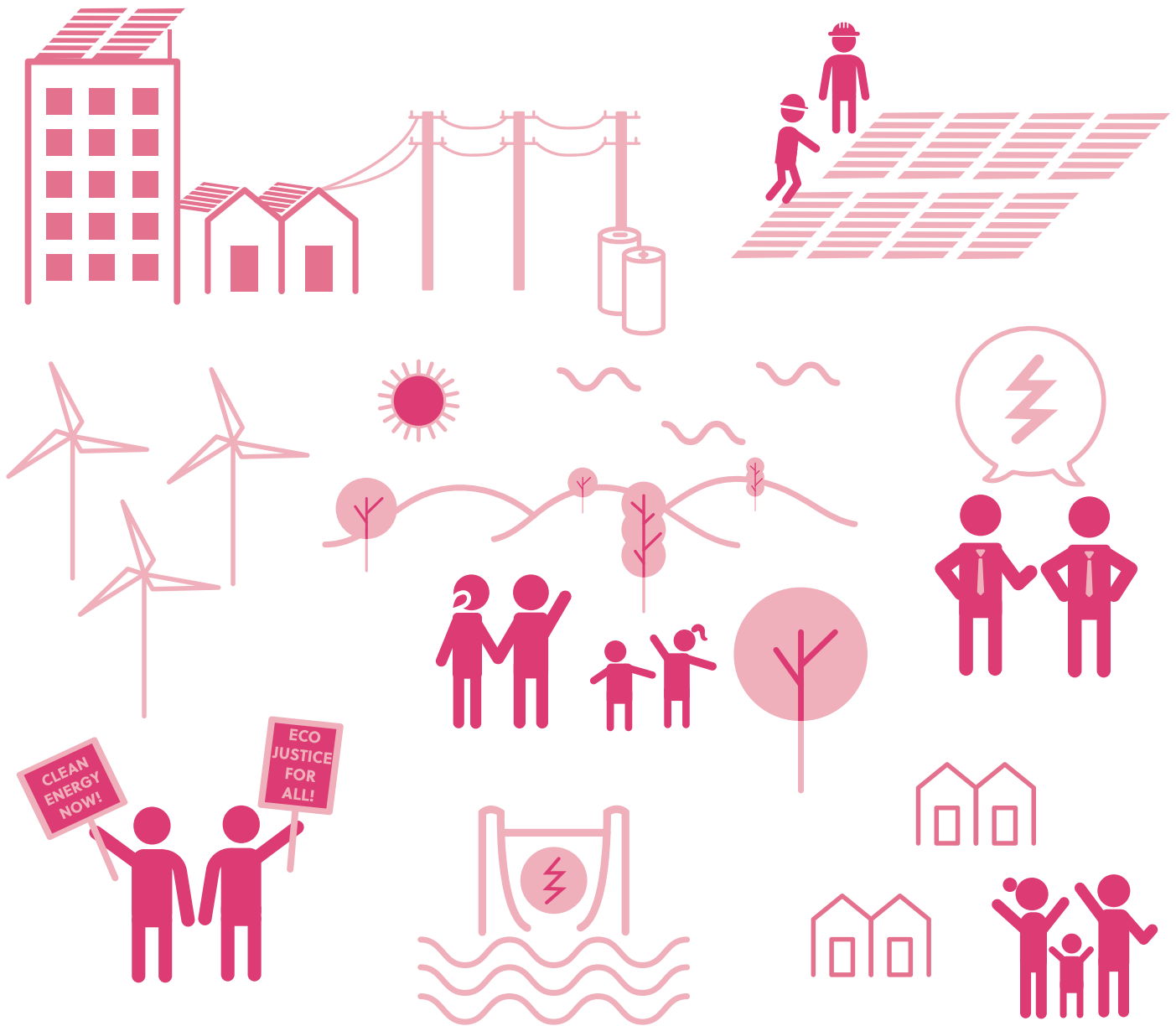


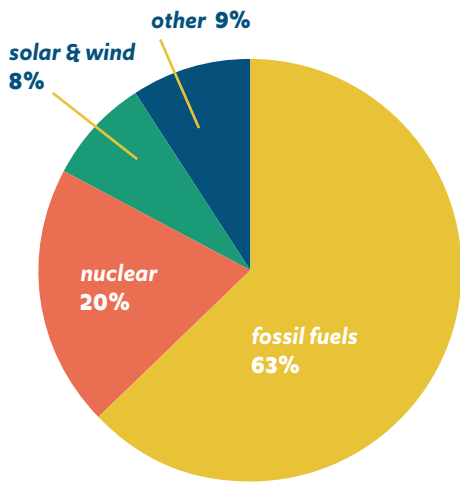
Policy Brief:

100% Renewable Energy Targets



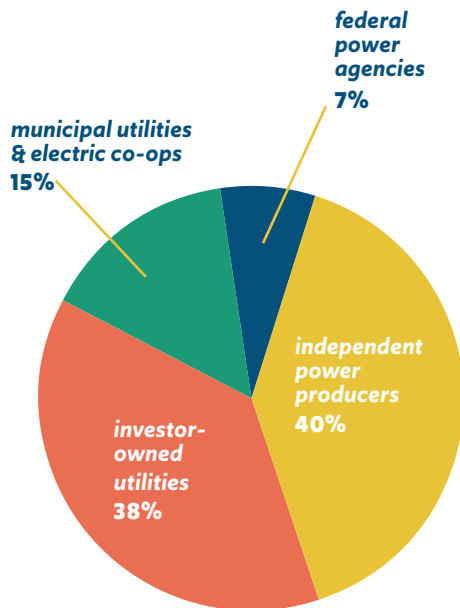
THE Climate +
Clean Energy
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Across the country, at least **29 states** and **150 local jurisdictions** have adopted renewable energy goals.¹ Renewable energy goals are critical to signaling long-term commitment to renewable energy, reduced emissions, and localized economic and health benefits.



ENERGY SOURCES:

In 2018, 63% of generated electricity in the U.S. was from fossil fuels (natural gas, coal, and petroleum), 20% was from nuclear, and 8% was from solar and wind.⁴



UTILITIES:

Independent power producers (privately-owned power plants that sell electricity to utilities and end users) account for 40% of net electricity generation, investor-owned utilities for 38%, municipal utilities and electric cooperatives for 15%, and federal power agencies for 7%.⁵

Voluntary or mandatory state-level targets are typically implemented by the state legislature or utility regulatory commission and apply to utilities' electricity generation or sales. Local leaders can publicly pledge to increase the use of renewable energy in municipally-owned energy systems; however, legally-binding targets must be enacted by the city council or county commission.

For low-income and environmental justice (EJ) communities in particular, renewable energy generation located in those communities can lead to significant health and economic benefits if they are adopted as part of a mandate or target policy. For example, replacing fossil fuel plants, which are usually located in low-income or EJ communities eliminates a major source of air pollution in local neighborhoods. Additionally, localized renewable energy projects create a new industry sector that can generate local jobs and spur economic development (see Workforce Brief).

The most common renewable energy target is the renewable portfolio standard (RPS). An RPS requires a certain percentage of a utility's electricity generation or sales be derived from renewable energy sources.² State RPSs can vary in terms of what the percent goal is (50% and who are the applicable entities. For example, Colorado's RPS sets specific targets for different types of utilities: 30% of electricity sales must be renewable energy by 2020 for investor-owned utilities, 10% for municipal utilities, and 10-20% for electric cooperatives.³

Renewable energy targets should be limited to non-extractive energy sources and technologies, such as solar, wind, storage, and hydroelectric power; however, some allow energy sources that are marketed as renewable or "carbon-free" but are still harmful to frontline communities. Recently passed "clean energy standards" in California, New Mexico, Virginia, and Washington include energy sources like clean coal, renewable natural gas, and nuclear power, which can have negative impacts, have high lifecycle costs, and sustain the existing fossil fuel regime.

¹ <http://ncsolarcen-prod.s3.amazonaws.com/wp-content/uploads/2019/07/RPS-CES-June2019.pdf>, <https://www.sierraclub.org/ready-for-100/commitments>

² <https://www.seia.org/initiatives/renewable-energy-standards>

³ <https://programs.dsireusa.org/system/program/detail/133>

⁴ <https://www.eia.gov/tools/faqs/faq.php?id=427&t=3f>

⁵ <https://www.energy.gov/oe/information-center/educational-resources/electricity-101>

⁶ <https://www.ienearth.org/indigenous-anti-nuclear-summit-declaration/>; <https://www.culturalsurvival.org/publications/cultural-survival-quarterly/hidden-costs-hydroelectric-dams>

⁷ <https://www.epa.gov/greenpower/renewable-energy-certificates-recs>

⁸ <https://www.vox.com/2015/11/9/9696820/renewable-energy-certificates>; <https://thinkprogress.org/clean-energy-trainwreck-why-most-recs-are-bad-and-how-to-find-the-good-ones-63975573c073/>

⁹ <https://www.greentechmedia.com/articles/read/distributed-energy-value-properly#gs7nvuh9>

¹⁰ https://www.ren21.net/wp-content/uploads/2019/05/gsr_2019_full_report_en.pdf

¹¹ <https://www.energy.gov/eere/articles/confronting-duck-curve-how-address-over-generation-solar-energy>

¹² <https://www.powermag.com/what-is-the-future-of-independent-power/?printmode=1>

¹³ <https://www.utilitydive.com/news/modernizing-renewables-mandates-is-no-longer-about-the-megawatts/529895/>; <https://www.energy-storage.news/news/us-states-thus-far-reluctant-to-include-energy-storage-in-renewable-portfolio>; <https://www.cesa.org/assets/2014-Files/CESA-Energy-Storage-and-RPS-Holt-June2014.pdf>

¹⁴ <https://causenow.org/article/not-one-more-power-plant-oxnard>

¹⁵ https://www.huffpost.com/entry/oxnard-california-gas-plant_n_5cfeafdc4b0aab91c0a2f27

¹⁶ <https://www.calsomah.org/>

¹⁷ http://eta-publications.lbl.gov/sites/default/files/rps_annual_status_update-2019_edition.pdf

¹⁸ <https://www.cpuc.ca.gov/General.aspx?id=976>

¹⁹ <https://aceee.org/blog/2017/02/demand-response-programs-can-reduce>

²⁰ <https://www.ucsusa.org/sites/default/files/attach/2018/07/Turning-Down-Natural-Gas-California-fact-sheet.pdf>; <https://www.cleangroup.org/ceg-projects/energy-storage-peaker-replacement/>

Challenges to Crafting Equitable Renewable Energy Targets and Mandates



Ensuring Real Renewable Energy with Local Benefits

Carbon-Free: Some renewable energy targets—such as the recent “clean energy standards” passed in California, New Mexico, Virginia, and Washington—include energy sources that are marketed as renewable or “carbon-free” but are harmful to frontline communities. Energy sources like clean coal, carbon capture and storage, biomass, and renewable natural gas sustain the existing fossil fuel regime. Nuclear power will have to be phased out as well because of significant lifecycle costs, with toxic mining and waste often devastating Indigenous communities.⁶ While both small and large hydroelectric power are typically included in the renewable energy mix, there are still issues of displacement and ecosystem impacts that must be recognized and redressed.

Renewable Energy Certificates (RECs): RECs usually represent one megawatt-hour of electricity generated from renewable energy and fed into the grid, are commonly bought and sold to comply with RPSs.⁷ However, the use of abundant and cheap RECs fail to incentivize the actual purchase and development of renewable energy that can deliver real localized benefits to communities.⁸ If RECs are used at all, they should be used sparingly and only when they are derived from non-extractive energy sources.

Valuing Resources: Renewable energy and distributed energy resources (DERs) may not be valued properly in rate design and capital investment decisions, which may limit renewables adoption.⁹ Fossil fuel subsidies may also obscure the true economic costs of fossil fuel investments, further inhibiting renewable energy deployment.¹⁰

Size and Scale: Large-scale renewable energy projects can play a big role in meeting targets and creating union jobs, but they still have an impact on the lands they are sited and maintain centralized ownership with large corporations.

Intermittent Power: Renewable energy like solar and wind are dependent on weather conditions and, without energy storage, cannot provide continuous power. Because solar energy production peaks during mid-day, more “fast-ramping” resources will be needed to be quickly meet peak customer demand in the evening as more solar is deployed.¹¹ Energy storage, integrated resource planning, and better grid management can address issues of intermittency.

Ensuring a Just and Comprehensive Transition

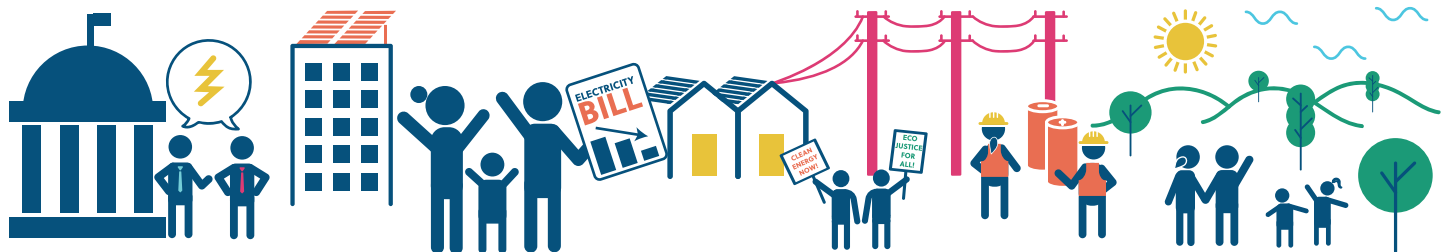
Who is Covered: There are a number of actors involved in electricity generation, transmission, and distribution, with each entity having different drivers and limiting factors for renewable energy generation. State legislatures and utility regulatory commissions can require or encourage more renewables for investor-owned utilities, municipal utilities, and electric cooperatives through RPSs and energy planning, but renewable energy targets must be tailored to each entity. Changes to independent power producers’ energy mix can be driven by utility regulation and financial incentives.¹² These energy providers as well as community choice aggregators and tribal electric utilities can also independently set renewable energy targets. Renewable energy adoption across all energy providers can ensure more consumers and communities benefit.

Energy Burden: Without proper protections in place, the cost of transitioning to renewable energy may fall on low-income customers. Because low-income customers often live in less efficient housing and are underserved by energy efficiency programs, they have higher energy rates and thus spend more of their income on energy costs. Renewable energy targets must include cost caps to prevent rate increases and programs to lower the cost of energy and energy burden for low-income customers.

Where the Rules are Determined: Regulatory agencies are traditionally opaque and complex in how they operate, making them difficult to engage with. Although there are some platforms for public participation in energy planning—such as integrated resource plan and long-term procurement plan proceedings—there is still a high barrier to entry and limited opportunities.

Stranded Assets: Cost recovery mechanisms for fossil fuel infrastructure are tied to the projected number of years that the infrastructure will be in use. As renewables eliminate the need for fossil fuels, utility ratepayers and investors may be stuck continuing to pay for that infrastructure if retired before its initial projected lifetime.

Key Frameworks to Consider when Developing Equitable Renewable Energy Targets and Mandates



State and local leaders must address key challenges when enacting renewable energy targets and mandates in order to ensure broad benefits and opportunities to participate for low-income and environmental justice communities.

Power: Developing Targets and Mandates that Signal a Real Transition

Renewable energy targets and mandates should explicitly state the intent to completely transition to renewables and consider lifecycle costs when defining eligible technologies.

Renewable energy coupled with energy storage can provide greater grid flexibility to meet peak demand and supply backup power, eliminating the need for natural gas peaker plants. Energy storage technologies can be included in RPSs or separately encouraged through procurement targets, clean peak standards (requiring a portion of peak demand to be met by renewables and storage), financial incentives, and project-specific campaigns.¹³ For example, community members and city officials in Oxnard, California successfully fought a proposed peaker plant that would have compounded pollution from three other fossil fuel power plants.¹⁴ They spurred a study of clean energy alternatives that ultimately found that regional peak demand could instead be met with renewables and storage.¹⁵

Renewable energy policies must integrate targeted and comprehensive programs to prioritize direct benefits, not just “trickle-down” benefits, for low-income and environmental justice communities. For example, California’s Solar on Multifamily Affordable Housing (SOMAH) program provides financial incentives to install rooftop systems on multifamily affordable housing, allowing low-income residents to receive direct energy bill savings with no risk of rent increases due to the installation.¹⁶

The cost burden of the renewable energy transition should not fall on low-income customers. Targets should include measures to prevent increases in customer rates and/or offer discounted rates for low-income customers. RPS policies in at least 28 states and Washington, D.C. cap compliance costs to a certain percentage of ratepayers’ bills.¹⁷ In California, customers under a certain income level can receive a 12-35% discount on their electricity service through the California Alternate Rates for Energy (CARE) and Family Electric Rate Assistance Program (FERA) programs.¹⁸ Similar energy assistance programs and rate reforms in other states can ensure low-income customers do not bear the brunt of financing renewable energy deployment.

People: Empowering Consumers to Own and Manage Renewable Energy Systems

Large-scale renewable energy projects can play a big role in meeting targets and creating union jobs, but preference should be given to small-scale projects that are located in and benefit low-income and environmental justice communities and include strong labor standards. Small-scale projects, including DERs, can be owned and managed by consumers via inclusive financing mechanisms and community ownership models. Through greater flexibility and control, consumers can improve their energy efficiency and shift energy use away from peak demand hours to generate bill savings.¹⁹

Place: Properly Valuing the Localized Benefits of Renewable Energy

Where renewable energy generation is located can provide multiple health benefits, especially for communities burdened with fossil fuel power plants. Coupling renewables and storage, in particular, can eliminate the need for peaker plants that release emissions every time they are turned on and off and are predominantly located in environmental justice communities.²⁰

Increasing geographic diversity and siting small-scale renewables and DERs near customer demand offers efficiency and resiliency benefits to the electric grid, including reduced energy loss from transmission and distribution over long distances and locally sited backup power.

Community-based renewable energy projects can spur economic development and create jobs, but priority must be given to training and employment of individuals in low-income and environmental justice communities. Renewable energy deployment can provide a new source of jobs and local revenue for workers and communities impacted by fossil fuel plant closures.