and, appropriately, more emphasis on the outcomes associated with the work. What is echoed among all of the groups we reviewed is a desire for upheaval in the current energy system, a shift towards more democratically controlled systems, and a new emphasis on social inclusiveness and equity.

*"What is echoed among all of the groups we reviewed is a desire for upheaval in the current energy system, a shift towards more democratically controlled systems, and a new emphasis on social inclusiveness and equity."*

Advocates are also concerned about the impacts of the energy system and focus on the following key concepts:

- **Equitable Distribution of Benefits and Harms:** Equitable distribution of both the benefits and harms of the energy system, which again relates to alleviating the pressure that currently disproportionately affects low-income communities and communities of color;
- **Economic Benefits:** Some groups believe allowing frontline communities to economically benefit from the new energy system could remedy many of the social issues currently being experienced by such communities[39] and lead to social and political empowerment through job creation, local control of economic resources. Moreover, improving energy efficiency can lower the overall cost of living
- **Decreasing Pollution:** Other distributive concerns include limiting pollution to decrease negative health impacts.
- **Centering Frontline Voices and Control:** Another method of ensuring this equity is by putting the power in the hands of the people most affected by the decisions.[40] The idea is that these groups will be most motivated to responsibly manage the benefits and risks of energy production and distribution.

These distributive and procedural justice frames are echoed throughout the social science and legal literature as well.

# Section 1.2 - Usage of Energy Justice in Social Science and Law

In general, practitioner and advocate approaches to energy justice make explicit references to centering the voices of low-income communities and communities of color, as well as recognizing the important role of equity to remediate prior harms experienced by communities within the existing energy system. Academics approaching energy justice have tended to take a more measured approach. In general, scholars of energy justice have hewed more closely to procedural and distributive justice concerns; until recently, the predominant discussions of energy justice have not included an analysis of the historical harms faced by certain communities.

As with the practitioner approaches to energy justice, within both the social science and legal literatures, a range of terms have emerged under the broader umbrella of energy justice:

- energy justice,
- energy democracy,
- energy poverty.
- clean energy justice,
- energy insecurity,
- energy equity,
- energy burden, and

Social scientists favor energy justice, energy democracy, and energy insecurity. Legal scholars have a much less well-defined approach to the energy justice, and have used a range of terms including all of the foregoing terms as well as clean energy equity, energy poverty, and energy burden.

On the whole, policymakers and advocates seeking key takeaways for an “applied” policy approach to energy justice rooted in robust scholarship will find the literature rather thin and somewhat unhelpful. Much of the literature of the past several years has focused on questions of definitions, rather than application within a policy context. The legal literature provides a bit of an exception to this, as legal scholars tend to focus on key policy areas such as net energy metering, community solar, and regimes designed to meet state renewable portfolio standards; however, the legal literature lacks a consistent framework or analytical approach to apply energy justice across the various areas of energy policymaking. This Workbook aims to close these gaps by synthesizing the literature and various theoretical approaches to energy justice. The Workbook then combines

these approaches to fit within a workable frame that draws on the practitioner framework, social science framework, and legal frameworks available at the time of publication. This section provides a synthesis of the three approaches to energy justice: practitioner, social science scholars, and legal scholars. We provide a comprehensive overview of the social science and legal literature in Appendix A.

The following chart summarizes the terminology and usages across areas of practice and research.

| Term | Practitioner | Social Sciences | Law |
|---|---|---|---|
| **Energy Justice** | Infrequently used | Used | Infrequently used |
| **Energy Equity** | Used | Not used | Infrequently used |
| **Clean Energy Justice** | Not used | Not used | Infrequently used |
| **Energy Democracy** | Used | Used | Used |
| **Energy Burden** | Used | Used | Infrequently used |
| **Energy Insecurity** | Infrequently used | Infrequently used | Used |
| **Energy Poverty** | Infrequently used | Not used | Infrequently used |
| **Energy Deep Decarbonization** | Infrequently used | Not used | Not used |
| **Equitable Energy System** | Infrequently used | Not used | Not used |

Our research reveals that there are substantial overlaps among the three analytical frames: advocacy, social science, and law. Despite some overlap in terminology, however, the more complex question is how the diverse usages of these terms are used by each group, and whether these usages are contradictory. The following discussion addresses this question.

## Section 1.3 - Unpacking the Approaches to Energy Justice: A Synthesis

Each analytical frame—advocacy, social science, and law—emphasizes **procedural justice** and **distributive justice**:

- **Procedural justice** concerns who is at the decision-making table, and whether, once at the table, everyone's voice is heard.
- **Distributive justice** is outcome focused, and speaks to whether all equally share in the benefits and burdens of the energy system.

Despite these similarities and shared understandings, the analytical frames differ in two key ways: (1) the scope of energy justice and its connection to related "justice" concepts and (2) the centering of traditionally excluded voices in energy policy. Each difference is addressed below.

## What is the scope of energy justice and how does energy justice connect to related "justice" concepts?

Each analytical frame raises questions regarding the scope of the energy justice umbrella. For example, given the focus on the **procedural** and **distributive** justice dimensions among energy justice, environmental justice, and climate justice, how do the terms and approaches connect? Does energy justice simply build on environmental justice and climate justice principles, and therefore stand apart as a distinct approach to designing energy policy? Or, does an energy justice approach to energy policy explicitly incorporate the principles of each framework? Further, regarding the scope of energy justice, how do the concepts of energy poverty, energy democracy, and energy insecurity factor into an energy justice policy framework? And finally, is "just transition" a broader conceptual frame that incorporates energy justice, or does it stand alone as an analytical frame?


**Synthesis:**

Energy justice cannot be separated from environmental justice and climate justice. The complex lived experiences of marginalized communities reveal an interconnectedness among environmental, climate, and energy justice that would seem to require that energy policy acknowledge the unique ways that environmental harms and climate-related harms affect frontline communities. For example, the Environmental Protection Agency has identified low-income communities of color residing in the L.A. basin as among the most impacted environmental justice communities in the country; they house hazardous waste clean-up sites (Superfund sites) in disproportionate numbers.[41] Such communities also face disproportionate risks to climate-related events, given that, for a number of reasons, community members lack the mobility in the face of climate-related weather events. Further, in addition to the well documented energy burden faced by such communities, power outages uniquely burden such communities given that they are unable to "bounce back" as quickly from events that damage food and medicine supplies. Energy justice requires an exploration of these multiple layers of burden faced by frontline communities in the approach to energy policy design.

Frontline communities rely on the "just transition" framework to illustrate how to transition away from the current, fossil fuel driven economy to a new, regenerative one that honors workers, "redresses past harms, and creat[es] new relationships of power for the future through reparations."[42] Further, as the Climate Justice Alliance notes, this broader framing ties directly to the unique histories of the environmental justice and climate justice movements.[43] Just transition "represent[s] a host of strategies to transition whole communities to build thriving economies that provide dignified, productive and ecologically sustainable livelihoods; democratic governance and ecological resilience."[44] From a policymaking standpoint, therefore, energy justice, as a mechanism to help facilitate the transition away from fossil fuels, must be considered within a broader holistic frame that acknowledges, at the very least, the rights of workers to access jobs in the new energy economy.[45] **Diagram 4** below illustrates the interconnectedness among these "justice-related" concepts within a synthesized frame.

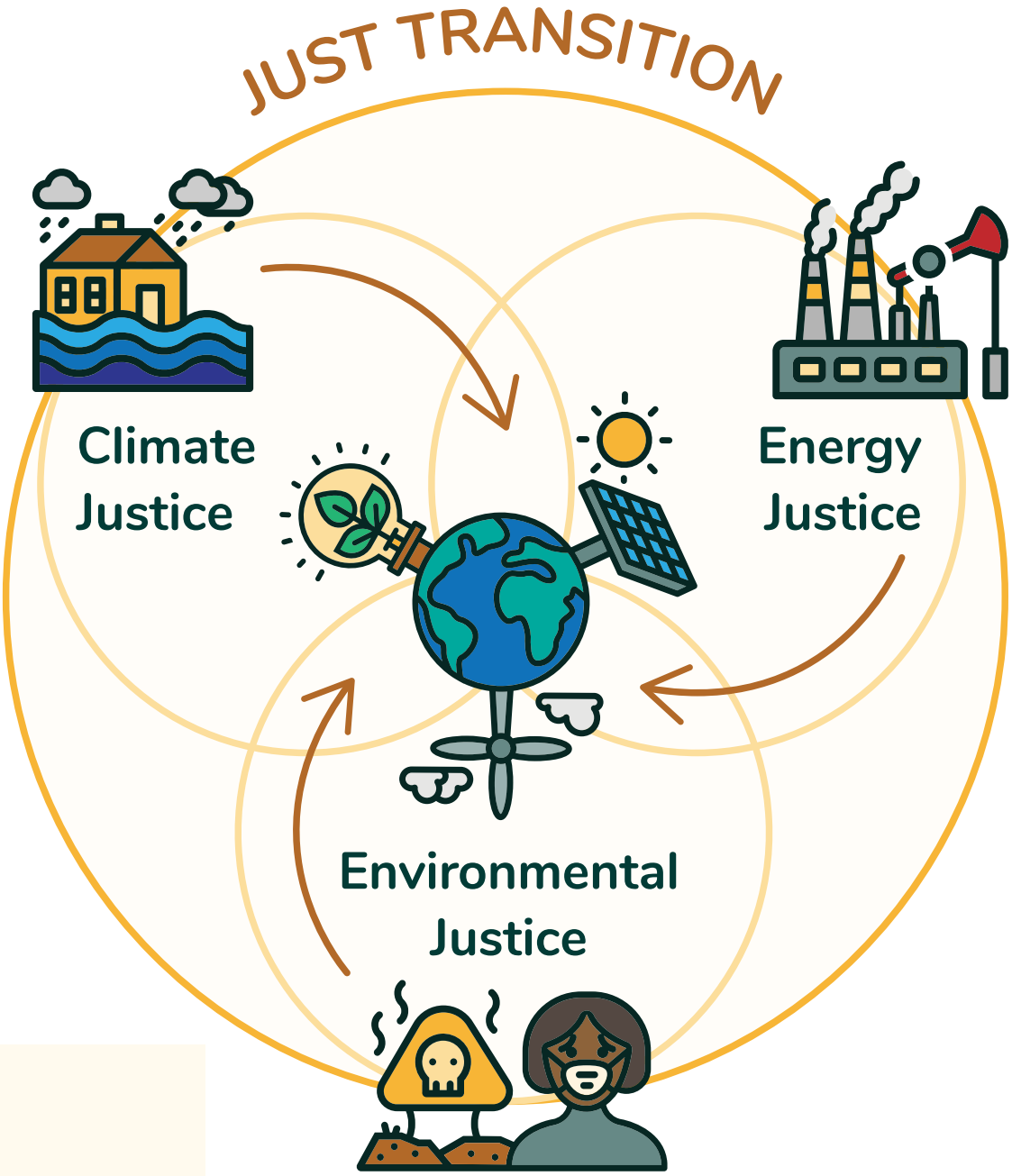



**Diagram 4:** Connections among Environmental Justice, Climate Justice, and Energy Justice

### Whose voices should be centered in an energy justice approach to energy policy?

The second key difference among the analytical frames is the emphasis on whose voices are centered in approaches to energy justice. The social science literature has evolved to include the idea of restorative justice within its analytical frame, which would seem to suggest that an energy justice-based approach to energy policy would require the acknowledgement of prior harms to low-income communities and communities of color. Legal scholars have generally avoided the deeper equity analysis, and focus instead on equitable access (for the energy poor), energy burdens, and fairness (as an approach to distributed energy generation). The practitioner framing of energy justice unequivocally centers the voices of those who have been the most harmed by the current energy system, and also takes an equity-driven approach.

**Synthesis:**

A synthesized perspective of energy justice requires not only that traditionally excluded voices become a central part of the energy policy conversation, but that they are first in line to receive the benefits of policies adopted to facilitate the energy transition. This approach draws heavily on the activist orientation to energy justice and also incorporates both the "recognition" and "restorative" justice angles of the social science literature. It is also consistent with a "fairness" based approach to law and policy.

## Section 1.4 - Approaching Energy Policymaking

As the foregoing discussion illustrates, the procedural justice and distributive justice principles that animate both the energy justice literature and field of practice draw heavily on movement-centered approaches to environmental justice and climate justice, as well as the epistemic traditions of environmental and climate justice scholarship. Further, the movement and principles associated with energy justice are situated squarely within a broader "just transition" frame. Finally, the voices and concerns of traditionally burdened groups are centered in thinking through policymaking approaches.

This synthesis gives rise to additional questions for stakeholders engaging in energy justice policymaking: **How should stakeholders approach energy justice, and what types of outcomes should energy justice produce?**

Procedural justice requires that traditionally excluded groups, frontline communities, and those otherwise marginalized due to the energy system work with policymakers to co-create and co-design a fair process for inclusion in energy decision-making. This requires an analysis of the process *used* to create new energy policy as well as the procedural justice dimensions *reflected in* the policy.

The distributive justice dimensions are much more difficult to discern, and ultimately require stakeholders to evaluate policy efficacy along racial and socio-economic dimensions. Energy policies should therefore be empirically evaluated regularly for efficacy along such equity dimensions.

In sum, when evaluating policies through an energy justice lens, policymakers, communities, and academics should ask:

**(1) Process:** *Have marginalized communities participated meaningfully in the policymaking process with sufficient support?* Factors for consideration include, but are not limited to, the following:

- Convenience of the meeting for frontline attendees, including location (e.g., proximity to public transportation) and time (e.g., outside of customary work hours, with multiple opportunities to participate);
- Communication of meeting time and location to frontline leaders and community groups;
- Provision of relevant and clear information to sufficiently evaluate the proposed policy and program;
- Financial support to frontline advocates to defray the cost of participation in process (e.g., payment to assist with intervention in a regulatory proceeding); and
- Childcare support during meeting.

**(2) Restoration:** *Does the policy aim to remedy prior and present harms faced by communities negatively impacted by the energy system?*

**(3) Decision-making:** *Does the policy center the decision-making of marginalized communities?*

- A key consideration here includes an evaluation of whether the policy allows for ownership and control of energy assets by communities at the frontline of pollution and climate change, working class people, indigenous communities, and those historically disenfranchised by racial and social inequity.

**(4) Benefits:** *Does the policy center economic, social, or health benefits for marginalized communities?*

- A factor to consider is whether the policy considers benefits and harms in other non-energy areas (e.g., gentrification and displacement), including for future generations.

**(5) Access:** *Does the policy make energy more accessible and affordable to marginalized communities?*

The Energy Justice Scorecard provided in the next Section operationalizes this energy justice framework into a tool that can be used to evaluate existing energy policies as well as inform the approach to a proposed energy policy. The Scorecard presented reflects a number of qualitative indicators; however, advocates can further develop the indicators to reflect more context-specific qualitative and quantitative metrics.

## Section 2

# Energy Justice Scorecard

### How to use the Energy Justice Scorecard

You can use this Scorecard to evaluate existing or proposed energy policy. The Question in the left column should be used to evaluate how the policy scores on an energy justice indicator. The Score will range from 1 to 5 and should be indicated in the second column.

- A score of 1 means that the policy does not meet the requirements laid out in the question.
- A score of 2 means that the policy only partially meets the requirements laid out in the question.
- A score of 3 on the indicator means the policy somewhat meets the requirement.
- A score of 4 means that the policy mostly meets the requirement.
- A score of 5 means that the policy fully meets the requirement of the energy justice indicator.

The Explanation in the third column should be used to discuss why you scored the Question the way you did. This column will help to refine the tool for your own use and the use of other advocates and policymakers.

The Reference column should be the reference to the particular policy, process, conversation, web site or other source that provided the basis for the Score.

At the end, add up the Score. The Score out of 25 will give you, policymakers, and advocates a general sense for how the policy scores in comparison to a "perfect," energy just policy. The Score is meant to catalyze action toward deeper considerations of justice within a particular policy area. As with many scales, this one is imperfect; however, it should provide a workable basis for advancing energy justice in the realm of energy policy. Further, it should offer an opening for discussion on how to advance energy justice in a particular policy area.

## Energy Justice Scorecard

**Scoring Key: 1 (No), 2 (A little bit), 3 (Somewhat), 4 (Mostly), 5 (Yes)**

| Question | Score | Explanation | Reference |
|---|---|---|---|
| **(1) Process:** Have marginalized communities participated meaningfully in the policymaking process with sufficient support? | 5<br>4<br>3<br>2<br>1 | | |
| **(2) Restoration:** Does the policy aim to remedy prior and present harms faced by communities negatively impacted by the energy system? | 5<br>4<br>3<br>2<br>1 | | |
| **(3) Decision-making:** Does the policy center the decision-making of marginalized communities? | 5<br>4<br>3<br>2<br>1 | | |
| **(4) Benefits:** Does the policy center economic, social, or health benefits for marginalized communities? | 5<br>4<br>3<br>2<br>1 | | |
| **(5) Access:** Does the policy make energy more accessible and affordable to marginalized communities? | 5<br>4<br>3<br>2<br>1 | | |
| **Total Score** | ___ / 25 | | |

## Section 3

# Case Studies of California and New York Community Energy Programs

Transitioning local and state jurisdictions to renewable energy generation requires considering and developing a range of strategies, such as renewable portfolio standards to drive utility scale renewables and net energy metering programs to promote rooftop solar. To apply the energy justice framework and Scorecard presented above in this vast field, it's helpful to narrow in and start by analyzing one strategy for accelerating the deployment of renewables. Below we first assess an area within energy policy ripe for centering equity: community renewable energy, that is, cooperatively generating renewable energy such as solar. In particular, we look at community energy programs adopted in California and New York, where two of the Workbook's authors worked. Evaluating these policies through an energy justice lens offers insight into both the framework of analysis (the Scorecard), the policies themselves, and how other energy policies may similarly be analyzed under this approach.

Each case study:

**(1)** Describes the background for each state's community energy policies,
**(2)** Analyzes the procedural aspects – the process of how the policies came to be,
**(3)** Presents the final outcome of policies and program design, and
**(4)** Evaluates the policies based on the Energy Justice Scorecard.

### What is Community Energy?

This Workbook uses the terms community renewable energy, community energy, and community solar somewhat interchangeably. Community energy and community solar have become umbrella terms applicable to many different versions of cooperatively generating renewable energy.

**Community energy** is short for community renewable energy and refers to the same general concept as community solar but applies to all forms of renewable energy. Other than specific aspects related to the underlying technology, the policy issues discussed here apply to both community solar and community energy. Community energy and community solar have become umbrella terms applicable to many different versions of cooperatively generating renewable energy. Typically they refer to structures of **offsite, but nearby, generation of electricity** that multiple electricity customers share.[46] However, community energy and community solar can also apply to onsite shared generation (such as solar on multifamily buildings like apartment complexes) or generation that has a community element of some sort, even if the electricity is not shared by multiple electricity customers (for example, multiple people collectively owning solar  t generation on a third party's property, even if that third party is the only one consuming the electricity).[47]

The terms **shared renewables** or **shared solar** typically mean only those structures where the electricity is shared by multiple customers, and thus sometimes has a more specific meaning than community energy or community solar. Social justice and economic justice advocates define **community energy** as being **community-owned** or **community-controlled**.

The community energy case studies highlight three themes that are similar in both the California and New York context. Effectively designing community energy policies such that they achieve energy justice requires close attention in particular to

**(1)** Community participation in policy development and program design;
**(2)** Energy pricing and valuation structures that make projects viable and attractive to customers and developers; and
**(3)** Sustainable business models that enable community decision-making and control over customer-generated energy resources while balancing the need to target priority customers and provide consumer protection.

# Section 3.1 - Case Study of Community Energy Programs in California

As in other states taking the climate crisis seriously, energy policymaking in California is robust, with a myriad of laws and regulations in different areas such as efficiency, generation, building codes, transportation, and more. To begin to understand and analyze whether California's efforts are achieving energy justice, it's useful to first explore community renewable energy policies, given their intention to benefit customers otherwise left out by other renewable energy programs. This section analyzes two community energy programs in California: the Enhanced Community Renewables (ECR) program and the Community Solar Green Tariff (CSGT). The section explores each program in depth and then examines them using the Energy Justice Scorecard.

The Enhanced Community Renewables program is California's general community solar program available to anyone in the state. It has failed to result in any constructed projects after opening for participation in 2016. The Community Solar Green Tariff program is a small targeted program meant to serve low-income and other disadvantaged communities. It was created in 2018 and is set to open for participation sometime in 2020. Using the Energy Justice Scorecard, we give the ECR program a score of 7 out of 25 points and the CSGT 14 out of 25. While the Enhanced Community Renewables program has failed to result in any projects, its regulatory history is important to understand so that similar mistakes are not replicated in other states. Therefore, it is discussed below in less detail and more for the sake of context. The Community Solar Green Tariff illuminates some solutions and advances in the realm of equitable community solar, but also demonstrates policy gaps that persist and limit the achievement of energy justice.

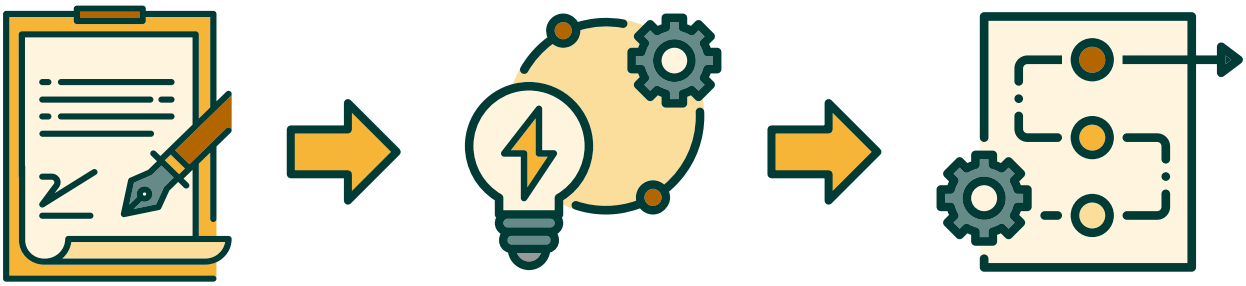
**Background: Community Energy Programs In California**

In 2013, California Governor Jerry Brown signed into law Senate Bill (SB) 43, creating the Green Tariff Shared Renewables (GTSR) program. This broader initiative included California's first attempt at providing all California communities with access to offsite shared renewable energy: the Enhanced Community Renewables program.[48] That same year, when reauthorizing the state's net energy metering (NEM) program for home and business owners with rooftop solar panels in Assembly Bill (AB) 327, the Legislature also directed the California Public Utilities Commission (CPUC), the state electricity regulatory authority, to develop specific alternatives to the standard net metering tariff to ensure the growth of renewable distributed generation "among residential customers in disadvantaged communities."[49] In response, the CPUC developed the Community Solar Green Tariff.

**Community Energy Programs in California:**

| Program Name | Authorizing Statute (Year) | Purpose | Specific Statutory Language |
|---|---|---|---|
| **1) Enhanced Community Renewables (ECR) Program** – *a component of the Green Tariff Shared Renewables Program (GTSR)* | SB 43 (2013) | To provide communities with the benefits of access to nearby offsite renewable energy. | "A participating utility shall provide support for enhanced community renewables programs to facilitate development of eligible renewable energy resource projects located close to the source of demand."[50] |
| **2) Community Solar Green Tariff** – *a component of the reauthorized Net Energy Meeting (NEM) Program (or NEM 2.0)* | AB 327 (2013) | To provide alternatives to net energy metering and ensure the growth of distributed renewable energy among "disadvantaged communities."[51] | "ensures that customer-sited renewable distributed generation continues to grow sustainably and include specific alternatives designed for growth among residential customers in disadvantaged communities."[52] |

As the diagram below illustrates, the community solar law, GTSR (SB 43), and the reauthorized NEM law, NEM 2.0 (AB 327), which were both passed in 2013, set in motion two CPUC proceedings to develop and implement the related programs and tariffs.



**Step 1:** State Legislature passes laws GTSR (SB 43) and NEM 2.0 (AB 327).

**Step 2:** California Public Utilities Commission opens policymaking proceedings to implement law.

**Step 3:** Utilities issue implementation letters and tariffs. Programs become operational.

**Diagram 5:** Policymaking Process for Community Energy Programs in California

One of this Workbook's authors, Subin DeVar, participated in both CPUC proceedings over the course of three years, from 2015 to 2018, on behalf of the Sustainable Economies Law Center, a nonprofit organization based in Oakland. In the first proceeding (to implement SB 43), the Law Center primarily filed its own initial comments on particular issues related to enabling equitable

community-based projects and then subsequently collaborated to submit joint comments with other organizations, including the California Environmental Justice Alliance (CEJA), Clean Coalition, and Greenlining Institute.[53] In the second proceeding (to implement AB 327), the Law Center was only involved in the portion of the proceeding that related to developing alternatives for disadvantaged communities and filed all comments during that stage jointly with CEJA, with a focus on proposing an equitable Virtual Net Energy Metering program.[54]

Statutes and regulatory proceedings such as these provide a rich source of insight into how well the state is achieving energy justice when actually implementing programs and creating the rules that determine who actually benefits from state programs. This section briefly describes both community solar policies and then analyzes them using the Energy Justice Scorecard. As the following discussion illustrates, even laws *designed* with equity issues in mind may face difficulty fully realizing the equity dimensions of the law once the law is implemented.

## Section 3.1.1 - SB 43 Enhanced Community Renewables Program: Three Years, Zero Projects, and No Energy Justice

### Background

The Green Tariff Shared Renewables program established by SB 43 aims to "expand access" to the benefits of renewable energy in "a manner that facilitates a large, sustainable market for *offsite* electrical generation."[55] The legislature designed the GTSR program to expand access to the benefits of renewable energy to customers who cannot access the benefits of *onsite* generation, such as residential rooftop solar generation.[56] According to the law, the GTSR program is critical to expanding access to renewable energy benefits by allowing renters, homeowners with shaded rooftops, and individuals who cannot afford a solar system for their residence or business, to receive the "financial, health, environmental, and workforce benefits" of shared renewable energy facilities.[57]

SB 43 directed the state's three largest investor-owned utilities (IOUs), Pacific Gas & Electric (PG&E), San Diego Gas & Electric (SDG&E), and Southern California Edison (SCE) to "file with the … [CPUC] an application requesting approval of a green tariff shared renewables program to implement a program that the utility determines is consistent with the legislative findings and statements of intent of Section 2831," the purposes summarized above.[58] The GTSR program permits "customers within the service territory of the utility to purchase electricity pursuant to the tariff approved by the commission"[59] from "renewable energy resources with a nameplate rated generating capacity not exceeding 20 megawatts."[60] In total, the state capped the program at 600 megawatts (MW) and a set a few specific reservations of program capacity for particular purposes.[61] The law requires that 100 MW of the statewide limitation be reserved for facilities (no larger than 1 MW) located in areas previously identified by the California Environmental Protection Agency as "the most impacted and disadvantaged communities".[62] Other specific targeting provisions include a requirement that, "[t]o the extent possible, a participating utility shall actively market the utility's green tariff shared renewables program to low-income and minority communities and customers."[63]

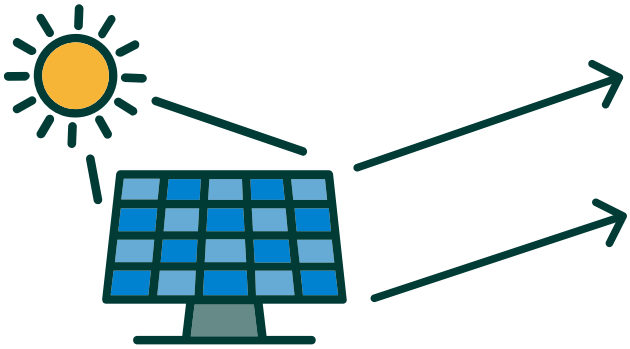
While SB 43 describes the GTSR program generally throughout its text, one provision prescribes:

> A participating utility shall provide support for enhanced community renewables programs to facilitate development of eligible renewable energy resource projects located close to the source of demand.[64]

This line is the only provision in SB 43 that specifies anything in particular for the Enhanced Community Renewables program. However, earlier on in the text the statute states: "To the extent possible, a participating utility shall seek to procure eligible renewable energy resources that are located in reasonable proximity to enrolled participants."[65] The latter statement seems to imply either that all participants of the GTSR program are enrolling to receive power from specific resources, or that perhaps they should have the ability to, given the requirement for the utilities to consider proximity to a certain extent. Given the direction to "provide support for enhanced

community renewables programs to facilitate … projects located close to the source of demand" it is logical to conclude that the Legislature envisioned that ECR programs would be the avenue where people could access electricity from specific community-based renewable energy projects located offsite but nearby.

Although the GTSR program generally purported to "expand access" to the benefits of renewable energy in one way – through access to the energy itself – the ECR program appeared aimed to expand access to both renewable energy and the full co-benefits of local, community-based clean energy development. The legislative findings and intent reflect this transformative vision for low- and moderate-income Californians to finally access these benefits.[66]




Benefits of renewable generation to beneficiaries

Financial, health, environmental, and workforce benefits for direct beneficiaries and for state of California

**Intended Beneficiaries**

Renters, homeowners, and other individuals or institutions who cannot access onsite renewable generation

**Diagram 6:** Intended Purpose of California Senate Bill 43

## Regulatory Policymaking Process

In implementing SB 43, the CPUC interpreted the law as prescribing two programs, a Green Tariff (GT) program that met the general provisions of the statute, and an Enhanced Community Renewables program, that met certain remaining provisions. Therefore, the CPUC split the GTSR implementation proceeding into different phases. The first CPUC decision implemented the Green Tariff program, outlined some major features for the ECR program, and scoped out remaining issues.[67] The second decision largely completed implementation of the ECR program.[68]

On January 29, 2015, the CPUC began implementation of SB 43 by issuing Decision 15-01-051 ("GTSR Decision I"), which established the Green Tariff portion of the GTSR program.[69] The Green Tariff option allows customers to sign up for a higher-cost "green" rate and meet 50% or 100% of their energy needs from a pool of renewable projects procured by their IOU. The pool of projects is comprised of new renewable energy facilities of between 500 kilowatts (kW) and 20 MW in capacity. Essentially the Green Tariff is a "green option" for customers to select to get renewable energy directly from the utility, rather than from the utility's default portfolio of energy resources. However, the Green Tariff program does not allow the customer to select the specific energy generating facility their power is coming from. That option would be covered by the ECR program, to be implemented in a later phase of the proceeding.

The CPUC finalized the rules of the ECR program in 2016 ("GTSR Decision II"),[70] and the three IOUs subject to the program held the first auctions to procure ECR projects in August of that year.

## Program Design of Enhanced Community Renewables

The ECR program allows customers to contract directly with a developer and subscribe to a specific project for all or a portion of the customer's energy needs. The ECR program is a hybrid of traditional rooftop solar programs, where the customer receives a bill credit from the IOU based on their subscription to an ECR project developed by a third-party developer. Projects must be developed with community involvement,[71] but by default, communities do not own or control the energy produced by the developer. The program does not technically prevent communities from

self-organizing and creating a community-based development entity in order to collectively own the ECR project. However, as described further below, in reality, the rules of the program make it both administratively difficult and expensive to self organize.

ECR projects involve three parties: 1) developers, 2) customers, and 3) utilities.

(1) **Developers** contract with utilities to be allowed to participate in the ECR program and to have the utility buy excess power from a project that isn't fully subscribed.
(2) **Customers** contract directly with a developer for a portion of a project's output. Customers pay developers directly for their subscription.
(3) **Utilities** credit customers based on their subscription to the project.

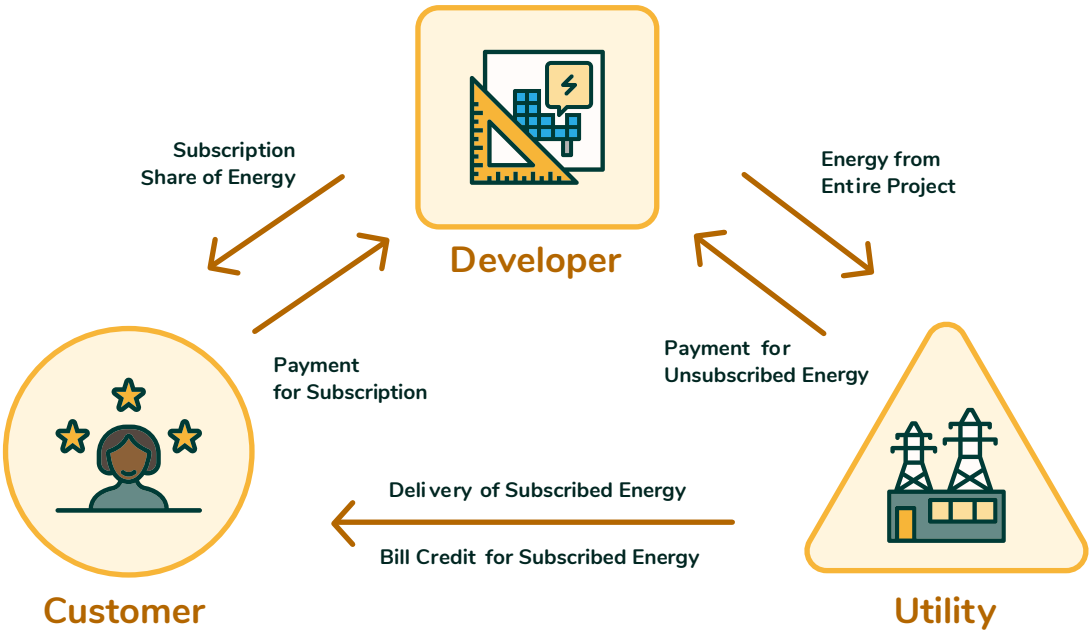



**Diagram 7:** California's Enhanced Community Renewables Program Design

According to GTSR Decision II, the IOUs set rates at which a customer will be credited for their enrollment in an ECR program, and then a customer and developer separately determine what rate the customer will pay the developer for the subscription. The rate that the IOUs credit customers is a key factor in whether ECR projects will make financial sense for developers and customers. Developers must obtain financing for the project and pay down the cost of the project through the subscription fees it charges customers. The amount of the credit customers receive from the utility will determine how much the customers are willing to pay developers.

## Analysis

### Pricing Mechanism

For traditional rooftop solar, the utility credits a customer for solar they generate at approximately the same rate as they would otherwise pay the utility – their "retail" rate. In California, the average price the utility charges a customer to deliver electricity, the "**retail**" rate, is approximately **19¢/kWh**.[72] Therefore, when customers generate solar energy, they are credited on their bill about 19¢/kWh. If the customer did not pay upfront for the full cost of installing the system to own it outright, they are likely paying the third-party installer of the system monthly payments for the solar energy being generated by the panels. Say, for example, that the customer is paying the developer 9¢/kWh; they would still save money overall, because the net of the +19¢/kWh credit on their bill, and -9¢/kWh paid to the developer, means they are paying 10¢/kWh less than they would otherwise pay to the utility if they did not have solar.

In the case of the ECR credit, however, GTSR Decision II set the rate a customer would get credited at around the "**wholesale**" rate for renewable electricity (e.g., the price that the utility would pay for electricity from renewable sources on the open market). Under PG&E's rates for its ECR program, the ECR credit for customers is roughly **6¢/kWh**.[73] In this scenario, if the customer is paying the ECR developer 9¢/kWh; they would be spending more money overall, because the net of the +6¢/kWh credit on their bill, and the -9¢/kWh paid to the developer means they are paying 3¢/kWh more in total than they would otherwise pay to the utility if they did not subscribe to the ECR solar project.

Since a developer is not likely to be able to cover its costs of development if it charges the customer less than 6¢/kWh, the developer would be forced to charge the ECR customer a **premium** to cover its costs. Not many customers are interested in paying more for their power, even if it is cleaner. In contrast, California's residential rooftop solar program (net energy metering) incentivizes participation on the part of developers and customers because the parties understand they are guaranteed a one-for-one cost exchange for energy produced and the energy used by the customer. However, the ECR program creates a disincentive for participation.

Indeed, the three years that have gone by since the program officially opened prove that result. No utility's ECR program has secured any customers. Only two of the three utilities have even made conditional commitments to procure projects – 2.4 MW by SDG&E and 1.66 MW by PG&E.[74] Those figures are a drop in the bucket of the 600MW allocated to the GTSR program overall.

**Considerations of Equity**

The implementation of the ECR program raises important equity concerns. First, the discussion of the ECR program was continually delayed — a common theme for equity-oriented deliberations at the CPUC. Second, the fundamental pricing structure of the ECR program was flawed, in spite of adequate evidence and warning that such an approach would lead to failure. Third, the commission created shockingly discriminatory barriers for all but the wealthiest individuals and corporations to participate, including a requirement for project developers to get a legal opinion from one of the richest 100 law firms declaring that the ECR project design does not violate state or federal securities laws.[75] After finally getting the process going, these latter two factors were nevertheless the two main reasons for the program's ineffectiveness.

Where and when did things go wrong? The pricing structure flaw began with a particularly problematic provision in the authorizing legislation regarding program costs. The statute included a "nonparticipant ratepayer indifference" requirement that costs of the GTSR program not impact customers who weren't participating.[76] Basically, the program was not supposed to cost ratepayers more money if they weren't signed up for it. This statutory language stems from an argument made frequently by investor-owned utilities; namely, that distributed solar energy harms non-participating utility customers by shifting grid maintenance costs not paid by solar customers to non-participants. The "non-impact" language inserted into SB 43 responded directly to this argument, and added an additional barrier to implementation of the law.

The CPUC could potentially have approached this legislative directive in such a way that still enabled projects to be built, but instead it took the most conservative position as advocated by the IOUs. For example, to ensure with absolute certainty that no costs were shifted from non-participating customers to participating customers, the CPUC priced the credit for solar generation near the cost of purchasing wholesale renewable energy. This narrow analysis of cost did not add any other "value" to the tariff, such as lack of reliance on the transmission grid by ECR projects. The CPUC also failed to identify any other possible sources of funding to add to the credit rate offered to customers, such as Cap-and-Trade Auction Proceeds.

Beyond the pricing structure, the CPUC further acquiesced to utility demands regarding implementation, creating numerous barriers in the process and mechanisms of participation. Two issues in particular stand out. First, as noted above, in one of the most shocking outcomes of the proceeding, the CPUC proposed requiring potential project developers to first get a legal opinion certifying that there were no risks of violating securities laws from one of the 100 top-grossing law firms in the country. The list of firms had nothing to do with securities law expertise, but instead was simply based on an annual magazine listing of the wealthiest firms.[77] This requirement added

significant costs to potential developers and erected a significant barrier to project development. Eventually, with advocacy led by the Sustainable Economies Law Center, this requirement was modestly eased, although the Sustainable Economies Law Center pressed for removing it entirely. Second, rather than create a program that anyone in the public could easily access if they wanted to build a project, the CPUC limited approval of new projects to an opaque biannual auction, rather than a transparent and rolling application.

In the end, the Enhanced Community Renewables program falls far short of its goals to provide all Californians – including renters, low- to moderate-income communities, and environmental justice communities – with access to the benefits of offsite renewable energy generation. The failure of the ECR program reflects a policy choice by California to not design a functional program to expand the benefits of solar ownership and self-generation to the renters, low-income homeowners, and others who were left out of the state's massive transition to distributed renewable energy.

**Application of Energy Justice Scorecard Metrics to CA ECR Policy**

As presented above, those evaluating policies through an energy justice lens can apply the Energy Justice Scorecard to crystalize and summarize the many considerations of energy equity. By reviewing whether policies are advancing energy justice, and using the Scorecard as a tool for dissecting where policies have succeeded and where they have failed, advocates and policymakers can more effectively direct future efforts. Below we use the framework of five guiding questions to evaluate California's Enhanced Community Renewables program adopted pursuant to SB 43. This application provides both an example of how the Scorecard can be used, as well as additional considerations for advocates and policymakers working on community solar programs. Many states may approach community solar similarly to how California did with the ECR program, so even though the program failed in California, it may succeed in serving as a guide of what not to do for others.

**(1) Process:** *Have marginalized communities participated meaningfully in the policymaking process with sufficient support?*

**Score 2 - A little bit; more indirectly through a statewide advocacy group than directly**. The California Environmental Justice Alliance (CEJA) participated in the policymaking proceeding at the CPUC. (Note: we have not analyzed who was involved in the original legislation, and so the focus on this analysis is the regulatory implementation.) CEJA is a statewide alliance. One representative of CEJA directly participated in the proceeding, and our understanding is that the representative received direction and feedback from a steering committee representing all of the member EJ organizations who are a part of CEJA. In turn, those EJ organizations themselves are member-based, rooted in low-income communities of color, and have channels for community input and feedback. It's uncertain, but seems unlikely that many, if any, community members directly engaged with the policymaking process.

There are also general strengths and weaknesses about the policymaking process at the CPUC that are worth noting. First, the CPUC offers Intervenor compensation for anyone's time spent engaged in the proceeding, if they demonstrate financial need. This is crucial for allowing EJ groups to participate meaningfully. Second, the CPUC doesn't take a very proactive role in publicizing its proceedings, and there are very specific rules of practice and procedure one has to follow. This means most community members likely would not know that the policymaking was even happening, and even if they did, might have difficulty navigating the process of filing comments, which isn't very user-friendly.

**(2) Restoration:** *Does the policy aim to remedy prior and present harms faced by communities negatively impacted by the energy system?*

**Score: 1 - A little bit theoretically, but not at all in practice.** Key remedies in the realm of community solar sought by marginalized communities disproportionality burdened by pollution include: (1) financial access and benefits, (2) ease of participation, and (3) alleviation of health issues from sources of pollution.

*Financial access and benefits:* the ECR program offers no bill savings or discount to make participation financially accessible and presents no clear route for wealth-building or job benefits.

*Ease of participation:* it is hard to apply for projects due to biannual auctions rather than rolling applications and the costly barrier of the securities legal opinion requirement.

*Health:* there is no prioritization or value-adding incentive for projects that might offset load from natural gas peaking plants or mechanisms to drive local air quality co-benefits. Projects are not financially viable, so none have been constructed, and thus none of these concerns are being addressed.

**(3) Decision-making:** *Does the policy center the decision-making of marginalized communities?*

**Score: 2 - Mostly no/a little bit.** Participation barriers discussed above make it hard for traditionally excluded populations to be in the driver's seat of building grassroots-led projects through the ECR program. Furthermore, there is no incentive for community ownership and control. However, the policy does require applicants to demonstrate that there is a certain level of community interest in a project before it is approved. This could help prevent a project from moving forward if there isn't community buy-in. Still, that requirement represents a more passive approach to ensure a bare minimum of community interest. The policy does not proactively encourage any involvement (nevertheless decision-making) from community members of traditionally excluded population by any specific means.

**(4) Benefits:** *Does the policy center economic, social, or health benefits for marginalized communities?*

**Score: 1 - No.** The ECR policy in practice does not focus on economic, social, or health benefits for traditionally marginalized populations. The program's focus is only on energy access and even then it fails to achieve any expansion of access to renewable energy because the programs cost more than existing services. Legislatively, the authorizing statute did envision broader benefits, and theoretically, the ECR component could have gone beyond expanding access to energy alone by allowing communities to build projects that promote other economic, social, or health benefits. However, the implemented program does not explicitly focus on achieving any such benefits, nor does it promote them in practice.

**(5) Access:** *Does the policy make energy more accessible and affordable to marginalized communities?*

**Score: 1 - No.** The ECR program is both hard to navigate and costs more than standard electricity rates. Therefore, it fails to make energy more accessible or affordable.

## Energy Justice Scorecard: California Enhanced Community Renewables Program

Scoring Key: 1 (No), 2 (A little bit), 3 (Somewhat), 4 (Mostly), 5 (Yes)

| Question | Score | Explanation | Reference |
|---|---|---|---|
| **(1) Process:** Have marginalized communities participated meaningfully in the policymaking process with sufficient support? | 5<br>4<br>3<br>(2)<br>1 | A little bit; more indirectly through a statewide advocacy group than directly. | A record of all party comments can be found online. [78] |
| **(2) Restoration:** Does the policy aim to remedy prior and present harms faced by communities negatively impacted by the energy system? | 5<br>4<br>3<br>2<br>(1) | A little bit theoretically, but not at all in practice. The policy was supposed to create projects in environmental justice communities, but implementation failed. | |
| **(3) Decision-making:** Does the policy center the decision-making of marginalized communities? | 5<br>4<br>3<br>(2)<br>1 | Mostly not/a little bit. There is no incentive for community governance, but there are community interest requirements. | |
| **(4) Benefits:** Does the policy center economic, social, or health benefits for marginalized communities? | 5<br>4<br>3<br>2<br>(1) | No. The policy does not focus on economic, social, or health benefits for traditionally marginalized populations. | |
| **(5) Access:** Does the policy make energy more accessible and affordable to marginalized communities? | 5<br>4<br>3<br>2<br>(1) | No. The ECR program is both hard to navigate and costs more than standard electricity rates. Therefore it fails to make energy more accessible or affordable. | |
| **Total Score** | 7 / 25 | | |

## Section 3.1.2 - AB 327 Community Solar Green Tariff: An Uncertain Step Forward

### Background

In 2013, the California legislature reauthorized the state's net energy metering (NEM) program for rooftop solar by passing Assembly Bill (AB) 327. The law directed the California Public Utilities Commission (CPUC) to develop specific alternatives to the standard net metering tariff to ensure the growth of renewable distributed generation "among residential customers in disadvantaged communities."[79] The Community Solar Green Tariff (CSGT) was one of a suite of programs created by this statutory requirement.

### Regulatory Policymaking Process

In 2017-2018, during the second half of the AB 327 implementation proceeding, the CPUC had another opportunity to revisit the issue of equity in its distributed generation policies. In addition to a different statutory directive, a few other things had also changed at the Commission since the implementation of SB 43. First, leadership had shifted, and a Commissioner much more concerned with energy equity, Commissioner Martha Guzman-Aceves, played a much more direct role in ensuring a more successful outcome in the AB 327 proceeding than the SB 43 proceeding. Second, by this point, the failure of the ECR program was already apparent, as well as the stark divergence between the ECR program and net metering-based programs – including Virtual Net Energy Metering (VNEM) programs – which were widely successful due to a strong pricing structure based on crediting customers for energy production at the same rate that they purchase energy. Third, the CPUC's Energy Division staff were much more engaged with proactively offering policy solutions (rather than simply being reactive to party proposals) and were also much more engaged in reviewing comments from all parties with a critical lens, not just accepting feedback at face value. In particular, as opposed to the SB 43 proceeding, the CPUC did not simply rubber stamp many of the arguments of the IOUs.

At the same time, a few other contextual differences were at play between the AB 327 and SB 43 proceedings. First, while AB 327 encouraged cost containment, the law didn't explicitly specify that the programs couldn't lead to rate increases for non-participants.[80] Second, the CPUC considered separate funding sources for the disadvantaged community programs, an effective solution for avoiding arguments of supposed "cost-shifting." Nevertheless, even though the stage was set for a better – more equitable – outcome in the AB 327 proceeding, as time went by, hopes for a robust and fair virtual net metering based community solar program for disadvantaged communities dwindled.[81] This resulted in part from parties advocating for divergent positions and in part from the Commission's decision-making process.

#### Proposals by Different Players in the Process

The CPUC requested proposals from parties to the proceeding for alternatives to net energy metering for disadvantaged communities and most of the proposals offered fell roughly into three approaches. First, green tariff-based proposals outlined programs that would give customers access to renewable energy, but no element of net energy metering or potential for community ownership of local resources. In addition, some parties recommended the expansion or extension of the Single-family Affordable Solar Housing "SASH" program, which provided incentives for net metering-based solar installations on single family affordable housing. Finally, there were two proposals for creating a virtual net energy metering (VNEM) based program to enable offsite community solar.

The first of two VNEM-based proposals was submitted by Vote Solar/Solar Energy Industries Association ("Solar Parties"). Their "DAC VNEM" proposal recommended expanding the existing VNEM program under the same retail rate compensation rules to allow any resident of a designated "Disadvantaged Community" or "DAC" census tract to subscribe to energy from any community solar project located in any other DAC census tract.[82]

Second, the California Environmental Justice Alliance/Sustainable Economies Law Center proposal for an "Equity VNEM" program aimed to promote smaller, local, community-owned renewable energy projects. The Equity VNEM proposal was offered as an add-on to the Solar Parties VNEM program, to address a few shortcomings of that model. Primarily, the industry proposal didn't encourage community-based projects (participants of a project could be from all over the IOU's service territory), projects didn't have a size limit, and there were no incentives for community ownership and control. These three issues were all tackled by the CEJA/SELC proposed add-on layer of Equity VNEM to prioritize projects that were close to customers, smaller, and collectively controlled.[83]

VNEM-based proposals ultimately led to the creation of the Community Solar Green Tariff. Proponents of VNEM argued that it was a necessary alternative to the standard NEM tariff, because NEM is fundamentally about self-generation, the economic benefit of bill credits tied to actual solar generation, and customer-based participation and demand. These characteristics of NEM could not be achieved simply by green tariff-based or SASH-based programs alone, the parties insisted. While the CPUC did not ultimately create a VNEM-based program as part of this proceeding, it created the CSGT program in an attempt to address some of the issues and goals raised.

**CPUC Deliberations**

Initially, it appeared that the Commission would implement some form of VNEM, with modifications to make it more community-based, though not incentivizing community ownership. While the Administrative Law Judges assigned to the proceeding did not include any form of a VNEM program in their Proposed Decision, one of the five Commissioners who heads the CPUC, Commissioner Martha Guzman-Aceves, simultaneously issued an Alternate Proposed Decision (APD) on the same day that included a VNEM-based Community Solar program. However, the Solar Parties argued that the APD's Community Solar proposal would not work and requested modifications to the program. The IOUs also attacked the APD's VNEM proposal, but had no interest in the program being improved at all; they advocated that the CPUC pull the proposal entirely. Rather than fixing the issues raised against the VNEM Community Solar proposal, even this door that was slightly cracked open was subsequently shut.

Ultimately, the CPUC walked back the VNEM-based program and proposed a more modest tariff-based community solar program: the Community Solar Green Tariff. The Community Solar Green Tariff (CSGT) allows people to subscribe to solar energy associated with a new installation nearby them – within 5 miles. And it allows communities to find new methods for maximizing the use of rooftop space and other areas for solar production. It wasn't exactly what parties had asked for, but the equity-aligned parties still saw it as something better than nothing, and supported its adoption while arguing for improvements as well.

## Program Design of Community Solar Green Tariff

The CSGT program aims "to allow primarily low-income customers in certain disadvantaged communities to benefit from the development of solar generation projects located in their own or nearby disadvantaged communities" to "provide benefits to the participating customers, benefits to their communities, and benefits to the environment."[84] CSGT is meant to fill a gap in clean energy programs, specifically to serve renters and low-income communities who do not reside in multi-family buildings, and provide them a way "to access green benefits from a local source at an affordable cost."[85] Furthermore, it strives to allow indirect community ownership and leverage unique community solar funding sources.[86]

CSGT is a community solar program based on a "green program" or "green tariff" model rather than virtual net energy metering.[87] Subscribing residential customers on the CSGT get 100% renewable energy at a 20% discount as compared to their otherwise applicable rate.[88] The program requires community involvement; CSGT projects must have a nonprofit or government "Local Sponsor." The Local Sponsor is eligible to receive the 20% bill discount.[89]

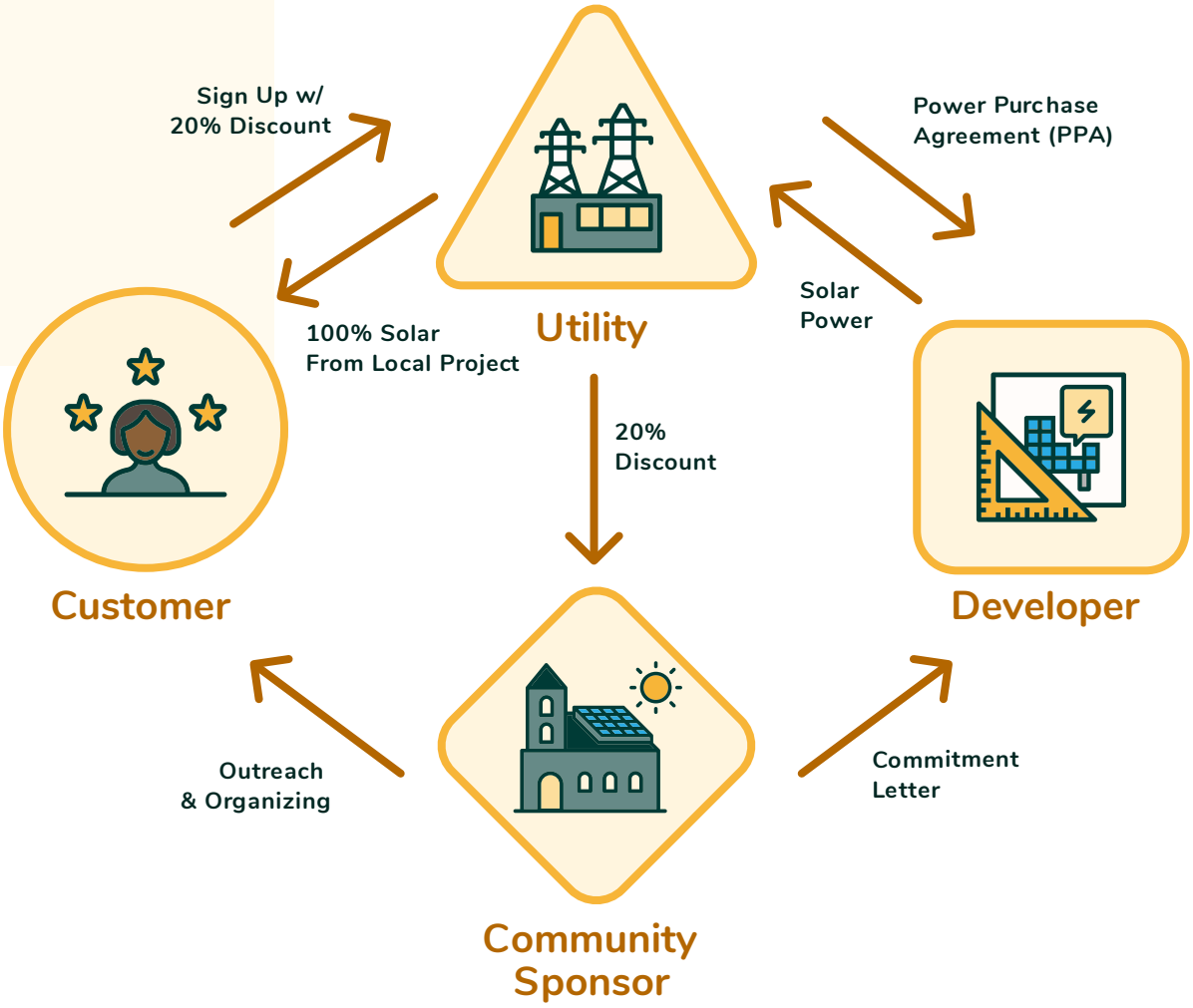



**Diagram 8:** California's Community Solar Green Tariff Program Design

### Key Elements of Community Solar Green Tariff Program

- **Program Capacity:** The CSGT program is limited to 41 MW in total across all IOUs and community choice aggregators (another type of energy provider in California).[90] This represents an estimated 6,700 households.

- **Project Size:** The upper limit on project size is 3MW or 30% of the total capacity in that IOU's Community Solar Green Tariff program, whichever is larger.[91] The program explicitly does not set a lower limit on project size. (Unlike the 500kW minimum in the GTSR program.)

- **Definition of Disadvantaged Community ("DAC"):** One of the top 25 most vulnerable census tracts statewide as identified by CalEnviroScreen 3.0, as well as the "22 census tracts in the highest 5 percent of CalEnviroScreen's Pollution Burden, but that do not have an overall CalEnviroScreen score because of unreliable socioeconomic or health data."[92]

- **Location of Projects & Customers:** CSGT projects must be sited in a DAC and subscribers to a project must be in the same census tract where the project is located or in a DAC within 5 miles of the subscriber's DAC.[93]

- **Ownership:** CSGT is meant to allow a "sense" of indirect community ownership in projects as well as community involvement. The program does not incentive financial ownership, but indirect ownership is still technically feasible because there can be third party ownership, and participants can be part of an entity that owns the project.[94]

- **Low-Income Requirement:** 50% of customers must be low-income customers. For this program, the CPUC defines low-income customers as CARE-eligible and FERA-eligible customers.[95]

- **Bill Credit:** The CSGT program provides a flat guaranteed 20% discount on a customer's total bill – based on their "otherwise applicable residential tariff" before signing up for the CSGT program.[96]

- **Community Sponsorship:**
  - **Requirement:** In order to demonstrate community involvement, CSGT projects must have a "non-profit community-based organization or local government 'sponsoring' a project on behalf of residents." Sponsorship requires a letter of commitment from the organization, which must include elements such as a demonstration of community interest, estimates of size and subscriptions, a preliminary outreach plan, and community siting preferences.[97] Sponsors should also include job training and workforce development efforts.[98]
  - **Incentive:** The Local Sponsor is eligible to receive bill credits based on the CSGT (i.e., 20% discount) for up to 25% of the project's capacity, but not more than the Sponsor's energy needs.[99] This discount lasts for the life of the project.[100]

- **Procurement Process:** Projects are accepted through an auction-based process, in which the project is selected after a competitive solicitation. Once accepted, the IOU executes a Power Purchase Agreement (PPA) with the applicant solar project developer. The CSGT program does not require any direct relationship between the subscriber and the project developer.[101] IOUs must issue at least two RFOs per year for CSGT projects and prioritize four types of projects in particular, listed below.[102]
  - **Prioritizations:**
    - Projects located in top 5% most vulnerable communities (about 500 census tracts)[103]
    - Projects located in San Joaquin Valley pilot communities[104]
    - Projects that leverage other government funding or projects "that provide evidence of support or endorsements" from local or state climate programs or initiatives[105]
    - Projects that include job training and workforce development factors - "As part of their RFO process, utilities should prioritize job training and workforce development factors. Further, sponsors should ensure that their efforts include job training and workforce development efforts to benefit the local communities which would benefit from the projects"[106]
  - **Cost Containment:** "We will establish a cost cap similar to that in the Enhanced Community Renewables Environmental Justice program, which has a cap of 200% of the historical RAM clearing price." But for CSGT: "utilities should limit contract awards to Community Solar Green Tariff program projects whose bid price is at or below the higher of 200 percent of the maximum executed contract price in either the Renewable Auction Mechanism's as-available peaking category or the Green Tariff program."[107]

The following hypothetical example helps to demonstrate how a CSGT project might work. In this example, the Local Sponsor is a church. The Local Sponsor church will also be the host of the solar system, which will have a capacity size of 100kW and be located on the church's roof. The church will sign a commitment letter with a solar developer outlining efforts that will be conducted by the church, including outreach and community organizing. The solar developer will install or manage installation of the system and enter an agreement with the utility for the utility to purchase the power from the system. The utility will directly handle billing and customer service for enrolled customers. Those enrolled customers will get a 20% discount on their overall bill each month with no upfront costs.

**Hypothetical Example of a Community Solar Green Tariff Project:**

- **System size: 100kW capacity system**
  - The Local Sponsor is a church with a roof that can support a system with 100 kW capacity.
- **Sponsor subscription: 25kW capacity**
  - The church's historical/estimated usage (i.e., past 12 month kWh usage + any variation likely for future) equals an estimated need of a 25kW sized system at that location (based on solar radiation/system performance calculators).
  - So, the Sponsor subscribes to 25% of project capacity (25kW/100kW).
  - The church gets the 20% discount CSGT rate for usage up to 25% of the system's output. Any additional usage will be billed at the church's otherwise applicable rate.
- **Customer subscriptions: 75kW capacity in total**
  - The remaining 75 kW of capacity is apportioned to customers based on their actual historical/estimated usage (i.e., past 12 month kWh + any likely change)
  - Let's say the average for 25 residents is 3kW capacity need each, for a total of 75kW.
  - The customers get a 20% discount on every monthly bill, regardless of actual monthly usage.

## Analysis

### Pricing Mechanism

Because CSGT is not a VNEM-based program, the economics of developing projects is a bit more obscure, and ultimately it is not clear if projects will be constructed under this program. To build a project, a solar project developer must first secure a power purchase agreement (PPA) from the utility, which will then allow the developer to finance the project. To secure a PPA, the developer must submit a bid in a competitive, auction-based, solicitation. The bid is an offer to sell power from a proposed CSGT project at a specified price. As noted above, the utilities may not accept bids higher than a certain level, that is, bids more than twice the cost of the highest bid accepted in another renewable energy auction. By design, auction bids are confidential, so it is not known what exact price will win in a CSGT procurement auction, and thus how much a developer will get paid for power from a CSGT project. However, wholesale renewable energy contracts (for utility scale solar or wind) are typically in the range of 4 to 6 cents/kWh, so the CSGT bid cap might be around 8 to 12 cents/kWh. Even at that range, it's not clear if such revenue will be enough to cover construction, customer acquisition, and other costs to build a project. While it's a price range that has enabled community-scale solar installations, solar industry representatives have expressed concern that some CSGT program requirements, such as the geographic limitations and customer income qualification limitations, will make projects too costly to pencil out.

On the other hand, the economics of participation from a customer's standpoint is in some ways more clear for CSGT than a net metering-based program. With net metering programs, a customer receives credits on their electricity bill and pays the utility less per month, however

they either have to pay upfront to install their system or pay a solar company monthly payments in addition to their utility bill. Therefore, it can be a bit more challenging to calculate how much a customer might save overall.

**Considerations of Equity**

If projects can get built, CSGT will represent a significant step forward for equitable community solar in California. Even though the program is limited in its overall size to only be up to 41 MW, it would allow the development of local solar projects that customers could choose to receive their power from at a clear discount and with no upfront costs. It would allow customers in communities overburdened from pollution to access these benefits and would not only be limited to low-income customers. Nevertheless, it is a major issue of fairness and equity that the program size is so small, that customers do not have access to bill credits as valuable as net metering-based credits, and that the procurement pricing limitations leave so much doubt as to whether projects can get built at all.

**Application of Energy Justice Scorecard Metrics to CA CSGT Policy**

Below we evaluate the Community Solar Green Tariff adopted under AB 327 by applying the Energy Justice Scorecard. While we assessed the ECR program as having a score of 7, we give CSGT a 14 using the scorecard. The higher score and accompanying analysis demonstrates the progress that was made and that which is still needed. In particular, the CSGT program has made meaningful progress to ensure marginalized communities receive energy and non-energy benefits from the program, and slightly increases the economic feasibility of project development. CSGT has not yet been fully implemented, however, and questions will remain until it goes online and can be more thoroughly evaluated.

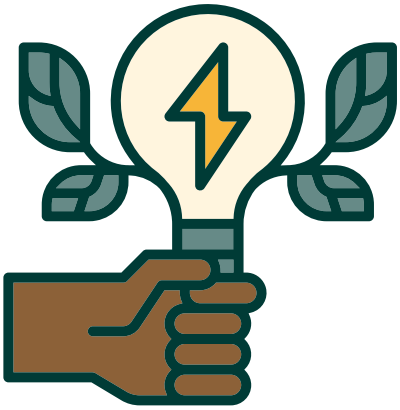
**(1) Process:** *Have marginalized communities participated meaningfully in the policymaking process with sufficient support?*

**Score: 3 - Somewhat.** The answer here for CSGT is mostly the same as for the ECR program, although there was slightly more community participation. Primarily, that participation came in the form of CEJA being a party to the proceeding and being actively involved. In addition, one of its member groups, APEN was also directly involved, so that increased the amount of participation. CEJA also received support from a legal clinic and partnered with the Sustainable Economies Law Center on some comments, which expanded its capacity to participate in the policymaking process. There were also more organizations that represent low-income communities involved in this proceeding, outside of CEJA member groups, including the Brightline Defense Project, which works to create sustainable environments and empower low-income communities, including the San Francisco's Bayview-Hunters Point community.

**(2) Restoration:** *Does the policy aim to remedy prior and present harms faced by communities negatively impacted by the fossil-fuel based energy system?*

**Score: 3 - Somewhat.** CSGT was specifically designed to target barriers faced by disadvantaged communities in accessing the benefits of distributed renewable generation. The Commission was responsive in aiming to design a program that promoted local solar generation on community buildings in pollution-burdened communities. However, it does not go far enough to robustly address the concerns raised to significantly counter prior harms. *Financial access and benefits:* the program includes a flat 20% discount and potentially opens the door for community-based developers who could use the program as a means for wealth-building and job creation. But that's very tentative, and also the size of the program isn't very large, so it's not likely to drive a lot of projects, wealth, or jobs. *Ease of participation:* the program unfortunately still relies on a biannual auction, but doesn't have a securities legal opinion requirement. *Health:* CSGT doesn't explicitly target replacing emissions from local fossil fuel power plants but is focused on siting solar projects in pollution-burdened census tracts.

**(3) Decision-making:** *Does the policy center the decision-making of marginalized communities?*



**Score: 2 - A little bit.** The policy includes a requirement that projects have a community sponsor, who can also access the 20% bill savings, so that is an avenue to get more community participation and involve a community anchor institution. However, CSGT does not otherwise require, incentivize, or do anything proactively to encourage decision-making by the community. The commission declined to specifically promote community-ownership or control, but collective ownership is technically still possible because the program allows third party ownership of solar projects.

**(4) Benefits:** *Does the policy center economic, social, or health benefits for marginalized communities?*

**Score: 2 - A little bit.** As noted above, the program does include bill savings, potentially a route for local wealth-building and good jobs, and perhaps health benefits from local siting. However, the likelihood for benefits beyond the bill savings is quite tenuous. CSGT does not include any specific mechanisms or evaluation methods to ensure or reflect on the attainment of such benefits.

**(5) Access:** *Does the policy make energy more accessible and affordable to marginalized communities?*

**Score: 4 - Yes, probably.** Participants receive a 20% bill savings discount and that discount applies on top of other discounts from low-income assistance programs such as California Alternate Rates for Energy (CARE) and Family Electric Rate Assistance Program (FERA). CSGT also requires that at least 50% of the capacity of each project is allocated to low-income residential customers. On the one hand, this may drive accessibility and affordability for working class families because they must be included, but on the other hand it may make it challenging to build projects and sign up enough customers. So there remains a major question of whether projects can and will be built, and if they cannot, then of course no one will see such benefits. Other factors that have also raised concerns from analysts about the economic viability of constructing projects include the geographic limit to the customer base for projects[108] and the utility procurement pricing method employed.[109]

## Energy Justice Scorecard: California Community Solar Green Tariff Program

Scoring Key: 1 (No), 2 (A little bit), 3 (Somewhat), 4 (Mostly), 5 (Yes)

| Question | Score | Explanation | Reference |
|---|---|---|---|
| **(1) Process:** Have marginalized communities participated meaningfully in the policymaking process with sufficient support? | 5<br>4<br>(3)<br>2<br>1 | Somewhat. Primarily, in the form of an alliance being a party to the proceeding and being actively involved, along with a few more orgs. | A record of all party comments can be found online. [110] |
| **(2) Restoration:** Does the policy aim to remedy prior and present harms faced by communities negatively impacted by the energy system? | 5<br>4<br>(3)<br>2<br>1 | Somewhat. CSGT was specifically designed to target barriers faced by disadvantaged communities in accessing the benefits of distributed renewable generation. | |
| **(3) Decision-making:** Does the policy center the decision-making of marginalized communities? | 5<br>4<br>3<br>(2)<br>1 | A little bit. Does not incentivize community control, but requires a local sponsor to assist in community outreach. | |
| **(4) Benefits:** Does the policy center economic, social, or health benefits for marginalized communities? | 5<br>4<br>3<br>(2)<br>1 | A little bit. The program includes 20% electric bill savings, but benefits beyond that are uncertain. | |
| **(5) Access:** Does the policy make energy more accessible and affordable to marginalized communities? | 5<br>(4)<br>3<br>2<br>1 | Yes, probably. In addition to the bill discount there is a requirement that 50% of the capacity of each project is allocated to low-income residential customers. | |
| **Total Score** | 14 / 25 | | |

# Section 3.2 - Case Study of Community Distributed Generation Program in New York

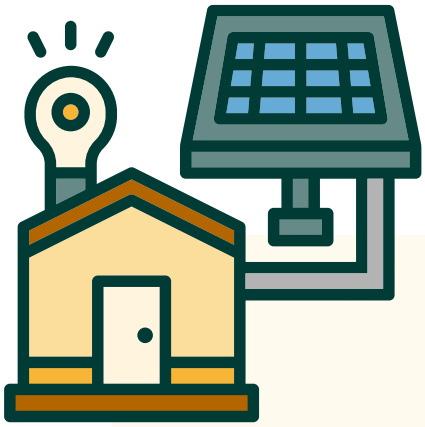
This section reviews New York's Community Distributed Generation ("CDG") program, which came out of Reforming the Energy Vision ("REV") – a broad overhaul of the electricity generation and distribution system in New York State. The CDG program allows multiple electricity customers to access energy and benefits from a single energy generation project. Using the Energy Justice Scorecard, we give the CDG program a score of 14 out of 25 points. While New York's CDG policy seeks to address energy-related burdens for low-income and environmental justice communities, it does not include environmental justice components in the value of solar or public health, economic, and other social benefits of a solar project.

## Background

Key guiding principles for REV are (1) transitioning from centralized to distributed energy generation, (2) improving the reliability of transmission and distribution infrastructure, (3) phasing out of fossil fuel-based generation and expansion of renewable energy resources, (4) developing more resilient grid infrastructure and energy generation in the face of extreme weather and climate change impacts on weather patterns, (5) facilitating increased agency and individual choice on the part of the electricity consumer, (6) improving and sustaining deep affordability of energy for consumers.[111]

REV grew out of both the acute shock of Superstorm Sandy as well as a recognition of more chronic and longstanding stresses on the energy system, energy generators, and energy consumers. Superstorm Sandy put in sharp relief the need for more resilient electricity infrastructure in the face of sweeping blackouts and power outages that lasted for weeks in some communities. The disparate impacts of extreme weather events like Superstorm Sandy on lower-income New Yorkers, the elderly and infirm, and public housing residents were also apparent as the communities that suffered the worst outcomes were those with limited access to the resources necessary to weather the storm and recover in its aftermath. Public housing developments in lower lying areas of New York City faced significant flooding and prolonged blackouts, coastal communities saw entire blocks ravaged, and critical infrastructure throughout New York City, including the transit system and a Con Edison facility, were seriously damaged. The failure of the electricity grid alone resulted in life threatening and in some cases fatal conditions. The Sandy post-mortem was replete with stories of residents requiring elevators for accessibility purposes stranded in their homes, those with serious health conditions unable to use critical medical equipment, lack of access to fresh food, cooking, medicines, and inability to climate control homes resulting in serious health concerns for families, young children, and the elderly. The calls for meaningful change that would result in better preparedness and resiliency, particularly for the most vulnerable populations, grew in large part out of these deeply troubling stories and the desire for communities to build power and agency to withstand the next storm. The widespread power outages and energy system vulnerabilities revealed by Superstorm Sandy spurred New York regulators to action, and in 2015, the state's energy regulators opened the Reforming the Energy Vision regulatory docket to advance the state's transition toward a cleaner, more nimble energy system.

Prior to Superstorm Sandy, New York's electricity generation system was far from optimized. Lack of access to affordable, reliable energy posed an ongoing and significant challenge for New York City's low-income residents. New York's electricity rates were 59 percent higher than the national average, and some low-income residents were paying up to 20 percent of their income towards utility costs, while higher-income residents often paid less than 5 percent. Low-income households were also more likely to experience power termination due to lack of bill payment, and additional penalties that only compounded their inability to pay. Due to increasing energy prices and volatility, New York utilities issued a record



number of shut-off notices to customers in 2015. These challenges were not merely academic but very real lived experiences: without utilities, residents cannot properly heat or cool their homes, which can be fatal for vulnerable populations such as the elderly and those living with chronic health challenges. In addition, routine daily activities, such as getting ready for work, completing schoolwork, preparing food, or even simple mobility through an apartment building can be nearly impossible without working utilities.

## Regulatory Process

At its inception, REV had themes of inclusivity, access, and equity. New Yorkers would be able to access clean energy "regardless of their income or zip code," Richard Kauffman, the State's appointed leader on energy policy, stated in 2015. Affordability was also front and center, with the goal of alleviating utility burdens across the state a key driver of the proposed infrastructure improvements and need for more robust clean energy development. The recognition that the energy affordability crisis hit lower-income New Yorkers in much more profound ways than higher-income New Yorkers fueled the search for policies that would not only encourage more renewable energy throughout the state but also make it accessible to residents who traditionally could not tap into a renewable energy source due to economics or renter status.

The principles of access and affordability dovetailed with the other REV concept of customer choice, that electricity customers should have more agency to choose where their energy came from and how it was generated. This idea, coupled with REV's other core goal of increased renewable energy development, opened up new policy avenues that would allow for innovative models of energy generation and ownership. Advocates and policymakers recognized the more transformational possibility stemming out of this potential policy platform – that communities could directly participate in local, community-owned distributed clean energy generation. The possibility of customers moving beyond a status as "ratepayers," those that simply receive and pay a bill from a corporate utility, to energy generators and consumers (or "prosumers") would allow individuals and communities to create real value out of clean energy development and most importantly, keep that value and the accompanying benefits, within their own communities and households.

This vision ended up codified in New York's community distributed generation policy and its accompanying Public Service Commission proceedings and orders.[112] Community distributed generation ("CDG"), in the New York energy policy context, can refer to a wide range of energy generation systems in terms of scale, energy source, and technologies. However, the unifying principle underlying all CDG systems in New York state is that multiple individuals, households, and ratepayers may jointly participate in an energy generation project either as owners or subscribers and collectively partake of the benefits flowing from that project, whether it be the energy itself and/or the economic value from resale to the grid.

### Relevant Proceedings within REV with Energy Justice Impacts

REV is an umbrella regulatory reform platform that ultimately contained within it a number of dockets at New York's Public Service Commission ("PSC") that facilitated the actual regulatory proceedings necessary to realize the articulated goals of REV as a policy. The proceedings within REV most relevant to energy justice considerations and impacts include:

- Community Distributed Generation/Shared Renewables/Community Solar
- Value of Distributed Energy Resources
- Uniform Business Practices for Distributed Energy Resources Providers
- Energy Storage
- Energy Efficiency
- Microgrids

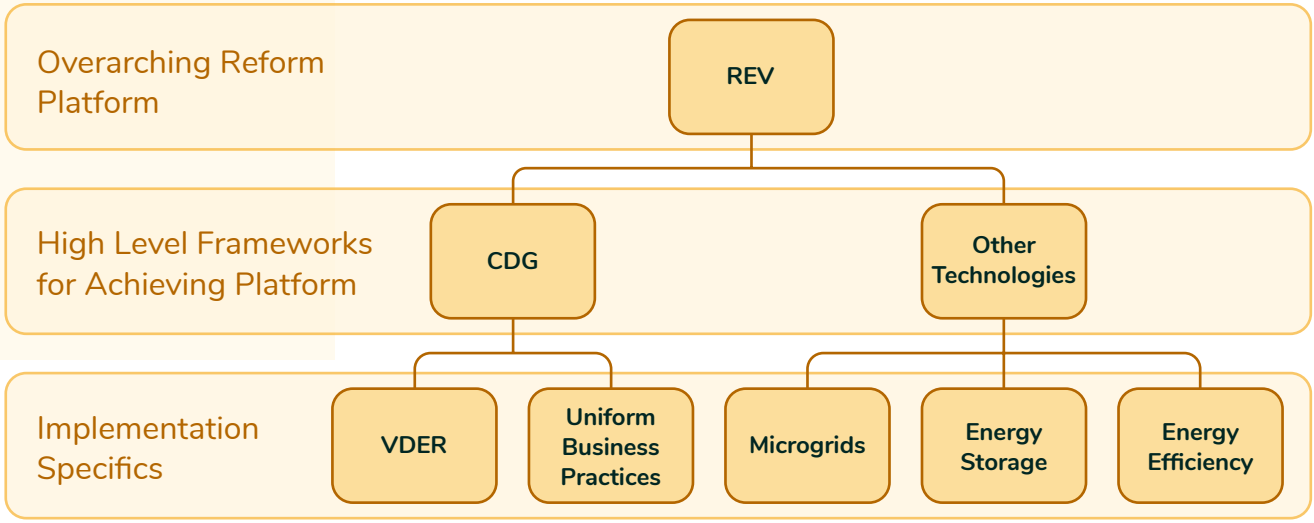



**Diagram 9:** Key Proceedings within Restoring the Energy Vision (REV)

Each of these proceedings were commenced at different times during multiple phases of REV starting in 2014 and continuing to date. A proceeding would typically involve some sort of kick-off that included preliminary information gathering and a stakeholder process where staff at the Department of Public Service ("DPS"), the agency that supports the PSC, would hold meetings and allow for filings on the docket to effectively scope the problem to be tackled in the particular proceeding. From there, each proceeding tended to take different forms depending on the nature of the types of stakeholder and expert input required and the timeline needed given the depth of a particular topic area. Often an iterative process, DPS would take preliminary input gathered through meetings, filings responsive to specific questions put forth by DPS, and other avenues of expert input, and issue a Staff Report that would detail recommendations as to how to proceed, typically including specific frameworks for a potential PSC order (the form that PSC official regulatory policy takes) addressing the matter at hand. Stakeholders would then have an opportunity to comment on the Staff Report, and these responses would be included in the record and accounted for in the PSC's ultimate decision on the form a policy should take in its final order on the topic.

Participants in the proceeding included the following categories of groups and representatives (not intended to be an exhaustive list):

- Utilities from across New York State
- Representatives of solar industry trade associations and individual renewable energy developers
- Environmental conservation-oriented NGOs
- Representatives from environmental justice organizations and coalitions
- Academic institutions and affiliates working in the energy and environmental field
- Policy think tanks working in the energy and environmental field
- Representatives from local, municipal, and county government
- Representatives from organizations advocating for low-income customers and communities
- Consumer advocates

## Program Design of Community Distributed Generation

While REV included many regulatory proceedings, as described above, the PSC's Community Distributed Generation ("CDG") Order and its progeny formed the fundamental (and in many ways seismic) shift underpinning New York's policy reform to allow for increased access, equity, and justice in the energy space. New York's CDG policy, the regulatory framework that provides the basis for the more commonly referred to "community solar," allows for a separation between a project developer (or "sponsor" under the CDG Order), the owner of the property on which the project is located, and those that own the energy produced.

Under a typical netmetering scheme, in contrast to CDG, these three roles are typically held by the same entity. For example, an individual may elect to install solar panels on a roof they own and subsequently use that generated solar energy to power their own home or sell it back to the utility grid to make profit. CDG allows for those that cannot generate or use renewable energy on property they own, or directly finance such a project, to nonetheless participate in a project that facilitates expanded renewable resources and earn economic value from those resources. For example, a CDG project sponsor may find a site, such as a parking lot or institutional roof, that could host a large photovoltaic system. The sponsor enters into a lease agreement with the owner of the site that allows the sponsor to conduct the necessary feasibility studies to build, access, and maintain the infrastructure. The sponsor can then enter into separate agreements with potential "subscribers" to the project – a subscriber may purchase an ownership interest in a set of panels that are part of the bigger project or may purchase a share in the legal entity that owns the project or may purchase a subscription to buy a certain amount of produced energy. By separating out these three roles, conceptually, CDG should dramatically expand access to renewable energy generation and its co-benefits.

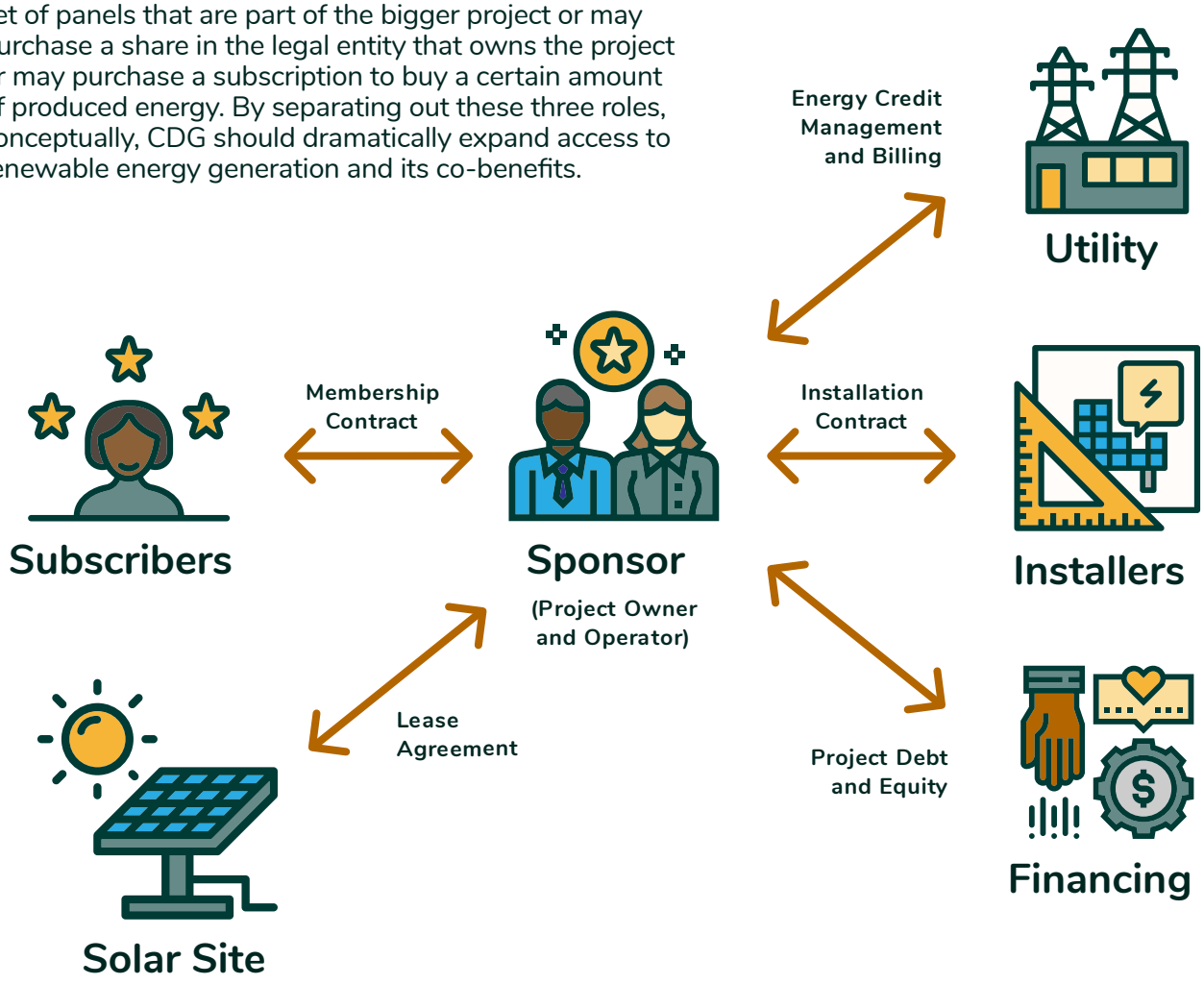



**Diagram 10:** New York's Community Distributed Generation Program Design

Given this expansion under the new CDG Order, utilities became concerned with the potential burdens on the grid due to an increased volume of distributed solar projects coming online. Grid interconnection queues under the new CDG Order ballooned as project sponsors sought to take advantage of the new opportunity afforded by the CDG model.[113] From a technical standpoint, utilities carefully monitor and control the interconnection of distributed energy generation (most commonly prior to the CDG Order, rooftop solar) to ensure that the grid can handle the input from such systems when energy is fed back into the grid and maintain reliability. Additionally, utilities must compensate individuals for any energy fed back onto the grid from their projects. Up until recently, the amount of compensation was calculated pursuant to Net Energy Metering ("NEM") – the retail value that a customer would pay for a kilowatt-hour of energy is the same value that customer would receive for feeding a kilowatt-hour of energy back into the grid.

Utilities in New York began to call for a shift from NEM to some other compensation scheme that would account for the cost burdens on the system due to a project's interconnection to the grid.[114] Essentially the utilities argued that NEM overestimated the total value of a unit of energy sold back to the utility and was too coarse of a metric to properly capture the value a utility should be paying for a unit of distributed energy from a project.[115] This call for reform to NEM is not being made only by utilities in New York State, but rather is part of a national trend by utilities seeking to change the compensation scheme for energy fed back onto the grid. Utilities argue generally that such reform is needed because the penetration of renewables onto the grid is increasing, thereby making compensation at NEM levels unrealistic as renewables continue to scale. Specifically, utilities cite to potential impacts to the costs other ratepayers using energy off the grid are paying if compensation for distributed energy to those generating it is too high. Debate on this issue rests in part on the threshold level of penetration of renewables on the grid (usually described as the percentage of total energy on the grid that is coming from distributed renewables) that would call for a change to NEM compensation. For example, research conducted by Berkeley Lab found that impacts on rates would remain at 5% or less if NEM compensation was used for distributed generation penetration levels that were less than 10%. Arguably then, a "NEM 2.0" would not be necessary until penetration levels reached 10%. For comparison, the national average as of that study was 0.4%.[116] While this is a national average, by definition some jurisdictions examined as part of the study had penetration levels higher than this.

In response to the call for NEM reform in New York State, the PSC opened the Value of Distributed Energy Resources ("VDER") proceeding, an effort to figure out what a replacement for NEM would look like.[117] This proceeding sought to establish a more refined calculation of the true costs and benefits of a unit of energy, in a particular location on the grid, at a particular time, being sold to the grid to determine how utilities should compensate generators for that particular unit of energy. Given the complexity of this calculation, the core element of the VDER scheme is a "value stack" which includes a number of layers of different types of value (e.g., a time of day factor, a locational factor, a wholesale price factor). As detailed below, the components of the value stack and the calculation of the amount of the costs and benefits became ground zero for how equity and justice considerations are accounted for within the REV framework as a whole.

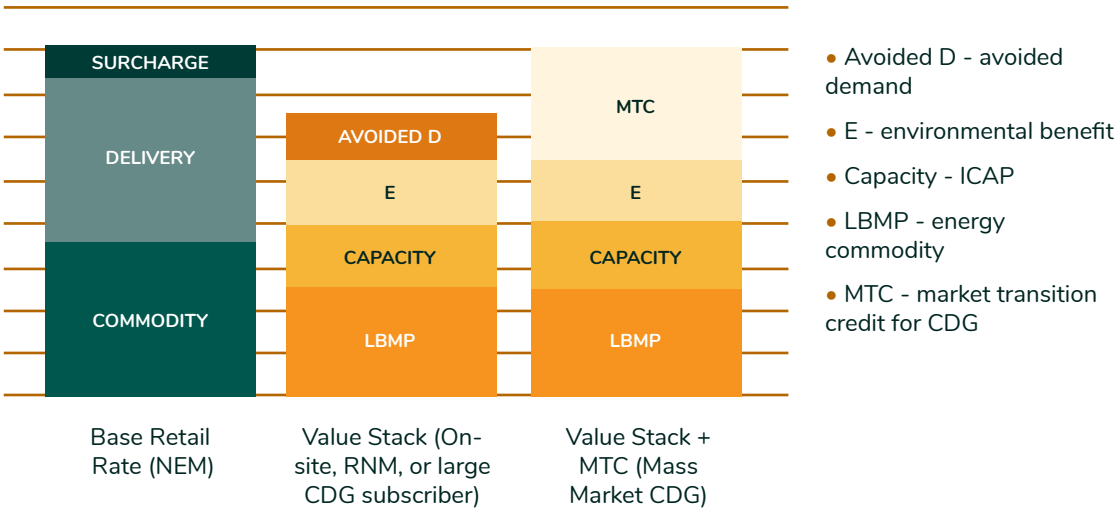



**Diagram 11:** Original VDER Value Stack Components -- Source: NYSERDA

The Value Stack includes components that vary with project characteristics including location on the grid (i.e., LBMP or location-based marginal pricing), which capture in part the relieved burdens on the grid due to the distributed resource, and the environmental characteristics of the project (i.e., "E" – the component available to CDG projects that utilize a renewable source of energy including solar, fuel cell, hydro, wind, tidal, and somewhat controversially in the environmental justice community, biomass). The Market Transition Credit (MTC) was designed purely as a market incentive mechanism to bolster the initial Value Stack level to an amount closer to what projects would get under NEM. It was intended to soften the blow of the transition from NEM to VDER and to be phased out over time as, theoretically, the CDG market took off and no longer required it.

## Analysis

### Considerations of Equity

New York has sought to address equity and access to clean energy for low-income New Yorkers in a number of dockets within REV, principally: (1) the CDG proceeding, (2) the VDER proceeding, and (3) the Low Income Affordability proceeding. At times, these three proceedings dovetailed and at times they ran in parallel, arguably addressing different aspects of securing clean and affordable energy for low-income New Yorkers but ultimately requiring reference back to one another given the interrelated nature of the issues each addressed.

When the Commission first issued the Community Distributed Generation (CDG) order in July 2015, it included a carve out for an initial phase that would prioritize the development of CDG projects that had at least 20% low- to moderate-income (LMI) subscribers in the Phase 1 of the CDG policy roll-out.[118] While this was a heartening indication of the possibility of prioritizing low-income inclusion in CDG at the outset, the lack of subsequent project support and guidance on workable low-income CDG models resulted in no CDG projects being built during this preliminary phase. The PSC, in its first CDG Order, was trying to balance project feasibility in a brand-new and largely unknown CDG market with prioritizing the REV goal of access and affordability for low-income customers. Unfortunately, the initial 20% carveout policy didn't ultimately strike the right balance.

In the hopes of addressing low-income participation in CDG with a more long-term strategy than the 20% carve out approach in the first phase of CDG implementation, DPS Staff commenced a Low-Income Collaborative process that brought stakeholders to the table to brainstorm and develop solutions to address low-income participation in the clean energy sector and CDG in particular.[119] The Collaborative culminated in the release of a report in August 2016 that reflected deep work and consensus-building by stakeholders.[120] DPS Staff elected to not take up any of the recommendations from that lengthy report and declared that there was effectively a market failure in the low-income sector requiring alternative utility ownership interventions. This conclusion was in many ways circular, as the Collaborative had been tasked to develop solutions precisely because the LMI sector wasn't properly addressed by current policies.

### Pricing Mechanism

The VDER proceeding provides arguably the most robust example of the role of procedural justice in addressing low income and environmental justice issues. Stakeholders provided detailed and emphatic feedback to DPS through the various early stakeholder processes, technical conferences, and formal comment periods as to the likely impacts of VDER on low-income access to CDG and how those impacts could be mitigated. Additionally, many stakeholders articulated the need for CDG policy to properly account for environmental justice and that such considerations should be included in the VDER value stack mechanism itself. Specifically, advocates and experts called for the full valuation of all the benefits to communities and customers of expansion of DERs, not just costs to the grid as articulated by the utilities. A broad spectrum of benefits from renewable energy and CDG specifically were raised including project participation for underserved market segments, reduced energy burden on low-income utility customers, avoided social and public health costs, added grid resiliency, offsetting of current pollution, displacing the need for current and future polluting facilities, clean energy job creation, and meeting state and local climate targets.

When the final VDER order came out in March 2017, it included a directive to DPS staff to explore and address low-income participation in CDG. Low-income issues, and environmental justice considerations concurrently, were thus rolled into the VDER proceeding. However, the Phase 1 implementation of VDER did not include any mechanisms to support the participation of low-income customers in a CDG project. After a push on the part of advocates, DPS staff took up the issue during Phase 2 of VDER implementation. To that end, the VDER Phase 2 proceeding was broken up into three working groups to develop recommendations for staff around Value Stack, Rate Design, and Low to Moderate Income issues, respectively. Many advocates and stakeholders that had been calling for thoughtful process and substantive policies around low-income inclusion and environmental justice joined the LMI Working Group with the understanding that this was the appropriate venue to reiterate actionable recommendations and see meaningful movement.

On the contrary, it was clear from the outset of the LMI Working Group that the basic underlying assumption driving Staff's facilitation of this work was that CDG would not work for low-income customers in its current iteration and that environmental justice concerns were outside the scope of their work. Despite the formation of a broad ad hoc coalition of sixteen groups participating in the LMI Working Group—the "Aligned Parties"[121]—and the development of robust written recommendations in a proposal shared with key DPS Staff as well as filed on the docket that would fix CDG policies so that they could work for low-income households, DPS Staff indicated such issues were outside the scope of the proceeding.

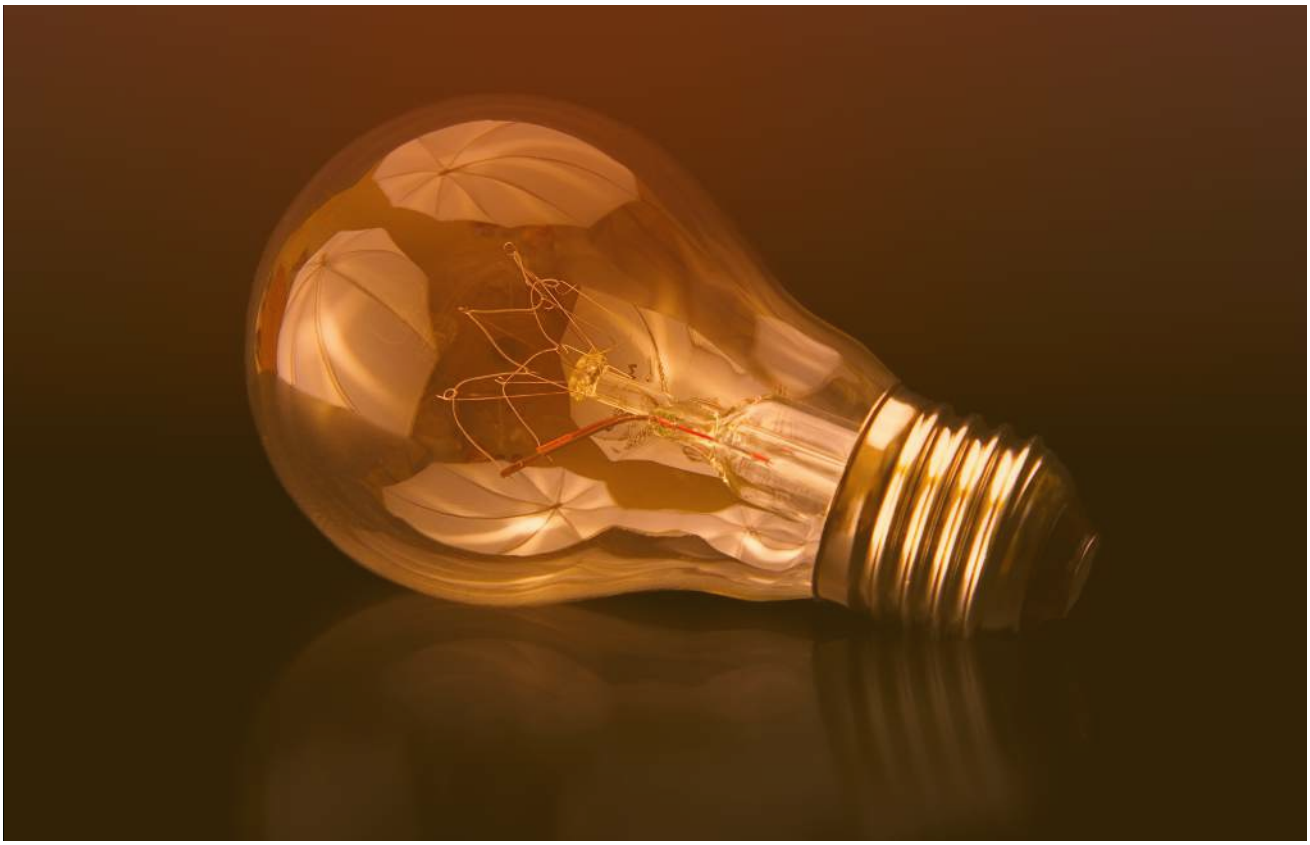
The LMI Working Group functioned for approximately six months between June and December 2017 and culminated in a Staff Report on Low-Income CDG that put forth policy and programmatic recommendations that had largely not been discussed within the Working Group collaborative process.[122] The Staff Report further declined, for the most part, to make recommendations around the policy proposals that had been put forth by consensus by a majority of the participating parties. The opportunity to discuss programming related to low income customer participation in CDG seemed to be closed at this point, and the LMI Working Group was dismantled with no clear commitments to specifically take up any of the recommendations by the Aligned Parties or in the Low Income CDG Staff Report to once and for all meaningfully remedy a serious lack of access by low-income households to CDG projects.

With respect to environmental justice issues, the Low Income CDG Staff Report suggested that the VDER Phase 2 Value Stack Working Group take up the topic as it likely required a quantitative analysis of environmental justice values to be included in the VDER value stack calculation.[123] However, there was a great deal of confusion as to exactly what steps the Value Stack Working Group needed to take and whether EJ values would even be discussed at all in that venue. At the urging of stakeholders at a Value Stack Working Group meeting, Staff allowed the formation of a "subgroup" to further examine environmental justice considerations in VDER and CDG. However, this subgroup was not afforded necessary resources to properly undertake this work and was largely self-organized and facilitated by advocates and academic experts. Through the generosity of pro bono support from economists at NYU's Institute for Public Integrity, the group made some headway in what a valuation of avoided social and economic costs due to mitigated air pollution might look like within the VDER mechanism. Unfortunately, as this work was underway, participants in the subgroup were informed by Staff that there were no hard commitments on DPS' part to gather input on these issues and incorporate them into a recommendation and approach, despite the time and resources being put into the effort by advocates and experts. This also spurred further confusion as to what exactly the mandate had been by the PSC in its initial CDG order to meaningfully explore issues related to low-income customers in accessing the benefits of the CDG framework.

The subgroup presented findings to Staff at a July 11, 2018, Value Stack Working Group meeting. Subsequently, Staff issued some limited fixes and recommendations for adjustments of the VDER mechanism through an order that boosted the value stack for certain projects in certain areas, though this was not with an emphasis on environmental justice considerations, rather was intended to address the viability of the CDG market on the whole, particularly in challenging utility service territories.[124] While very necessary and welcome, these particular fixes did not get at the heart of incorporating the full scope of values from the transition to renewable energy resources for the state, low-income customers, and for environmental justice communities.

Separately from the CDG Order and VDER proceedings, the PSC also sought to study the broader dynamics of how low-income customers were served by utility programs, and commenced the Low-Income Affordability proceeding on a parallel track.[125] This docket, and resulting PSC order, primarily addressed bill assistance programs for low-income customers and did not touch substantially upon the larger structural issues regarding energy affordability facing low-income customers, including expansion of access to energy efficiency and clean energy options. The proceeding resulted in a Commission Order issued in May 2016 calling for a goal of reducing the energy burden for all low-income New Yorkers to 6% or below and articulated the need for future coordination between agencies and programs to achieve this goal.[126] The order also explicitly describes the potential for distributed energy resources (DER) to help bridge the affordability gap, which indicated that eliminating barriers to access to CDG projects and other DERs for low-income customers could and would be prioritized in Commission policy and state programming moving forward.[127]

Another related proceeding that ran in parallel to the CDG and VDER proceedings that addressed particularized concerns for low and moderate income customers was the Uniform Business Practices for DER proceeding. This proceeding essentially sought to establish the consumer protection measures in place for customers purchasing energy from DER projects (including as subscribers to CDG projects). Given that the CDG Order would now allow for the sale of new kinds of energy products to consumers, the PSC wanted to ensure that the market would not become plagued by predatory practices that had occurred in the past with new fangled energy services being offered to low income customers.[128] The preliminary order that resulted from this proceeding laid out a number of requirements for DER/CDG providers including registration, mandatory customer agreement contract provisions, billing and payment processing, and customer information.



**Takeaways from CDG/VDER Proceedings for Energy Justice Objectives**

Procedural Considerations

- Policymakers should articulate clear avenues for influence and input by stakeholders and how that input will concretely be considered and incorporated. This allows those participating in the regulatory proceeding to formulate strategies to be most effective in informing, educating, and advocating for policies that address their concerns.

- Process for process' sake is not meaningful for stakeholders, particularly those newly at the table and most impacted by potential outcomes. Advocates and experts do not want to waste their time on a symbolic public process as they typically have to make difficult decisions as to allocation of staff and organizational time and resources.

- Participants in a regulatory proceeding may consider requesting more detailed information from policymakers regarding process and timeline for a particular issue and how input will be considered. This could serve two purposes: one, it may encourage policymakers to think through that question when they haven't previously considered it (and staff proceedings accordingly) and two, it may allow participants to pick and choose where they put time and resources.

Substantive Policy Considerations

• Policy and value judgments as to what gets "counted" in the value stack for the purposes of determining the value of distributed renewable energy generation need to be discussed honestly and openly. These values-based conversations are a reflection of deeper beliefs about priorities and problems in the energy sector that have to be addressed prior to technical research, analysis, and economic modeling.

• New York, and other states considering similar reforms, needs to better grapple with the idea of the "prosumer" and the move from a utility model that bifurcates generators and consumers to one where they may (and in some cases should) be the same entity. Recognize that this necessarily requires a change in the fundamental business model of investor-owned utility energy distribution, that there is a natural tension given the economic interests of investor-owned utilities and the desire of consumers to become prosumers, and address what new models may look like that address these potentially divergent interests.

• It is important to balance innovation in new models for distributed energy generation development and their accompanying increased access for new customers/generators with consumer protection considerations. Those seeking to access clean energy generation, whether through rooftop solar on their own homes or through a community solar subscription, deserve robust protections against predatory practices. Such consumer protection policies should be well tailored to address potential problems without creating conditions that effectively render such projects infeasible. This is a real challenge and an area where much more attention and nuance should be afforded by policymakers.

• Decisionmakers should regularly check back in with the guiding principles behind the opening of a particular proceeding and make sure that the proposed solutions map onto those goals at every step. It is easy to get lost in the weeds and end up with "solutions" to entirely different or non-existent problems.

• Participants in a regulatory proceeding should be prepared to not only provide input and recommendations related to the communities they seek to represent but also to counter anticipated arguments that may come up in opposition to such recommendations. Often, policymakers and more traditional participants have certain preconceived notions going into a proceeding on a particular issue – a more productive process may result if those assumptions can be addressed up front before development of new ideas and solutions.

**Application of Energy Justice Scorecard Metrics to New York REV Case Study**

Having provided a detailed background of the context in which REV came about as well as certain substantive policy mechanisms included within it that speak particularly well to energy justice principles, below we provide an application of the Energy Justice Scorecard to New York's CDG policy. The goal is to provide an illustrative example of the use of the Scorecard that may facilitate its use in other policy contexts in service of energy justice and energy democracy movements in other states.

**(1) Process:** *Have marginalized communities participated meaningfully in the policymaking process with sufficient support?*

**Score: 4 - Mostly yes.** In terms of process, frontline communities were able to participate in the CDG and VDER dockets at the Public Service Commission. This included participation in various stakeholder and working group meetings with the PSC, submission of written testimony to the docket, and more targeted meetings with relevant policymakers to discuss matters of concern to frontline communities in particular. Whether such participation would be considered meaningful by the representatives of frontline communities in the PSC proceeding is likely where the debate would lie. To the extent that meaningful participation connotes consideration of the input by relevant policymakers, participants representing frontline communities likely felt that certain recommendations were not given the same consideration by policymakers as those of more traditional participants in energy regulatory proceedings (i.e., utilities, large NGOs). That being said, some informal avenues, in addition to the more formalized input in the regulatory context that

tended to be dominated by traditional participants, were created for stakeholders to work with policymakers to develop strategies and solutions addressing issues in the energy justice realm.

**(2) Restoration:** *Does the policy aim to remedy prior and present harms faced by communities negatively impacted by the energy system?*

**Score: 3 - Somewhat.** New York's CDG policy, in its current form, appears to be largely forward looking by seeking to address energy-related burdens for low-income and environmental justice communities in the future through CDG and other forms of renewable energy development in those communities and for those marginalized customers. Attempts at including an "environmental justice" component in the value stack as part of VDER that would allow for additional incentives for project development that serves communities that have been harmed in the past by the fossil fuel industry did not have much traction with policymakers, due to cited concerns related to implementation in a fair and effective manner.

**(3) Decision-making:** *Does the policy center the decision-making of marginalized communities?*

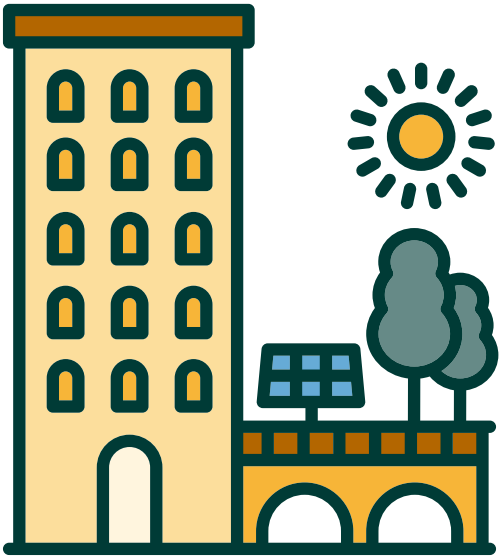
**Score: 2 - A little bit.** The concept of providing not just affordable, clean energy to traditionally excluded populations but also providing avenues for agency and meaningful decision-making related to the production of that energy did not have much traction with policymakers. Some attempts were made to develop a program that would allow for low-income subscribers to a project an avenue to eventually buy an ownership interest and thereby have some agency and decision-making power. This particular proposal did not end up being further developed and the program remained one that would facilitate low-income subscribers to a community solar project but did not provide ownership opportunities for those subscribers or facilitate capacity-building for more localized organizations to play a developer or sponsor role.

**(4) Benefits:** *Does the policy center economic, social, or health benefits for marginalized communities?*

**Score: 2 - A little bit.** Not currently, but may in the future. Despite rigorous attempts on the part of advocates and academics to quantify and include such a component in the value stack for VDER that would capture public health, economic, and other social benefits of the deployment of clean, affordable energy through a community solar project, the value stack currently does not include such a targeted component.

**(5) Access:** *Does the policy make energy more accessible and affordable to marginalized communities?*

**Score: 3 - Somewhat.** Theoretically yes, but unclear if so in practice. New York's CDG policy framework, in its current iteration, should allow for expanded access to renewable energy for those unable to install and benefit from renewable energy generation on property they own, as it allows for a bifurcation between owner/developer and recipient of the energy generation benefits. However, the most substantial barriers to access and affordability under the policy are (1) the lack of adequate monetary incentives that allow projects that serve low-income subscribers to pencil out and (2) lack of capacity building oriented programs and funding such that local organizations or organized groups of local residents may be able to play a sponsorship role in a project thereby increasing the benefits they receive as a result of the project (the economic benefits of asset ownership as compared to the more limited economic benefits of purchasing units of energy).



## Energy Justice Scorecard: New York Community Distributed Generation Program

Scoring Key: 1 (No), 2 (A little bit), 3 (Somewhat), 4 (Mostly), 5 (Yes)

| Question | Score | Explanation | Reference |
|---|---|---|---|
| **(1) Process:** Have marginalized communities participated meaningfully in the policymaking process with sufficient support? | 5<br>(4)<br>3<br>2<br>1 | *Mostly yes. Frontline communities were able to participate in dockets at the NY PSC, but it is questionable if they were meaningfully heard.* | *Party comments can be found online.*[129] |
| **(2) Restoration:** Does the policy aim to remedy prior and present harms faced by communities negatively impacted by the energy system? | 5<br>4<br>(3)<br>2<br>1 | *Somewhat. New York's CDG policy seeks to address energy-related burdens for low-income and environmental justice communities, however does not include environmental justice components in the value of solar.* | |
| **(3) Decision-making:** Does the policy center the decision-making of marginalized communities? | 5<br>4<br>3<br>(2)<br>1 | *A little bit. The concept of providing avenues for agency and meaningful decision-making related to the production of energy did not have much traction with policymakers.* | |
| **(4) Benefits:** Does the policy center economic, social, or health benefits for marginalized communities? | 5<br>4<br>3<br>(2)<br>1 | *Not currently, but may in the future. Despite advocacy to quantify and include public health, economic, and other social benefits of a solar project, the value stack currently does not include such components.* | |
| **(5) Access:** Does the policy make energy more accessible and affordable to marginalized communities? | 5<br>4<br>(3)<br>2<br>1 | *Somewhat. Theoretically yes, but unclear if so in practice. The policy should allow for expanded access but benefits may go to developers and there are various barriers to access and affordability.* | |
| **Total Score** | 14 / 25 | | |

# Section 3.3 - Lessons from Community Energy Case Studies

The case studies offer three key lessons for community energy policies consistent with energy justice:

(1) community participation in policy development and program design;
(2) energy pricing and valuation structures that make projects viable and attractive to customers and developers; and
(3) sustainable business models that enable community decision-making and control over customer-generated energy resources while balancing the need to target priority customers and provide consumer protection.

## Lesson 1: Community Participation

In both the California and New York contexts, community participation was a crucial element. Adequate community participation requires that voices are engaged, heard, and genuinely responded to. For example, while stakeholders in New York felt as though the final outcome did not tie back to overarching goals and community input, to some degree California's CSGT program represents progress in soliciting comments from community representatives on overarching goals and referencing those goals later on during the process.

## Lesson 2: Pricing and Valuation

Both the California and New York programs struggle with pricing solar in their community energy policies. First, at a basic level, the pricing structure is a threshold issue that will determine if any projects are economically viable under the policy. The outcome in New York appears to have provided more certainty that at least some projects can get built, while that is a matter still to be determined in California. Second, the valuation of energy from certain types of projects is also a potential driver for equitable non-energy benefits such as public health, community wealth, and other social benefits. However, both California and New York have yet to include value adders or incentives for those projects that drive more community benefits than other projects.

## Lesson 3: New Business Models

The case studies present lessons on developing and transitioning to sustainable business models for community self-generation of renewable energy. First, these experiences highlight the need to adapt the conventional utility model of centralized energy production sold as a commodity to customers to one where individuals and communities have agency, governance, and decision-making around their own production of clean energy. Second, considering equity means both ensuring that programs include and provide benefits to specific target customer groups such as low-income households, while ensuring protection from deceptive business practices.

## Reflection on Using the Energy Justice Scorecard for Community Energy Policy

Applying the Energy Justice Scorecard to this arena highlights a key balancing issue in the community energy realm: How can community energy policy prioritize robust benefits for traditionally marginalized utility customers while also making community energy projects feasible for development? Questions 1-4 help to analyze the inclusivity of process and benefits, while question 5 demonstrates the importance of project feasibility. If projects cannot get built, no one will see purported benefits. But without meaningful community participation and evaluating disparate historical harms and present burdens, projects could get built in ways that further exacerbate inequities.

The Scorecard questions help to identify underlying elements that should be considered in designing an equitable community solar policy:

**(1) Process:** *Have marginalized communities participated meaningfully in the policymaking process with sufficient support?*

- In the community energy context, this could be analyzed in regards to legislative policymaking, but is more likely to have more applicability in terms of regulatory policymaking in a state-level public service/utility commission proceeding. However, this could also occur at the municipal level or through a utility's own internal process in some cases.
- Key considerations include whether accessibility, income, language, or other barriers are addressed to ensure community members can participate; whether there is financial compensation for time spent contributing to the policymaking; and whether the ultimate policy decision-makers have an obligation to respond to public comments and state why they have or have not been addressed.
- Public understanding of the terms and concepts being used in a policymaking forum is critical for meaningful engagement, so key concepts should be explained via print, online, and/or in-person meetings, including virtual net energy meeting, tariffs, power purchase agreements, and procurement mechanisms.

**(2) Restoration:** *Does the policy aim to remedy prior and present harms faced by communities negatively impacted by the fossil-fuel based energy system?*

- A key mechanism for ensuring such harms are considered is a mapping tool based in large part on disparate pollution burdens, such as the CalEnviroScreen tool developed by the California EPA. The US EPA has a similar tool, and various states are also developing their own. Such a tool can allow for geographic targeting of participation, benefits, and incentives.
- A robust community solar policy would consider mechanisms for prioritizing projects that reduce pollution in these neighborhoods (such as by reducing demand for nearby fossil-fuel plants) in addition to other community benefits from renewable projects.

**(3) Decision-making:** *Does the policy center the decision-making of marginalized communities?*

- The policy should promote community self-determination, governance, and agency through cooperative ownership or control of renewable energy assets. Moreover, it should support the efforts of community-based organizations that serve marginalized populations to advance energy democracy for their communities.
- Policy mechanisms such as application prioritization, financial adders, and other incentives can promote equitable community-based projects.

**(4) Benefits:** *Does the policy center economic, social, or health benefits for marginalized communities?*

- The above questions build upon each other and lead to this focus on robust benefits to marginalized community beyond just renewable energy itself, in addition to prioritizing fossil-fuel harmed communities and community decision-making.
- Equitable community solar policies can advance deep impacts with requirements and designs that advance meaningful bill savings; family-sustaining jobs training; community wealth-building and investment opportunities; cleaner air from avoided fossil fuel extraction and generation; reduced fires, costs, and power shutoffs from less reliance on transmission lines; and resilience from power outages through pairing solar with storage.

**(5) Access:** *Does the policy make energy more accessible and affordable to marginalized communities?*

- As mentioned above, a fundamental issue here is ensuring that pricing and valuation structures making projects feasible and attractive both for developers (ideally community-based ones) and customers. In addition to compensation methods based on retail rates, programs could guarantee a certain amount of savings for customers, or payments to developers.

- Many other mechanisms could be considered. Minimum participation requirements can ensure projects must include a certain percentage of low-income customers but should be balanced with economic incentives to make sure projects can still be financed and constructed. Various groups have developed new methods of evaluating the likelihood a customer pays bills, and more equitable approaches should be utilized as opposed to conventional credit checks. Allowing the limited participation of anchor commercial customers (such as schools, nonprofit organizations, or municipal customers) in a community solar project might make participation more accessible or affordable to residential customers.

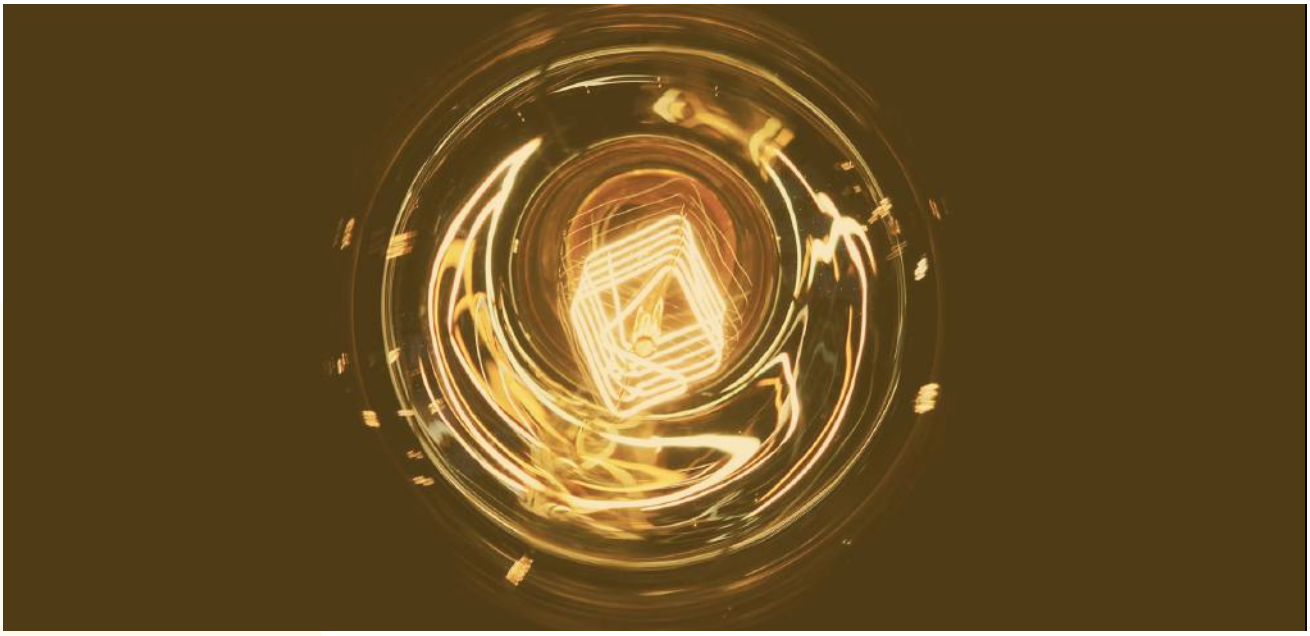
## Equitable Community Solar Framework

In light of the case study lessons and Scorecard-based analysis of community solar programs, the elements of good community solar policy becomes more clear. First, instead of simply defining community solar, we can propose a definition of what equitable community solar looks like. Equitable community solar (1) allocates energy and benefits from one solar system to multiple customers via viable economic incentives, (2) intentionally engages and centers participation of marginalized populations, and (3) prioritizes local community self-generation and ownership of energy resources.

The overall goal of an equitable community solar policy is the achievement of robust, justice-oriented impacts, as determined by an equitable process. In sum, from the advocacy, writings, and participation of environmental, economic, and social justice communities, such a process will likely identify, at a minimum, potential outcomes such as equitable economic, health, grid, resilience, and environmental benefits. As emphasized previously, local communities, advocates, and policymakers must go through as process of identifying goals, and then design a program to achieve them.

The definition of equitable community solar laid out above helps illuminate key program objectives for an equitable community solar policy that will ultimately lead to the overall goal of robust, justice-oriented impacts. And the high-level objectives give structure, direction, and purpose for underlying mechanisms in the policy design. Each element of the definition can be summarized generally into three objectives:

(1) **Project Feasibility** - allocates energy and benefits from one solar system to multiple customers via viable economic incentives
(2) **Equitable Participation** - intentionally engages and centers participation of marginalized populations
(3) **Community Control** - prioritizes local community self-generation and ownership of energy resources



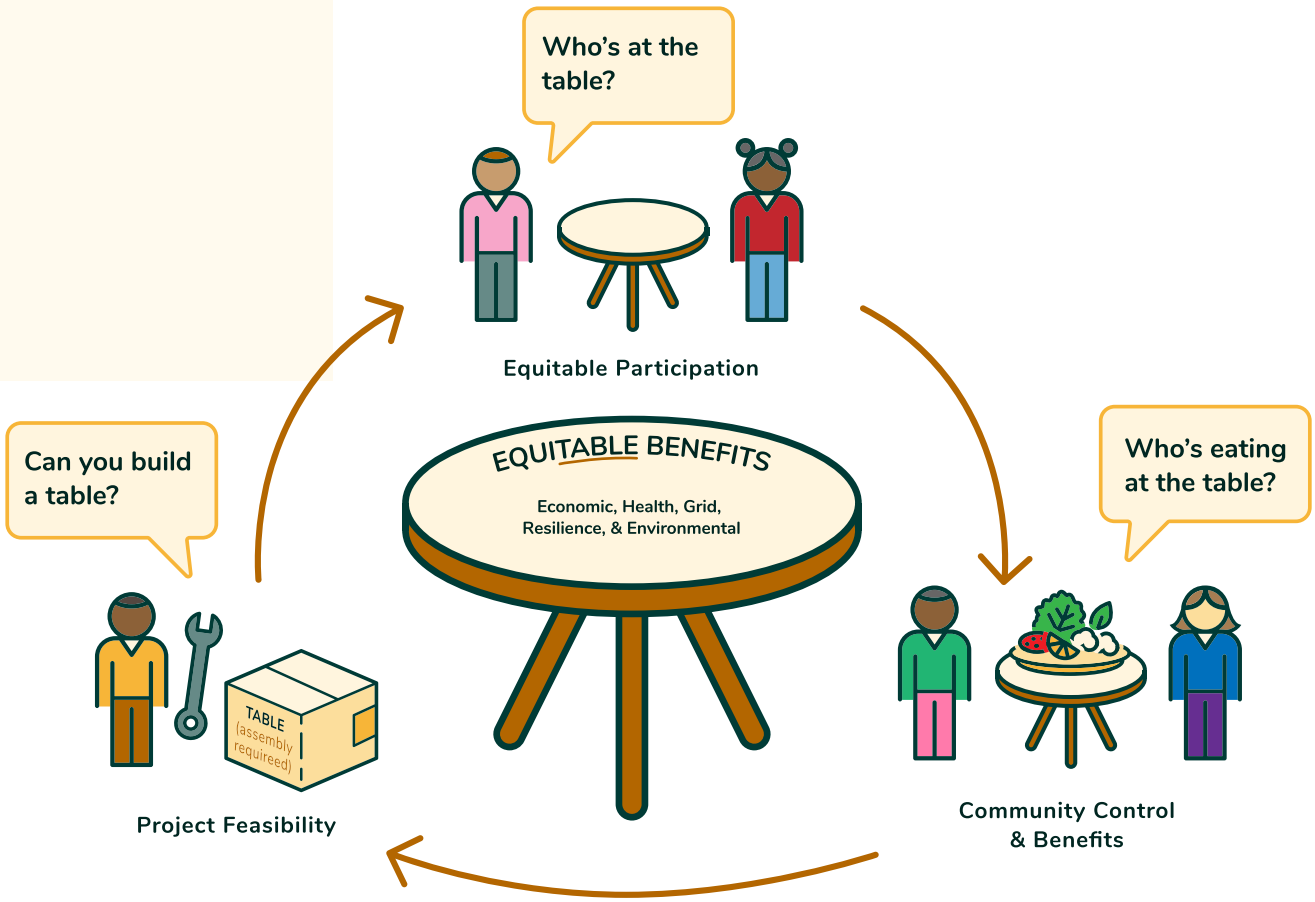
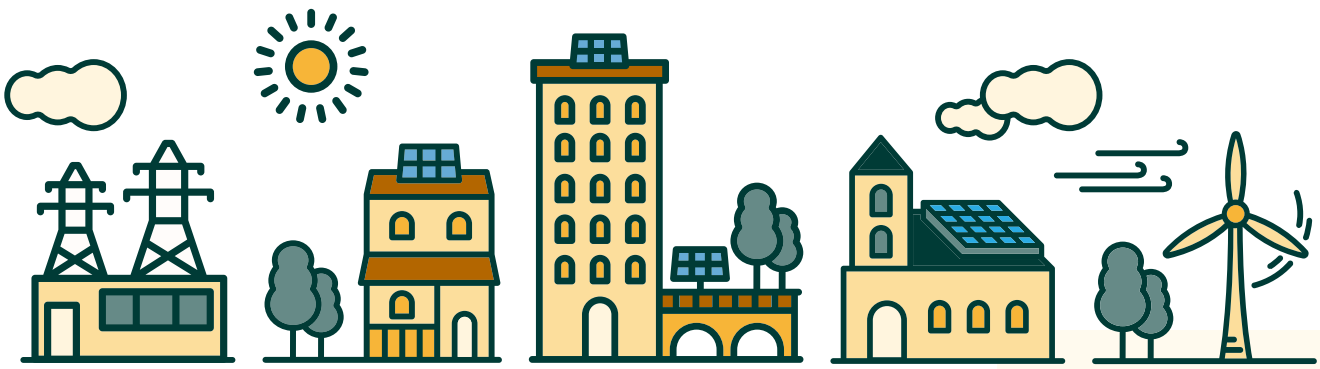



**Diagram 12:** Equitable Community Solar Framework

The three program objectives can also be framed as: 1) can projects get built?, 2) are they designed to include marginalized communities?, and 3) are they designed to deliver robust economic, health, and social benefits by allowing communities to own and control energy resources? Or in other words: 1) can you build a table?, 2) who's at the table?, and 3) who's eating at the table?

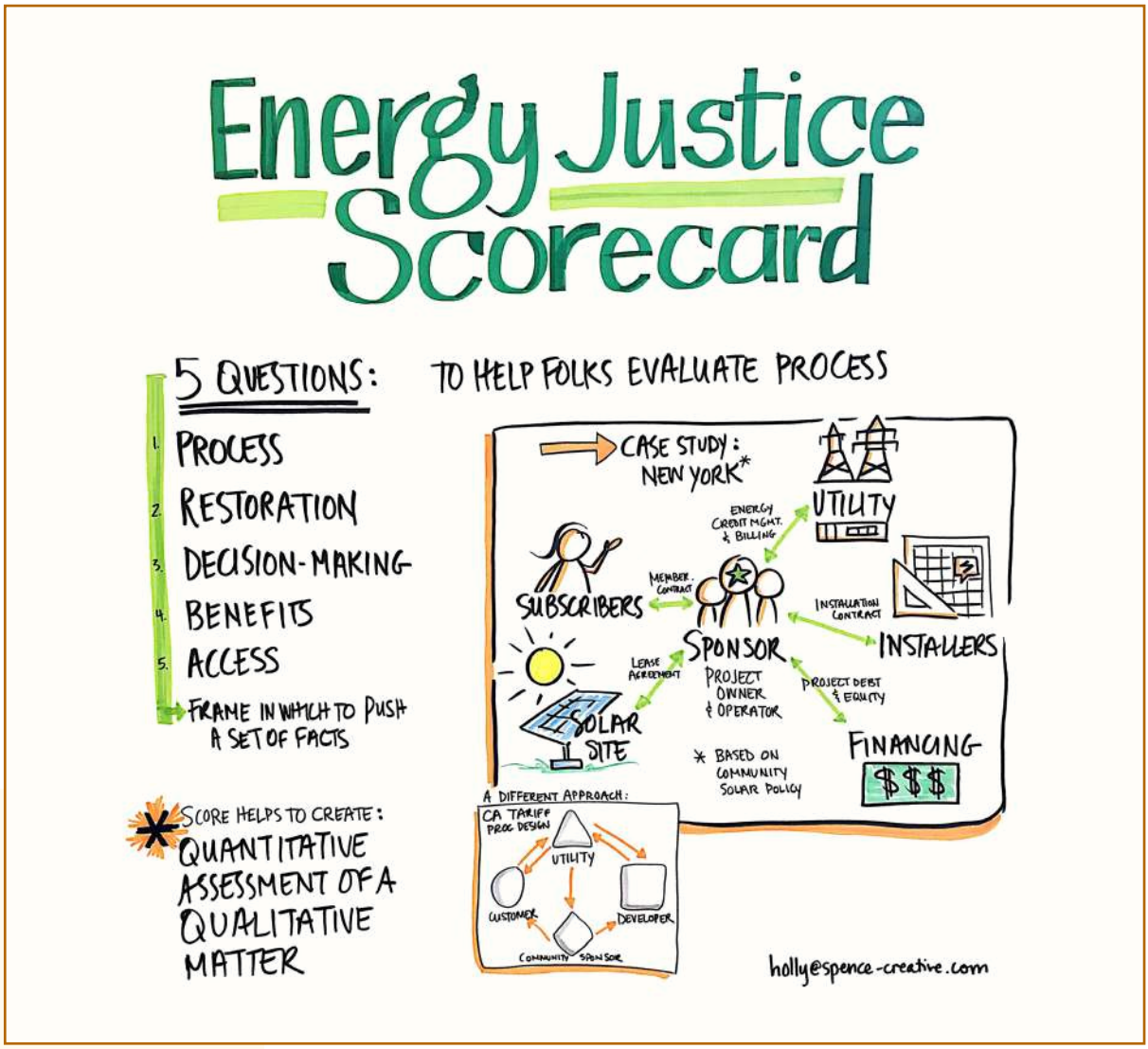
By delving into the questions that the Energy Justice Scorecard asks, not only does it become evident that we can approach policies in such a way that advances both an equitable and rapid transition to renewables – we *must*. It is our moral imperative.



# Conclusion

As the long history of the grassroots struggle for social justice and decolonization intersects with the disparate harms posed by the climate crisis, the concept and urgency of energy justice begins to crystalize. Yet beyond the potential for disaster lies the opportunity of a just transition to a regenerative clean energy economy – along with the dignified work, wellbeing, and shared wealth that it offers. Whatever our planet's outcome – from catastrophe to justice or somewhere in between – it is not inevitable. The generation alive today will determine not just the temperature of the planet that future generations will inherit, but the level of justice or injustice that they will experience.

We hope this Workbook contributes to this social and political discourse for advocates and policymakers by demystifying what energy justice is and how we can achieve it through policymaking. Our effort to propose a definition for energy justice, and a tool to operationalize it through the Energy Justice Scorecard, is just one part of a vast and ongoing movement and dialogue to achieve energy justice, environmental justice, climate justice, energy democracy, and more. It is our hope that this Workbook serves as a vehicle for brainstorming policy campaigns and positions, a practice guide for engaging in policymaking, or simply food for thought and conversation. The more we can visualize responding to our interconnected crises of inequity and climate change in a transformative manner, and the more we can paint a picture of how we get there, the more we convert hope to reality.



# Notes, Glossary, and Appendix

## Glossary of Terms

**Climate Justice:** Climate justice is the remediation of the impacts of climate change on poor people and people of color, and compensation for harms suffered by such communities due to climate change.[130]

**Community Energy/Solar:** Community energy is short for community renewable energy and refers to cooperatively generating renewable energy such as solar.

**Distributed Generation:** "Distributed generation, also called on-site generation or decentralized generation, is the term for generation of electricity from sources that are near the point of consumption, as opposed to centralized generation sources such as large utility-owned power plants.... Distributed generation systems, which can include on-site renewable energy systems and combined heat and power (CHP), reduce the amount of energy lost in transmitting electricity because the electricity is generated near the point of consumption, often even in the same building or facility."[131]

**Distributive/Substantive Justice:** Distributive or substantive justice is outcome focused, and speaks to whether all equally share in the benefits and burdens of the energy system.

**Energy Democracy:** Energy democracy is the notion that communities should have a say and agency in shaping and participating in their energy future.[132]

**Energy Justice/Equity:** The goal of energy justice or energy equity is to achieve equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those historically harmed by the energy system.

**Environmental Justice:** Environmental justice is the recognition and remediation of the disproportionately high and adverse human health or environmental effects on communities of color and low-income communities.[133] The key principles of the movement include fair distribution of the burdens of development, and involvement in all aspects of "the development, implementation and enforcement of environmental laws, regulations and policies."[134]

**Environmental Justice Communities:** Environmental justice communities "are commonly identified as those where residents are predominantly minorities or low-income; where residents have been excluded from the environmental policy setting or decision-making process; where they are subject to a disproportionate impact from one or more environmental hazards; and where residents experience disparate implementation of environmental regulations, requirements, practices and activities in their communities. Environmental justice efforts attempt to address the inequities of environmental protection in these communities."[135] Some state and local governments define environmental justice communities by specific metrics including, the percentage of the population below the poverty line,[136] the rate of toxic cancer among the community,[137] and the makeup of the community by race and ethnicity.[138]

**Equity/Justice:** Equity or justice "refers to achieved results where advantage and disadvantage are not distributed on the basis of"[139] social identities. "Strategies that produce equity must be targeted to address the unequal needs, conditions, and positions of people and communities that are created by institutional and structural barriers."[140]

**Frontline Communities:** Frontline communities are the communities experiencing the first and worst of climate change consequences, specifically those most impacted by the energy system and the resulting pollution. Frontline communities include, but are not limited to communities of color, low-income communities, indigenous communities, and communities surrounded by extractive energy production.

**Just Transition:** The just transition refers to a transition away from the fossil-fuel economy to a new economy that provides "dignified, productive, and ecologically sustainable livelihoods; democratic governance; and ecological resilience."[141]

**Marginalized Communities/Populations/Peoples:** Marginalized communities are communities denied involvement in mainstream economic, political, cultural and social activities. Marginalization or social exclusion deprives a group from access to basic rights and participation in decision making. Marginalized communities include, but are not limited to, frontline communities, low-income and/or working class communities, and those historically disenfranchised by racial and social inequity (e.g., minority identities based on race, ethnicity, sex, gender, sexual orientation, and ability status).

**Net Energy Metering:** Net Energy Metering refers to an on-site renewable energy system's accounting "for the value of the electricity produced when production is greater than demand. Net metering allows customers to bank this excess electric generation on the grid, usually in the form of kilowatt-hour (kWh) credits during a given period. Whenever the customer's system is producing more energy than the customer is consuming, the excess energy flows to the grid and the customer's meter 'runs backwards.' This results in the customer purchasing fewer kilowatt-hours from the utility, so the electricity produced from the renewable energy system can be valued at the retail price of power."[142]

**Power Purchase Agreement:** A Power Purchase Agreement "is an agreement between a wholesale energy producer and a utility under which the utility agrees to purchase power. The [Power Purchase Agreement] includes details such as the rates paid for electricity and the time period during which it will be purchased."[143]

**Procedural Justice:** Procedural justice concerns who is at the decision-making table, and whether, once at the table, everyone's voice is heard.

**Virtual Net Energy Metering:** "[V]irtual net metering allows net metering credits generated by a single renewable system to offset load at multiple retail electric accounts within a utility's service territory. As with traditional net metering, credits appear on each individual customer's bill."[144]

## Appendix A: An Overview of Energy Justice in Academic Literature

### How do Social Scientists Conceptualize Energy Justice?

*Key Terms:*

- Energy Justice
- Energy Democracy
- Energy Insecurity
- Energy Burden

Northern European scholars currently dominate the energy justice academic landscape, producing over one hundred articles on the topic since 2014. In particular, four scholars have made the biggest impact on the field: Benjamin Sovacool, Darren McCauley, Raphael Heffron,[145] and Kirsten Jenkins. Over the past seven years, these authors have come to define energy justice as "a global energy system that fairly disseminates both the benefits and costs of energy services, and one that has representative and impartial energy decision-making."[146] Energy justice is also comprised of a triumvirate of tenets that include distributional justice, procedural justice, recognition justice[147] and, more recently, restorative justice. All of the tenets should apply across the life cycle of the energy system.[148] Sovacool has also advanced the concept of "eight core principles" of energy justice: availability, affordability, due process, transparency and accountability, sustainability, intra-generational equity, inter-generational equity, and responsibility.[149]

As Heffron and McCauley note, these "defined concepts of energy justice compete with each other and at the same time complement each other."[150] Further, a "major limitation of the approaches outlined above—the triumvirate of tenets, energy life-cycle (systems) approach, and the principle-based approach—is that there is little reflection of how these transfer into practice and are 'enforced' in practice, i.e. energy justice becomes a delivered outcome through policy."[151] Despite these shortcomings, it is useful to review the key aspects of the foregoing frameworks.

In McCauley et al.'s assessment, distributional justice is concerned with the spatial dimensions of energy, in particular, the "physically unequal allocation of environmental benefits and ills and the uneven distribution of their associated responsibilities."[152] Procedural justice "manifests as a call for equitable procedures that engage all stakeholders in a non-discriminatory way."[153] Recognition justice relates to procedural justice, but contains additional elements. According to McCauley et al., recognition justice is "more than tolerance, and states that individuals must be fairly represented, that they must be free from physical threats and that they must be offered complete and equal political rights."[154] Further, recognition justice "includes calls to recognise the divergent perspectives rooted in social, cultural, ethnic, racial and gender differences[.]"[155] Restorative justice "aims to repair the harm done to people (and/or society/nature)."[156] The concept applies when "applying energy justice decision-making forces decision-makers to engage with justice concerns and consider the full range of issues, as any injustice caused by an energy activity would have to be rectified."[157]

Applying these complex conceptual frameworks within policy-making and real-world scenarios poses a challenge. Heffron and McCauley suggest that, in "looking at the energy justice conceptual framework, one begins with looking at the core tenets of the energy justice [framework] to see if they are present before then broadening their scope to see where the issues fits within the energy life-cycle (or energy system) in the context of having a world-view, i.e. a cosmopolitan perspective. They then look at how to apply energy justice in practice and look for how the problem, issue, and/or challenge they are researching can be addressed (or not) by the [eight] principles."[158] **Diagram 13**, below, reflects this analytical approach.

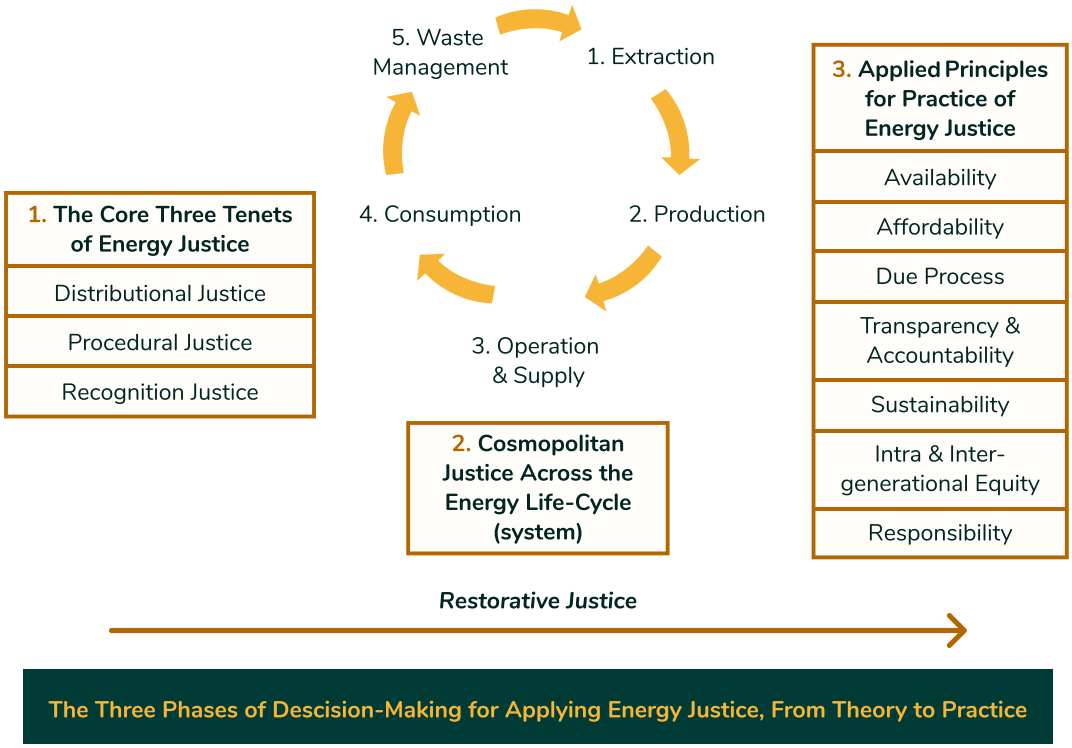



**Diagram 13: Heffron and McCauley (2017).**

Before moving into the legal literature, three related concepts, energy democracy, energy insecurity, and energy burden, deserve discussion, as they also fit under the broad umbrella of energy justice.

### Energy Democracy

As with environmental justice and climate justice, energy democracy exists both as an organizing principle for activists as well as an area of increasing scholarly engagement.[159] Energy democracy, the movement, "seeks to create opportunities for destabilizing power relations, reversing histories of dispossession, marginalization and social and environmental injustices, and

replacing monopolized fossil fuel energy systems with democratic and renewable structures."[160] Borrowing from the Trade Unions for Energy Democracy approach to energy democracy, scholars Matthew Burke and Jennie Stephens note that the energy democracy goals include: (1) **resisting** the dominant fossil fuel agenda in order to shift to 100% renewable energy resources; (2) **reclaiming** public control of the energy sector; and (3) **restructuring** the energy sector to "better support democratic processes, social justice and inclusion, and environmental sustainability."[161]

For some, energy democracy does not always incorporate equity-based principles or a historical analysis,[162] and the use of the term, "democracy" can actually mask inequality. Under this approach, energy democracy could simply mean democratizing the energy system to allow for participation in energy production and ownership. Such participation may, by design, privilege those with access to financial resources and other types of capital that flow from an unequal society. This ahistorical, equity-blind approach to energy democracy threatens to replicate the injustices in the existing energy system by "democratizing" the grid and opportunities for self-generation of electricity only for those who can afford it, rather than emphasizing broader grid access for those whose voices have traditionally been excluded from energy decisions affecting their communities.[163] Policymakers and advocates should thus use caution and be clear when using this term to reflect more meaningful opportunities to participate in the energy system.

> "An ahistorical, equity-blind approach to energy democracy threatens to replicate the injustices in the existing energy system by '**democratizing**' the grid and opportunities for self-generation of electricity only for those who can afford it, rather than emphasizing broader grid access for those whose voices have traditionally been excluded from energy decisions affecting their communities."

**Energy Insecurity and Energy Burden**

Diana Hernández's work has explored the concept of "energy insecurity," which "reflects hardships with the cost and quality of household energy" and is "defined as 'the inability to meet basic household energy needs.'"[164] Energy insecurity also "describes the interplay between physical conditions of housing, household energy expenditures and energy-related coping strategies."[165] Energy insecurity frequently appears alongside "energy burden," a term that reflects the amount of overall household income spent to cover energy costs. The concerns of low- to moderate-income communities fit under both conceptual frameworks, as studies indicate that such communities consistently find themselves making difficult choices that balance energy expenditures against other household expenses, and simply pay a greater portion of their overall income to cover energy costs. An energy justice approach to energy policy would aim to remediate such burdens by making access to clean energy affordable to those most burdened under the existing energy system.

> "An energy justice approach to energy policy would aim to remediate the financial burdens of energy by making clean energy affordable and accessible to those most burdened under the existing energy system."

In sum, social scientists have attempted to create a conceptual framework for energy justice that includes procedural, distributive, and recognition justice, as well as restorative justice, across the life cycle of the energy system. The framework also includes a consideration of certain principles of energy justice: availability, affordability, due process, transparency and accountability, sustainability, intra-generational equity, and inter-generational equity. Participation (energy democracy), burden of energy costs relative to other household expenditures and income (energy burden), and ability to meet energy needs (energy insecurity), also form a part of the broad picture of energy justice as conceptualized by social scientists in the field.

As noted above, this mix of terms and definitions create challenges for practitioners and policymakers seeking deeper understanding of a coherent framework for energy justice. The Workbook addresses this difficulty in Section 1.3, where the different approaches to energy justice and related concepts are synthesized into a coherent frame. Further, although social scientists have developed a robust energy justice literature, it is largely separate from the legal academics discussing energy justice and related terms. This disconnect also illustrates the need for a synthesized approach to energy justice within the policy arena. Below we provide an overview of the discussion by legal scholars around concerns of equity and fairness within the energy system.

**How is the Concept of Energy Justice used in Legal Literature?**

*Key Terms:*
- Energy Justice
- Clean Energy Justice
- Clean Energy Equity
- Energy Democracy
- Energy Poverty
- Energy Insecurity

Although the first mention of energy justice in scholarship appears in a 2010 article, *Energy Justice and Sustainable Development*, by legal scholar, Lakshman Guruswamy,[166] with few exceptions,[167] legal scholars have done little to advance a concrete understanding of the field of energy justice. In fact, at least one scholar suggests that there is no need for a "uniform definition of what energy justice means or what it seeks to achieve."[168] Such a dearth of "energy justice" scholarship is ironic in a field like law, which is committed to justice and equity, but rather than make explicit mention of "energy justice" through a series of self-referential debates (as we see in the social science literature), in legal scholarship, discussions of energy justice have generally evolved to include scattered discussions of "energy poverty,"[169] "energy democracy,"[170] "clean energy justice,"[171] "clean energy equity,"[172] and "fairness."[173] Moreover, legal scholars go a bit further than social scientists by, in some cases, attempting to discuss equity across a range of policy areas, such as distributed energy generation policy.

While the term, "energy justice" is used rarely and is often not fully fleshed out, there is at least some consensus in legal scholarship that energy justice closely relates to environmental justice and should, at the very least, build upon its key principles of distributive and procedural justice.[174] Unlike practitioners, however, legal scholars do not center the concerns or voices of frontline communities or advocates. The following discussion provides an overview of the varying viewpoints of legal scholars. Our overview illustrates that there is no singular vocabulary concerning energy justice, but the concepts elaborated by scholars tend to align along the axes of procedural and distributive justice.

**Energy Poverty**

Lakshman Guruswamy is credited with introducing the concept of energy justice to the academic community. His 2010 law review article concerns itself with the "energy oppressed poor, defined as people "devoid of life sustainable energy." In the article, he brings together two terms, energy and justice, to suggest that, as a single term, "[e]nergy justice seeks to apply basic principles of justice as fairness to the injustice evident among" the energy oppressed poor" and that energy justice "is an integral and inseparable dimension of the universally accepted foundational principle, or groundnorm, of international law and policy."[175] Guruswamy's later work evolves: "energy oppressed poor" becomes the "energy poor" and "energy justice," converts to "energy poverty."[176]

Most legal scholars have diverged from this narrow focus on energy poverty to discuss the range of energy issues that face the most vulnerable populations. For example, in her article discussing energy justice, Joroff connects energy poverty concepts to the domestic U.S. sphere, referencing the "energy burdens" that force low-income families that face "disproportionately high energy costs relative to income" to make dangerous tradeoffs that "can jeopardize health, safety,

and housing stability," rendering children and the elderly particularly vulnerable.[177] Others have tended to blend the conceptual approaches taken by leading social scientists to flesh out the term.

**Energy Justice**

Unlike Guruswamy, Shalanda Baker's (a co-author of this Workbook) work on energy justice takes perhaps the broadest view of energy justice. In a 2012 article exploring energy justice within the context of Mexico's transition away from fossil fuels to cleaner energy, *Mexican Energy Reform, Climate Change, and Energy Justice in Indigenous Communities*, Baker argues that energy justice incorporates climate justice, environmental justice, and energy democracy.[178] Energy justice, she argues, "requires that development activities bear in mind the need to reduce vulnerability to climate change and enhance resiliency when possible."[179] Further, certain communities should not be disproportionately burdened by development in the transition to renewable energy. Finally, referencing the indigenous right to free, prior, and informed consent in matters that affect them, Baker states that "[d]evelopment rooted in energy democracy thus allows for broader community participation."[180]

In another departure from the social science literature, legal scholars exploring energy justice concepts and theories beyond energy poverty have tended to examine justice (or fairness) across a range of policy debates concerning the participatory grid (e.g., individual and community participation in electricity generation), including, for example, net energy metering, community solar, and community choice aggregation. Although fully-fleshed out discussions of energy justice are rare in the legal literature, Welton distinguishes "energy justice" from "clean energy justice," by noting that, in each case, the focus is on distributive justice with respect to the energy system, whether that be a system powered by clean energy and smart technology, or one organized around fossil fuels.[181] Further, Welton notes, electricity law has a "long-standing equity commitment," which can help to guide the suite of justice-based challenges that have emerged with the clean energy transition.[182]

**Energy Democracy**

Defining energy democracy has proven more difficult. As Welton argues in *Grasping for Energy Democracy*, several competing definitions present a "troubling hurdle to the project of democratizing the field, as different conceptions of the term counsel for divergent legal reforms."[183] In the article, Welton outlines three concepts of energy democracy that have emerged in discussions of energy reform:

- **consumer choice**, which suggests that "[e]nergy governance regimes should be redesigned to give consumers more choices in their energy purchasing decisions, including more control over their level of energy demand and the opportunity to generate, store, and sell their own electricity";
- **local control**, which decentralizes energy decision making to local communities "claiming ownership and control of energy resources and control over energy decision making";
- **access to process**, which urges regulators to "embrace procedural reforms that enable more citizens to participate in governmental decision making processes about energy policy across all levels of government."[184]

Here, Welton makes a compelling argument for convergence of definitions and coherence within scholarship to adequately inform policymakers. She states that "[n]umerous other scholars are writing around the concept of energy democracy without labeling it as such: those embracing localism as a climate change strategy; those considering the evolving mandate and powers of public utility commissions; those exploring the relationship between federal energy markets and state policy objectives; and those focused on the opportunities and challenges posed by new, small-scale energy technologies."[185] Further, she notes that energy democracy itself remains incoherent in scholarship, flying "under other reform banners, including those of consumer empowerment, consumer participation, local energy, and energy justice."[186]

Additional discussions of justice-related concerns within the legal literature concerning energy policy argue for less "polarizing" and politically fraught approaches to transitional policy, arguing for equity-based approaches rooted in the familiar cost-benefit analysis framework.[187] Although cost-benefit analysis in policy has done little to advance the aims of deep justice in poor and low-income communities of color, Felix Mormann argues that equity, framed in cost-benefit terms, "offers a reliable metric of socio-economic impact."[188] That said, however, Mormann ultimately calls for deeper participation in the formation of clean energy policies (feed-in tariffs, tender regimes, net energy metering, tax credits, and renewable portfolio standards), in order to avoid unintended negative distributional problems.

In sum, although the current legal approach to energy justice is somewhat scattered and even internally inconsistent, the legal field contributes to the overall understanding of energy justice by hewing closely to the principles of distributive and procedural justice. Operationalizing these concepts across a suite of policies, however, poses a key challenge. Section 1.3 of the Workbook synthesizes the practitioner and academic approaches to energy justice with the goal of providing a condensed framework to guide energy policymaking.

## Appendix B: Library of Advocate Terminology

We developed this Library of Advocate Terminology to get a general sense of the use of the terms "energy justice," "energy democracy," and "energy equity" in the advocacy sphere, specifically relating to how the groups themselves define them and characterize their work using the terms. The analysis revealed that for most groups, energy democracy includes a component of community empowerment through transitioning control of energy generation and distribution to the public. Energy democracy also includes equitably distributing both the benefits and harms of energy infrastructure across all communities and stakeholders, which will remedy the current disproportionate harm being done to low-income and minority groups. The analysis also showed that while few groups use the term "energy justice," many include a justice component in their work, which is often framed in terms of social, racial or environmental justice.

| Organization | Location | Key Word | Definition of Energy Justice/ Democracy/Equity |
|---|---|---|---|
| Center for Social Inclusion / Race Forward | New York, NY | energy democracy | "Energy democracy means that community residents are innovators, planners, and decision-makers on how to use and create energy that is local and renewable. By making our energy solutions more democratic, we can make places environmentally healthier, reduce mounting energy costs so that families can take better care of their needs, and help stem the tide of climate change." [189]<br><br>"Energy democracy means ensuring that local communities are innovators, planners, and decision-makers on how to use and create energy that is local and renewable and moves us closer to racial justice." [190] |
| Institute for Local Self-Reliance | MN, ME, DC | energy democracy | "Energy democracy means both the sources and ownership of energy generation are distributed widely.<br><br>Energy democracy means that the management of the energy system be governed by democratic principles that allows ordinary citizens to have a say. This means that communities that wish greater control over their energy system should have minimal barriers to doing so.<br><br>Energy democracy means that the wide distribution of power generation and ownership, and access to governance of the energy system be equitable by race and socioeconomic status." [191] |
| Trade Unions for Energy Democracy | New York, NY | energy democracy | "Energy democracy must include a decisive shift in power over energy transition activities towards workers, communities and the public. A transfer of resources, capital and infrastructure from private hands to a democratically controlled public sector will need to occur in order to ensure that a truly sustainable energy system is developed in the decades ahead." [192] |
| Energy Justice Network | Philadelphia, PA | energy democracy | "We seek to ensure that all members of our global society share the same rights to protect and democratically determine the sustainable use of our air, land, food, water and energy resources, so that future generations may thrive." [193] |
| New York Energy Democracy Alliance | New York | energy democracy | "Our work to promote energy democracy is designed to move the state toward a better system, one in which residents have the right and the authority to determine their own energy future, to protect our most vulnerable populations, and to prevent the wholesale destruction of our precious ecosystems. Putting ownership and control over the means of sustainable energy production into the hands of everyday people, into the hands of municipalities, and into the hands of local businesses." [194] |
| Soulardarity | Highland Park, MI | energy democracy | "Energy Democracy is the idea that the people most impacted by energy decisions should have the greatest say in shaping them." [195] |

| Organization | Location | Key Word | Definition of Energy Justice/ Democracy/Equity |
|---|---|---|---|
| Partnership for Southern Equity | Georgia | energy equity | "Against the backdrop of global climate change, 'energy equity' translates into the fair distribution of benefits and burdens from energy production and consumption." [196] |
| Kentuckians for the Commonwealth | Kentucky | just transition | "The term Just Transition describes an all-in, inclusive, and place-based process to build economic and political power to shift from an extractive economy to a regenerative one. A Just Transition requires solutions that ensure the well-being of workers and communities; address racial, economic and gender injustice; protect our health, environment and climate; and create meaningful, good jobs and a thriving and sustainable economy." [197] |
| Climate Justice Alliance | National | energy democracy | "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." [198] |
| Centre for Sustainable Energy | UK | energy justice | "Achieving a degree of 'fairness' or 'justice' in climate policy may therefore be key to initiating public action on climate change. It is also a core component of sustainability.<br><br>We've been exploring this subject – which we call 'energy justice' – to establish a clearer picture of how to achieve a socially just climate policy within the UK." [199] |
| California Environmental Justice Alliance | California | environmental justice | "CEJA is working to build democratic, equitable solutions to pollution, poverty and racism that do not reproduce ecologically and socially harmful systems."[200] |
| Local Clean Energy Alliance | California | energy democracy | "Energy Democracy: maximizing community ownership and control of energy resources, with shared leadership and decision-making authority that involves all stakeholder communities." [201] |

# References

[1] Shalanda H. Baker, *Mexican Energy Reform, Climate Change, and Energy Justice in Indigenous Communities*, 56 Nat. Resources J. 369, 379-80 (2016); *see also* Darren McCauley & Raphael Heffron, *Just Transition: Integrating Climate, Energy, and Environmental Justice*, 119 Energy Pol'y 1, 1 (2018) (arguing that just transition conceptual frame can unite "climate, energy and environmental [] justice to provide a more comprehensive framework for analysing and ultimately promoting fairness and equity throughout the transition from fossil fuels.").
[2] See Ann M. Eisenberg, *Just Transitions*, 92 S. Cal. L. Rev. 273, 280-81 (2019) (noting that the term, "just transition" arises in the context of the energy transition as well as the nexus between labor and environmental reform); *see* Darren McCauley & Raphael Heffron, *Just Transition: Integrating Climate, Energy, and Environmental Justice*, 119 Energy Pol'y 1, 1 (2018) (noting that "just transition" emerged from the global trade unions in the 1980s). The Climate Justice Alliance frames the "just transition" as a move "away from the global 'dig, burn, drive, dump economy,' towards a vision of many local, living, caring and sharing economies." *Our Power Puerto Rico History of the Climate Justice Alliance*, Climate Just. Alliance, https://climatejusticealliance.org/cja-history/ (last visited Nov. 19, 2019).
[3] *Movement Generation Just Transition Framework Resources*, Movement Generation Justice & Ecology Project, https://movementgeneration.org/movement-generation-just-transition-framework-resources/ (last visited Nov. 19, 2019).
[4] Diana Hernández & Stephen Bird, *Energy Burden & the Need for Integrated Low-Income Housing & Energy Pol.*, 2 Poverty & Pub. Pol. 5, 7 (2010); Lakshman Guruswamy, *Energy Justice and Sustainable Development*, 21 Colo. J. Int'l Envtl. L. & Pol'y 231, 234, 255-58 (2010) (framing energy justice as the lack of access to energy by "the other third," individuals living in Sub-Sahara Africa and Asia).
[5] Lakshman Guruswamy, *Energy Justice and Sustainable Development*, 21 Colo. J. Int'l Envtl. L. & Pol'y 231, 257 (2010).
[6] Matthew J. Burke & Jennie C. Stephens, *Energy Democracy: Goals and Policy Instruments for Sociotechnical Transitions*, 33 Energy Res. & Soc. Sci. 35, 36 (2017); Sean Sweeney, *Resist, Reclaim, Restructure: Unions and the Struggle for Energy Democracy*, Trade Unions for Energy Democracy (Apr. 2013), http://unionsforenergydemocracy.org/wp-content/uploads/2014/05/resistreclaimrestructure_2013_english.pdf; Denise Fairchild & Al Weinrub, *Energy Democracy: Advancing Equity in Clean Energy Solutions* 1-2 (2017); James Angel, Strategies of Energy Democracy 9 (2016), available at https://www.rosalux.eu/fileadmin/media/user_upload/energydemocracy-uk.pdf.
[7] Robert D. Bullard, Paul Mohai, Robin Saha, & Beverly Wright, *Toxic Wastes and Race at Twenty* (Mar. 2007), https://www.nrdc.org/sites/default/files/toxic-wastes-and-race-at-twenty-1987-2007.pdf.
[8] In 1991, delegates to the First National People of Color Environmental Leadership Summit adopted seventeen principles of environmental justice that helped to galvanize the grassroots movement for environmental democracy. Reflected in the principles are respect for Mother Earth, an acknowledgment of the fundamental right to "political, economic, cultural and environmental self-determination of all peoples," and demands for equal participation "at every level of decision-making, including needs assessment, planning, implementation, enforcement and evaluation" concerning the environment. For a complete overview of the Principles, see Energy Justice Network, *Principles of Environmental Justice*, Envtl. Just./Envtl. Racism, https://www.ejnet.org/ej/principles.html (last modified Apr. 6, 1996).
[9] Robert D. Bullard, Paul Mohai, Robin Saha, & Beverly Wright, *Toxic Wastes and Race at Twenty* (Mar. 2007), https://www.nrdc.org/sites/default/files/toxic-wastes-and-race-at-twenty-1987-2007.pdf; Richard J. Lazarus & Stephanie Tai, *Integrating Environmental Justice Into EPA Permitting Authority*, 26 Ecology L. Q 617, 617-18, 627 (1999).
[10] Exec. Order No. 12898, Fed. Reg. 7629 at 1-101 (Feb. 16, 1994), available at https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf.
[11] Kristin Jenkins, *Setting Energy Justice Apart from the Crowd: Lessons from Environmental and Climate Justice*, 39 Energy Res. and Soc. Sci 117, 118 (2018) (arguing, among other things, that environmental justice failed to have an impact beyond the grassroots level, and that the concept "lacks defined and recognised content—a structure or approach that can be readily applied at a range of scales in a systematic manner").
[12] Uma Outka, *Fairness in the Low-Carbon Shift: Learning from Environmental Justice*, 82 Brook. L. Rev. 789, 792 (2017) (arguing that environmental justice can and should inform the transition's trajectory *early* to achieve robust integration of the movement's core principles with the legal and physical infrastructure for a low-carbon energy sector.").
[13] *See* Kristin Jenkins, *Setting Energy Justice Apart from the Crowd: Lessons from Environmental and Climate Justice*, 39 Energy Res. and Soc. Sci 117, 118 (2018) (arguing that environmental justice is more of a U.S.-based movement), *But see generally* Carmen G. Gonzalez, *Environmental Justice, Human Rights, and the Global South*, 13 Santa Clara J. Int'l L. 151 (2015).
[14] Kristin Jenkins, *Setting Energy Justice Apart from the Crowd: Lessons from Environmental and Climate Justice*, 39 Energy Res. and Soc. Sci 117, 118 (2018) (noting that climate justice emerged "in the 1990s, with a focus primarily on: assisting those affected by climate change; sharing the burdens and benefits of climate change; mitigation and adaptation; and reducing $C0_2$ emissions.").
[15] *See Generally* Reilly Morse, Environmental Justice Through the Eye of Hurricane Katrina (2008), available at https://inequality.stanford.edu/sites/default/files/media/_media/pdf/key_issues/Environment_policy.pdf; Shalanda H. Baker, *Anti-Resilience: A Roadmap for Transformational Justice within the Energy System*, 54 Harv. Civil Rights-Civil Liberties L. Rev. 1, 9-10 (2019); *see generally* Naomi Klein, The Battle for Paradise: Puerto Rico Takes on the Disaster Capitalists (2018).
[16] *People's Agreement*, World People's Conf. on Climate Change & the Rts. of Mother Earth (Apr. 22, 2010), https://pwccc.wordpress.com/support/.
[17] *See Our Power Puerto Rico History of the Climate Justice Alliance*, Climate Just. Alliance, https://climatejusticealliance.org/cja-history/ (last visited Nov. 19, 2019) (noting that a coalition of activist groups including Climate Justice Alliance, "UPROSE, NYC EJ Alliance, Ironbound Community Corporation, IEN, GAIA, GGJ, and a number of allied national green groups and labor unions" organized the Peoples' Climate March).

[18] A Vision For An Equitable And Just Climate Future, https://ajustclimate.org/#platform (last visited Nov. 19, 2019).
[19] A Vision For An Equitable And Just Climate Future, https://ajustclimate.org/#platform (last visited Nov. 19, 2019).
[20] A Vision For An Equitable And Just Climate Future, https://ajustclimate.org/#platform (last visited Nov. 19, 2019).
[21] Raphael J. Heffron & Darren McCauley, *What is the 'Just Transition'?*, 88 Geoforum 74, 74 (2018); Robert D. Bullard & Glenn S. Johnson, *Environmental Justice: Grassroots Activism and the Impact on Public Policy Decision-Making*, 56 J. of Soc. Issues 555, 558 (2000) ("Environmental justice is defined as the fair treatment and meaningful involvement of all people ...with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people...should bear a disproportionate share of the negative environmental consequences").. For the comprehensive set of environmental justice principles set forth by the First National People of Color Environmental Leadership Summit in 1991, see Energy Justice Network, *Principles of Environmental Justice*, Envtl. Just./Envtl. Racism, https://www.ejnet.org/ej/principles.html (last modified Apr. 6, 1996).
[22] Maxine Burkett, *Climate Reparations*, 10 Melb. J. Int'l L. 509, 521-22 (2009).
[23] *Just Transition*, Climate Just. Alliance, https://climatejusticealliance.org/just-transition/ (last visited Nov. 19, 2019); *see also* Jemez Principles for Democratic Organizing (Dec.1996), https://www.ejnet.org/ej/jemez.pdf.
[24] *See generally* Eleanor Stein, *Energy Democracy: Power to the People?, in* Energy Justice: US And International Perspectives 258 (Raya Salter et al., eds., 2018).
[25] Eleanor Stein, *Energy Democracy: Power to the People?, in* Energy Justice: US And International Perspectives 258, 265 (Raya Salter et al., eds., 2018).
[26] Eleanor Stein, *Energy Democracy: Power to the People?, in* Energy Justice: US And International Perspectives 258, 265 (Raya Salter et al., eds., 2018).
[27] Maxine Burkett, *Just Solutions to Climate Change: A Climate Justice Proposal for a Domestic Clean Development Mechanism*, 56 Buff. L. Rev. 169, 170, 192-93 (2008).
[28] Aladdine Joroff, *Energy Justice: What it Means and How to Integrate it into State Regulation of Electricity Markets*, 47 Envtl. L. Rep. News & Analysis 10927, 10928 (2017).
[29] Center for Earth, Energy and Democracy, Cecilia Martinez, & Shalini Gupta, *Climate Justice & Energy Democracy: A Platform Vision*, Climate Just. Alliance (2015) https://climatejusticealliance.org/wp-content/uploads/2018/02/Climate-Justice-_-Energy-Democracy-Platform-Vision_Final-2015-1.pdf.
[30] Diana Hernández & Eva Siegel, *Energy Insecurity and its Ill Health Effects: A Community Perspective on the Energy-Health Nexus in New York City*, 47 Energy Res. & Soc. Sci. 78, 78 (2019).
[31] Robert D. Bullard & Glenn S. Johnson, *Environmental Justice: Grassroots Activism and the Impact on Public Policy Decision-Making*, 56 J. of Soc. Issues 555, 558 (2000).
[32] *Just Transition*, Climate Just. Alliance, https://climatejusticealliance.org/just-transition/ (last visited Nov. 19, 2019).
[33] *Just Energy Policies & Practices*, NAACP, https://www.naacp.org/climate-justice-resources/just-energy/ (last visited Nov. 21, 2019).
[34] *Energy Democracy*, Center for Social Inclusion, https://www.centerforsocialinclusion.org/our-work/our-programs/energy-democracy (*last visited* April 10, 2019); *Energy Democracy: The Big Picture*, Institute for Local Self-Reliance, https://ilsr.org/energy-democracy-the-big-picture/ (last visited Nov. 21, 2019); *About Us*, N.Y. Energy Democracy Alliance, https://energydemocracyny.org/about-us/ (last visited Nov. 21, 2019); Resources on *Energy Democracy*, Local Clean Energy Alliance, http://www.localcleanenergy.org/EnergyDemocracy (last visited Nov. 21, 2019).
[35] Denise Fairchild & Al Weinrub, *Energy Democracy: Advancing Equity in Clean Energy Solutions* 6 (2017).
[36] Denise Fairchild & Al Weinrub, *Energy Democracy: Advancing Equity in Clean Energy Solutions* 6 (2017).
[37] It is interesting to note that the U.K.-based organization represented in the sample, Centre for Sustainable Energy (CSE), does not feel the same pressure to avoid using the word "justice" to describe its work. However, "justice" in their context takes on a different meaning from that usually found in social and racial justice movements. CSE uses justice to mean fairness in the distribution of the burden of climate action, specifically that every person must feel like his or her required contribution is fair in relation to the contributions of those around them. This definition lacks the restorative and moralistic angles of justice movements in the United States.
[38] *Energy Democracy*, Center for Soc. Inclusion, https://www.centerforsocialinclusion.org/our-work/our-programs/energy-democracy (last visited Apr. 10, 2019).
[39] *Just Transition, Kentuckians for the Commonwealth, http://kftc.org/campaigns/just-transition (last visited Apr. 10, 2019).*
[40] *Why Energy Democracy?*, Soulardarity (2014), https://www.soulardarity.com/why_energy_democracy.
[41] *Los Angeles Area Environmental Enforcement Collaborative*, United States Environmental Protection Agency, https://www.epa.gov/environmentaljustice/los-angeles-area-environmental-enforcement-collaborative (last visited Nov. 21, 2019); Liberty Hall Foundation, Drilling Down, The Community Consequences of Expanded Oil Development in Los Angeles (2015), https://www.libertyhill.org/sites/libertyhillfoundation/files/Drilling%20Down%20Report_1.pdf; Tony Barboza, *EPA 'environmental justice' map highlights California's pollution ills*, L.A Times (June 10, 2015), https://www.latimes.com/local/lanow/la-me-ln-environmental-justice-map-20150609-story.html.
[42] *Just Transition*, Climate Just. Alliance, https://climatejusticealliance.org/just-transition/ (last visited Nov. 19, 2019).
[43] *Just Transition*, Climate Just. Alliance, https://climatejusticealliance.org/just-transition/ (last visited Nov. 19, 2019).
[44] *Just Transition*, Climate Just. Alliance, https://climatejusticealliance.org/just-transition/ (last visited Nov. 19, 2019).
[45] On its website, Climate Justice Alliance lays out a comprehensive set of Just Transition Principles that include: Buen Vivir (living well without living better at the expense of others); Meaningful Work; Self Determination; Equitable Redistribution of Resources and Power; Regenerative Ecological Economics; Culture and Tradition (acknowledging the harms to culture and tradition enacted by capitalism, colonialism, patriarchy, genocide and slavery); and Solidarity. *Just Transition*, Climate Just. Alliance, https://climatejusticealliance.org/just-transition/ (last visited Nov. 19, 2019).
[46] See Jason Coughlin et al., A Guide to Community Shared Solar: Utility, Private, & Nonprofit Project Development 3 (May 2012); David Feldman, et al, Shared Solar: Current Landscape, Market Potential, and the Impact of Federal Securities Regulation v (Apr. 2015).

[47] See John Farrell, *Report: Beyond Sharing – How Communities Can Take Ownership of Renewable Power*, Instit. for Local Self-Reliance (Apr. 26, 2016), https://ilsr.org/report-beyond-sharing/.
[48] S.B. 43, 2013 Leg., Reg. Sess. (Cal. 2013)
[49] Assemb. B. 327, 2013 Leg., Reg. Sess. (Cal. 2013).
[50] Cal. Pub. Util. Code § 2833(p).
[51] The term "disadvantaged communities" was not defined in the statute, but is now commonly used in California energy policy to refer to communities facing higher pollution burdens and other vulnerabilities. Unless otherwise directed, the state typically uses the CalEnviroScreen, a tool created by the California EPA, to designated specific census tracts as disadvantaged communities.
[52] Cal. Pub. Util. Code § 2827.1(b)(1).
[53] *Application of San Diego Gas & Elec. Co. (U902E) for Authority to Implement Optional Pilot Program to Increase Customer Access to Solar Generated Elec.*, No. 12-01-008 (Cal. Pub. Util. Commission Jan. 17, 2012); *In the Matter of the Application of Pacific Gas & Elec. Co. (U39E) to Establish a Green Option Tariff*, No. 12-04-020 (Cal. Pub. Util. Commission Apr. 24, 2012), and *In the Matter of the Application of S. Cal. Edison Co. (U338E) for Approval of Optional Green Rate*, No. 14-01-007 (Cal. Pub. Util. Commission Jan. 10, 2014) [hereinafter "SB 43 proceeding" or "A. 12-01-008, et al."].
[54] *Proceeding Details R1407002*, Cal. Pub. Util. Comm'n (July 10, 2014), https://apps.cpuc.ca.gov/apex/f?p=401:56:0::NO:RP,57,RIR:P5_PROCEEDING_SELECT:R1407002 [hereinafter "AB 327 proceeding" or "R. 14-07-002"].
[55] Cal. Pub. Util. Code § 2831(g) (emphasis added).
[56] See Cal. Pub. Util. Code §§ 2831(b),(f).
[57] Cal. Pub. Util. Code § 2831(a).
[58] Cal. Pub. Util. Code 2832(a).
[59] Cal. Pub. Util. Code § 2833(d).
[60] Cal. Pub. Util. Code § 2833(b).
[61] Cal. Pub. Util. Code § 2833(d).
[62] Cal. Pub. Util. Code § 2833(d)(1)(A).
[63] Cal. Pub. Util. Code § 2833(j).
[64] Cal. Pub. Util. Code § 2833(p).
[65] Cal. Pub. Util. Code § 2833(e).
[66] See Cal. Pub. Util. Code § 2831.
[67] See *Decision Approving Green Tariff Shared Renewables Program for San Diego Gas & Elec. Co., Pacific Gas & Elec. Co., & S. Cal. Edison Co. Pursuant to S. B. 43*, Decision 15-01-051, No. 12-01-008, No. 12-04-020, No. 14-01-007 (Cal. Pub. Util. Commission Jan. 29, 2015) [hereinafter "Decision 15-01-051"].
[68] See *Decision Addressing Participation of Enhanced Community Renewables Projects in the Renewable Auction Mechanism & Other Refinements to the Green Tariff Shared Renewables Program*, Decision 16-05-006, No. 12-01-008, No. 12-04-020, No. 14-01-007 (Cal. Pub. Util. Commission May 12, 2016) [hereinafter "Decision 16-05-006"]. One lingering issue remained related to requirements for the developer of an ECR project to obtain a legal opinion on securities compliance.
[69] See Decision 15-01-051.
[70] See Decision 16-05-006.
[71] See Cal. Pub. Util. Code § 2833(o).
[72] *Electric Power Monthly: Table 5.6.A. Average Price of Electricity to Ultimate Customers by End-Use Sector*, U.S. Energy Info. Admin. (Oct. 24, 2019), https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_6_a.
[73] *Electric Schedule E-ECR: Enhanced Community Renewables Program*, Pacific Gas & Electric Company 3 (Oct. 1, 2019), https://www.pge.com/tariffs/assets/pdf/tariffbook/ELEC_SCHEDS_E-ECR.pdf.
[74] See A.12-01-008 SDG&E Monthly GTSR Report for May 2019 (June 24, 2019); A.12-01-008 PG&E Monthly GTSR Progress Report for May 2019 (June 25, 2019); A.12-01-008 SCE Monthly GTSR Program Progress Report for May (June 25, 2019).
[75] The CPUC first required developers to submit a legal opinion from an "Am Law 100" law firm, that is, a law firm listed on the American Lawyer magazine's list of the 100 law firms with the highest gross revenue. Decision 15-01-051 at 71; Decision 16-05-006 at 34. This requirement was later modified to be based on factors such as an attorney's experience and the amount of liability insurance coverage held by the firm. *Decision Modifying the AmLaw 100 Securities Opinion Requirement for Enhanced Community Renewables Projects Under the Green Tariff Shared Renewables Program in D.15-01-051*, Decision 17-07-007, No. 12-01-008, No. 12-04-020, No. 14-01-007 (Cal. Pub. Util. Commission July 13, 2017).
[76] See Cal. Pub. Util. Code § 2833(p) ("The commission shall ensure that charges and credits associated with a participating utility's green tariff shared renewables program are set in a manner that ensures nonparticipant ratepayer indifference for the remaining bundled service, direct access, and community choice aggregation customers and ensures that no costs are shifted from participating customers to nonparticipating ratepayers.")
[77] The "Am Law 100" is an annual list published by The American Lawyer.
[78] *Proceeding Details A1201008*, Cal. Pub. Util. Comm'n (Jan. 17, 2012), https://apps.cpuc.ca.gov/apex/f?p=401:56:0::NO:RP,57,RIR:P5_PROCEEDING_SELECT:A1201008.
[79] Assemb. B. 327, 2013 Leg., Reg. Sess. (Cal. 2013).
[80] See Cal. Pub. Util. Code §2827.3(a) (requiring the CPUC to study costs and benefits associated with a net metering tariff); §2827.1(b)(3) ("Ensure that the standard contract or tariff made available to eligible customer-generators is based on the costs and benefits of the renewable electrical generation facility.").
[81] Under existing policy, California allows for multifamily buildings and adjacent properties to enroll in VNEM. The state's VNEM rules for those properties were renewed in the first phase of the AB 327 proceeding when the standard NEM tariff was reauthorized. Both the NEM and VNEM tariffs were slightly modified from their first generation versions, but

fundamentally retained the basic concept of on-bill retail rate compensation for rooftop solar generation.
[82] See *Vote Solar, SEIA, & CalSEIA Opening Proposal*, R.14-07-002 (Apr. 24, 2017).
[83] See *CEJA SELC Opening Proposal*, R.14-07-002, 2, 11 (Apr. 24, 2017). The main incentives along the lines of location, size, and ownership proposed in Equity VNEM were providing a slightly higher bill credit for (about 2 cents/kWh compared to DAC VNEM) to "community-based projects" defined as (1) "located within the same or an adjacent DAC census tract as all customers," (2) having a generating capacity which does not exceed 1 megawatt, and (3) being majority owned or controlled by the residents of disadvantaged communities or a nonprofit or government entity.
[84] *Alternate Decision Adopting Alternatives to Promote Solar Distributed Generation in Disadvantaged Communities*, Decision 18-06-027, No. 14-07-002 at 56 (Cal. Pub. Util. Commission June 21, 2018).
[85] *Id*. at 57.
[86] *Id*.
[87] *Id*. at 64.
[88] *Id*. at 74.
[89] *Id*. at 76-78.
[90] *Id*. at 65 n. 40.
[91] *Id*. at 73.
[92] *Id*. at 16.
[93] *Id*. at 66, 68.
[94] See *Id*. at 75 (stating that the CSGT program "allows for local ownership of projects if feasible." The CPUC declined to set requirements or incentives for community ownership, instead leaving "this to the market and communities to determine.").
[95] *Id*. at 72.
[96] *Id*. at 74.
[97] *Id*. at 76.
[98] *Id*. at 86.
[99] *Id*. at 77.
[100] *Id*. at 78.
[101] *Id*. at 79.
[102] *Id*. at 82.
[103] *Id*. at 65, 82.
[104] *Id*. at 82.
[105] *Id*. at 82.
[106] *Id*. at 86.
[107] *Id*. at 84.
[108] Participants must be located within 5 miles for most projects, and within 40 miles for some select pilot projects in the San Joaquin Valley. Some commentators worry this limit may pose a challenge in finding enough customer or raise the cost of finding customers beyond what is economically viable for a profitable project.
[109] Utilities will enter power purchase agreements for all of the energy produced by the CSGT projects if they select a project's bid within biannual auctions. However, the price the utilities may pay for that energy is capped at 200% of the highest executed contract price in previous California renewable auctions for its Green Tariff program. It remains to be seen if the auction ceiling is high enough to allow projects to be built given the additional limitations and costs for such projects beyond other wholesale renewable projects.
[110] R. 14-07-002.
[111] New York State, *Reforming the Energy Vision*, https://rev.ny.gov/s/REV-fm-fs-1-v8.pdf (last visit Nov. 12, 2019).
[112] The first iteration of the CDG policy was codified in the Order Establishing a Community Distributed Generation Program and Making Other Findings, Proceeding on Motion of the Commission as to the Policies, Requirements and Conditions for Implementing a Community Net Metering Program, Case 15-E-0082 (July 17, 2015) [hereinafter "CDG Order"].
[113] The CDG Order included certain limitations on membership to a CDG project but explicitly kept it quite flexible to encourage project development in the nascent CDG market. For example, projects required a minimum of ten subscribers, each of whom could offtake up to 25kW of energy, and any large offtaker (or "anchor") that had an energy demand exceeding 25kW could only offtake up to 40% of the total energy generated by the project.
[114] Filings by the Joint Utilities, a coalition that includes included Central Hudson Gas & Electric, Consolidated Edison Company of New York, Inc., N.Y. State Electric & Gas Corp., Niagara Mohawk Power Corp., Orange & Rockland Util., Inc., and Rochester Gas and Electric Corporation, *In the Matter of the Value of Distributed Energy Resources*, Case 15-E-0751 (N.Y. Pub. Serv. Commission 2015).
[115] Comments of the Joint Utilities on an Interim Successor to Net Energy Metering at 3–5, *In the Matter of the Value of Distributed Energy Resources*, Case 15-E-0751 ( N.Y. Pub. Serv. Commission Apr. 18, 2016).
[116] More on the Berkeley Lab study available at: https://emp.lbl.gov/sites/all/files/lbnl-1007261.pdf
[117] Notice Soliciting Comments and Proposals on an Interim Successor to Net Energy Metering and of a Preliminary Conference, Case 15-E-0751, In the Matter of the Value of Distributed Energy Resources, Case 15-E-0882, Proceeding on Motion of the Commission as to the Policies, Requirements and Conditions for Implementing a Community Net Metering Program (Dec. 23, 2015).
[118] CDG Order at 22.
[119] *Id*. at 31.
[120] Summary of the Collaborative Working Group Reports Regarding Community Distributed Generation for Low-Income Customers, *In the Matter of the Value of Distributed Energy Resources*, Case 15-E-0082 (N.Y. Pub. Serv. Commission Aug. 15, 2016), available at http://www3.dps.ny.gov/W/PSCWeb.nsf/

ca7cd46b41e6d01f0525685800545955/8a75b07f45e1672485257edd00602d7c/$FILE/15-E-0082%20Low%20Income%20Collaborative%20Report%208-15-16.pdf.

[121] The Aligned Parties were comprised of the following organizations: Alliance for a Green Economy, Association for Energy Affordability, Azure Mountain Power, Binghamton Regional Sustainability Coalition, Citizens for Local Power, Ecogy Solar, Green Street Solar Power, LLC, Natural Resources Defense Council, New York City Environmental Justice Alliance, New York Lawyers for the Public Interest, Pace Energy and Climate Center, ProjectEconomics, PUSH Buffalo, Solstice, Vote Solar, WE ACT for Environmental Justice.

[122] Staff Report on Low-Income Community Distributed Generation Proposal, *In the Matter of the Value of Distributed Energy Resources Working Group Regarding Low and Moderate Income Customers*, Matter 17-01278, ( N.Y. Pub. Serv. Commission Dec. 15, 2017) [hereinafter "LMI Working Group Staff Report"].

[123] LMI Working Group Staff Report at 33.

[124] Whitepaper Regarding Future Value Stack Compensation Including For Avoided Distribution Costs, *In the Matter of the Value of Distributed Energy Resources*, Case 15-E-0751 (N.Y. Pub. Serv. Commission Dec. 12, 2018).

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## Image Citations

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