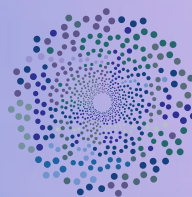


BUILDING PUBLIC RENEWABLES IN THE UNITED STATES

March 2023



**DEMOCRACY
COLLABORATIVE**

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The **Climate and Community Project** is a progressive climate policy think tank that mobilizes a network of leading academic and movement researchers in developing cutting-edge research at the climate-inequality nexus. We've produced multiple research briefs alongside movement and political partners including the Green New Deal for Public Schools, A New Era of Public Power, and High Roads to Resilience.

The **Democracy Collaborative's** mission is to demonstrate in theory and in practice the principles of a democratic economy, offering a vision of what that economy can be, designing models that demonstrate how it operates, and building in coalition with others the pathways to a new reality. By making the democratic economy conceivable, visible, and practical, we open minds, ignite hope, and inspire action.

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KEY TERMS

BIPOC: Black, Indigenous, and People of Color, some of the most vulnerable to the effects of climate emergency due to histories of social and economic racism.

COMMUNITY BENEFITS AGREEMENT: A contract between a developer and community-based organizations representing residents' interests. The agreement spells out the benefits the community will receive in return for supporting the developer's project in their neighborhood.

COMMUNITY OWNERSHIP: Ownership of an entity, program, infrastructure, or institution by a cooperative, social enterprise, nonprofit, or grassroots organization.

DISTRIBUTED ENERGY RESOURCES (DER): A range of technologies that produce, store, or lower energy use either at the point of, or near, the production or use of the energy. This includes rooftop solar, local energy storage, energy efficiency projects, Virtual Power Plants (VPP), and microgrids.¹

DISTRIBUTED ENERGY RESOURCES (DER) AGGREGATOR: An intermediary that collects lots of distributed renewable assets and sells the value of that aggregated energy or storage to the market or utility.

ENERGY POVERTY: A situation in which a household does not have access or cannot afford to have the basic energy or energy services to achieve day-to-day living requirements.

ENVIRONMENTAL JUSTICE COMMUNITIES: Communities that are disproportionately burdened by multiple sources of pollution and social vulnerabilities.

FEDERAL ENERGY REGULATORY COMMISSION (FERC): Federal agency that regulates interstate transmission and wholesale electricity and gas commerce.

FEDERAL PUBLIC POWER PROGRAM (FPPP): A proposed program to federally fund public renewables.

INDEPENDENT POWER PRODUCERS (IPP): Generators of energy that are not owned by a traditional electric company or utility.

INFLATION REDUCTION ACT (IRA): Legislation passed in 2022 by Congress that made major investments in climate. While the biggest climate bill to ever pass in the United States, it also perpetuated an “all-of-the-above” strategy for energy and did not wind down the use of fossil fuels.

INVESTOR-OWNED UTILITY (IOU): Private utilities that operate the energy system in a certain service area. In some areas of the country, this means they run the whole energy system— generation, transmission, and distribution. In others, it means they only provide transmission and distribution lines.

INVESTMENT TAX CREDITS (ITC) AND PRODUCTION TAX CREDITS (PTC): Key renewables incentives provided in the United States.

LOADING ORDER: A prioritization of energy technologies that incentivizes the use of certain resources over others—for example, installing smaller-scale technologies like rooftop solar prior to building large transmission infrastructure.

NON-WIRES ALTERNATIVES: The use of distributed renewables as an alternative to building new distribution or transmission lines.

PUBLIC OPTION: A public option creates an alternative to a private asset operating within the market.

PUBLIC OWNERSHIP: Ownership of an entity, program, infrastructure, or institution held by the government. This can be at multiple scales, including municipal, state, and federal ownership.

PUBLICLY OWNED UTILITY: A utility owned by a government, including municipal utilities, Power Marketing Administrations, the Tennessee Valley Authority, and publicly held Community Choice Aggregator programs.

RENEWABLE ENERGY: Defining renewable energy is a political decision. We define renewables in this paper as solar, wind, hydro, and geothermal.

1. Tanuj Deora, Lisa Frantzis, and Jamie Mnadel, “Distributed Energy Resources 101: Required Reading for a Modern Grid,” *Advanced Energy*, February 17, 2017, <https://blog.aee.net/distributed-energy-resources-101-required-reading-for-a-modern-grid>.

KEY TERMS

REGIONAL POWER AUTHORITIES (RPA): Proposed new public multi-state energy developers that coordinate investment in their regions.

REGIONAL TRANSMISSION ORGANIZATION (RTO) AND INDEPENDENT SERVICE OPERATOR (ISO): Nonprofit organizations that coordinate, control, and monitor the grid, and manage transmission in multi-state regions. They are prevalent in the Northeast and Midwest.

RURAL ELECTRIC COOPERATIVE: A utility owned and operated as a cooperative, largely financed and started during the New Deal.

UTILITY REGULATORY COMMISSION: A governing body that regulates the rates and services of a public utility, including electric utilities. Often called Public Utilities Commission (PUC) or Public Service Commissions (PSC).

WORKING CLASS: Michael Zweig defines the working class as “people who, when they go to work or when they act as citizens, have comparatively little power or authority. They are the people who do their jobs under more or less close supervision, who have little control over the pace or the content of their work, who aren’t the boss of anyone.”

2. Michael Zweig, *What's Class Got to Do with It? American Society in the Twenty-First Century* (New York: ILR Books, 2004), p. 4.

EXECUTIVE SUMMARY

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The transition to renewable energy requires far more than a technological swap driven by private companies. It requires reordering the electricity system so that it values good-paying jobs, justice, and democracy.

”

We propose a new federal public power program that invests in a public option for renewable energy across the United States that can catalyze decarbonization and embed environmental justice in a new energy system. It offers an opportunity to counter the monopolized, fossil-fueled, and profit-driven status quo of today. In its place, a publicly owned and community-controlled system can emerge that grounds renewables in frameworks of rights and accessibility.

To do so, the Federal Public Power Program would inject straightforward, public investment into the electricity system. The investment would equip the United States' robust network of existing public, cooperative, and Tribal utilities to make a just transition to renewable energy, as well as develop a number of new Regional Power Authorities (RPAs) to deploy a range of publicly owned renewable energy technologies. RPAs would act as important energy planning bodies with the ability to build and operate renewable energy projects and associated infrastructure in partnership with local communities. Specifically, the Program would bring a massive amount of renewable energy online by investing in:

- Existing publicly owned and cooperative utility energy providers
- Tribal Nations
- Newly authorized RPAs
- Grants for democratic development and transparency

The Inflation Reduction Act (IRA) of 2022 made an important downpayment on the transition to renewable energy, and opened up opportunities for public and community ownership of the renewable energy system. However, it still invests in an all-of-the-above energy strategy that primarily offers tax incentives to drive the manufacture and deployment of renewable power. The transition to renewable energy requires far more than just a technological swap driven by private companies. It requires reordering the electricity system so that it values good-paying jobs, justice, and democracy. The proposed Federal Public Power Program can enable that transformation at scale:

JOBS: A federal public renewables strategy can help create unionized, high-paying, and high road jobs. As a federally deployed program, it can mandate workers directly employed or contracted through it to receive prevailing wages under the Davis-

Bacon Act. The Program can also attach important strings to disbursement or procurement, such as Project Labor Agreements or apprenticeships that guarantee stability and continuity for the workforce. We also propose important commitments to develop a multiracial workforce through robust local-hire commitments and prioritizing workers from environmental justice communities.

JUSTICE: Within the United States, the disproportionate burdens of an extractive energy system have been borne by BIPOC and working-class communities—often described collectively as “environmental justice communities.” This program offers an opportunity to move beyond a decarbonization or profit motive framework, and instead conceptualize the development of renewable energy as a public good. The program could be crucial to achieving President Biden’s Justice40 commitments, with the power to directly invest 40 percent of all investments, as well as any profits generated beyond system reinvestment, in environmental justice communities. The IRA largely fell flat in delivering Justice 40, with only about 16 percent of funds earmarked for disadvantaged communities. We also propose that by combining a public approach with community engagement and partnership at different scales, the program can better serve to build community wealth and engender local buy-in.

DEMOCRACY: We see public ownership as a tool to produce higher accountability to community members and shift control over the energy transition. The ultimate owner and decision maker of the energy source is the public instead of a Wall Street bank or high-paid executives in corporate boardrooms. Importantly, top-down federal government processes have been known to be co-opted, and the program takes explicit care to propose robust governance that brings stakeholders at multiple scales—including workers, communities, and environmental advocates—to the table.

Imagine solar spanning the Sunbelt in the Southwest, wind farms whirring across the plains of Iowa, and expansive rooftop solar on Puerto Rican households—publicly owned and deployed at a far faster pace than the private sector has provided. This is the future that the Federal Public Power Program could help to bring to fruition.

“

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INTRODUCTION

Each year in the United States, renewables have a “record year,” dramatically increasing their new generating capacity. Electricity generated from solar has grown 48 times between 2008 and 2019.³ Even so, wind and solar contribute only 12.6 percent of the total energy used in the country, and the US lags far behind other countries in renewable energy buildout.⁴ As a country with some of the highest historical greenhouse gas emissions, the US’s delay is a direct affront to the small island states and Global South that did the least to contribute to the climate crisis and will feel its largest consequences. **We propose that the United States invest in a new Federal Public Power Program to build public renewables across the country to decarbonize faster and embed environmental justice in the new energy system.**

The results of a largely fossil-fueled energy system are already hitting hard at home, as are the costs of the US’s systemic over-reliance on centralized energy plants. Heat waves and wildfires in the West raged throughout 2020 and 2021 and cut people off from energy for days. The cold snap that crippled Texas’s power grid in 2021 hit BIPOC and working-class communities hardest with massive energy bills as well as long, cold days of disconnection.⁵ In a 2019 New York heat wave, a Black neighborhood in Brooklyn got their energy turned off to save the “greater grid”—an increasingly

common occurrence.⁶ As weather imbalances increase with the climate crisis, communities need an energy system that designs-in resilience and ensures that those most vulnerable to the new weather extremes are not the ones most exposed.

These new energy and justice crises build on old ones. Communities in the United States continue to suffer from the impacts of extraction and development of fossil fuels, as well as the noxious fumes and carbon they emit. Low-income families are far more likely to experience health impacts from power plants than higher-income families, and this disparity is even more harsh across racial lines. Black households bear the highest energy burdens and have the highest average exposures of any racial group—revealing the extreme inequities embedded in the current energy system’s hegemonic use of fossil fuels.⁷

US state and federal policies have made a difference in the transition but face ongoing challenges. The Lawrence Berkeley National Lab attributes an estimated 45 percent of renewable energy growth to states’ Renewable Portfolio Standards, which require a certain amount of energy in the state to come from renewable resources.⁸ However, corporate utilities and GOP members have coordinated well-funded campaigns to either stop or weaken the

3. Christian Roselund, “Solar Grew 48x over the Last 11 Years. What Will the Next 11 Bring?,” *PV Magazine*, March 25, 2019, <https://pv-magazine-usa.com/2019/03/25/solar-grew-48x-over-the-last-11-years-what-will-the-next-11-bring/>.

4. US Energy Information Administration, “How Much of U.S. Energy Consumption and Electricity Generation Comes from Renewable Energy Sources?,” accessed June 22, 2022, <https://www.eia.gov/tools/faqs/faq.php?id=92&t=4#:~:text=How%20much%20of%20U.S.%20energy,about%2019.8%25%20of%20electricity%20generation.>

5. Oriana Gonzalez, “Texas Power Outage Highlights Inequalities for Minority Neighborhoods,” *Axios*, February 17, 2021, <https://www.axios.com/2021/02/17/texas-power-outage-minority-neighborhoods-inequality>.

6. Justine Calma, “During Deadly Heat Wave, New York Utility Cut Power to High-Risk Neighborhoods,” *Grist*, July 23, 2019, <https://grist.org/article/during-deadly-heat-wave-new-york-utility-cut-power-to-high-risk-neighborhoods/>.

7. Maninder P. S. Thind, Christopher W. Tessum, Inês L. Azevedo, and Julian D. Marshall, “Fine Particulate Air Pollution from Electricity Generation in the US: Health Impacts by Race, Income, and Geography,”

Environmental Science & Technology 53, no. 23 (November 2019), 14010–14019, <https://doi.org/10.1021/acs.est.9b02527>; Ariel Dreihobl, Lauren Ross, and Roxana Ayala, “How High Are Household Energy Burdens?,” American Council for Energy Efficient Economy, September 2020, <https://www.aceee.org/sites/default/files/pdfs/u2006.pdf>.

8. Galen L. Barbose, US Renewables Portfolio Standards 2021 Status Update: Early Release, Lawrence Berkeley National Lab, Berkeley, California, 2021, <https://emp.lbl.gov/publications/us-renewables-portfolio-standards-3>.

9. Ingrid Behrsin, Sarah Knuth, and Anthony Levenda, “Thirty States of Renewability: Controversial Energies and the Politics of Incumbent Industry,” *Environment and Planning E: Nature and Space*, 5, no. 2 (April 2021), 762–786, <https://doi.org/10.1177/25148486211006340>. For instance, after over five years of struggle, in 2022, Arizona’s public utility commission shot down the state’s 100 percent carbon-free energy standard. Ryan Randazzo, “In Major Reversal, Arizona Utility Regulators Kill 100% Clean-Energy Rules in the State,” *AZ Central*, January 26, 2022, <https://www.azcentral.com/story/money/business/energy/2022/01/26/arizona-corporation-commission-votes-down-carbon-free-energy-rules-3-2/9227048002/>.

standards.⁹ The federal government's two big tax breaks, the investment and production tax credits (ITC and PTC respectively), have also been a key driver of renewables growth over the last two decades, but tax credits provide big wins for Wall Street while stacking the deck against public and nonprofit renewable energy development.¹⁰ Meanwhile, policymakers have tried for 25 years to pass a national Clean or Renewable Portfolio Standard, with no success yet.¹¹

To date, most strategies to increase renewable energy either have acquiesced to the status quo of corporate utility ownership, or have taken a more neoliberal approach by coupling renewable energy goals to deregulation policies.¹² Advocates have called for an opening up of the market, arguing that “consumer choice” and wholesale markets will kickstart a power sector transformation.¹³ While there are many reasons for the slow deployment of renewable energy,¹⁴ deregulation has proven an ineffective silver bullet and has not brought the level of renewables necessary.¹⁵

Congress did pass the Inflation Reduction Act (IRA) in summer 2022 after long, drawn-out negotiations through 2021 and 2022. The bill stands as the biggest

climate investment ever in the United States, but pales in comparison to the investment needed to meet the scale of the crisis and only includes a fraction of the investment of predecessor proposals. The IRA doubles down on tax incentive structures as the United States' key strategy to deploy clean energy by extending and expanding them for ten years to give developers investment security. Notably, the bill reorganizes the tax credits so they are less reliant on Wall Street bank pass-throughs and creates additional incentives for prevailing wages, environmental justice investments, and domestic manufacturing— all huge wins. However, the IRA applies an “all-of-the-above” strategy to energy infrastructure by doling out subsidies to dangerous distractions like carbon capture and storage, a technology largely used by fossil fuel companies to prolong their viability in a net zero future, and requiring a quid-pro-quo of oil and gas leases for offshore wind leases.¹⁶ In addition to constructing Gulf South sacrifice zones through its leasing requirements, the bill only directly invests about 16 percent of the \$369 billion in climate funding on disadvantaged communities, according to Sylvia Chi, a Senior Strategist at the Just Solutions Collective.¹⁷

10. Sarah Knuth, “Rentiers of the Low-Carbon Economy? Renewable Energy's Extractive Fiscal Geographies,” *Environment and Planning A: Economy and Space* (December 2021), <https://doi.org/10.1177/0308518X211062601>. Beyond the ITC and PTC, more general federal tax breaks such as depreciation allowances also help renewable projects pencil out. Trieu Mai, Wesley Cole, Eric Lantz, Cara Marcy, and Benjamin Sigrin, “Impacts of Federal Tax Credit Extensions on Renewable Deployment and Power Sector Emissions,” *NREL*, 2016, <https://www.nrel.gov/docs/fy16osti/65571.pdf>.

11. Since 1997, 76 proposals for a national Renewable Portfolio Standard have been introduced to Congress. US Library of Congress, Congressional Research Service, A Brief History of U.S. Electricity Portfolio Standard Proposals, updated February 2021, <https://crsreports.congress.gov/product/pdf/IF/IF11316>.

12. Sung Eun Kim, Joonseok Yang, and Johannes Urpelainen, “Does Power Sector Deregulation Promote or Discourage Renewable Energy Policy? Evidence from the States, 1991–2012,” *Review of Policy Research*, 33, no. 1 (January 2016), 22–50, <https://doi.org/10.1111/ropr.12157>.

13. Emily Folk, “Energy Deregulation Opening Up Potential for Renewable Energy Future,” *Renewable Energy Magazine*, September 2018, <https://www.renewableenergymagazine.com/emily-folk/energy-deregulation-opening-up-potential-for-renewable-20180921>.

14. Seetharaman, Krishna Moorthy, Nitin Patwa, Saravanan, and Yash Gupta, “Breaking Barriers in Deployment of Renewable Energy,” *Heliyon*, 5, vol. 1 (January 2019), <https://doi.org/10.1016/j.heliyon.2019.e01166>.

15. For instance, in New York State, the Public Service Commission has mandated that Energy Service Companies (ESCOs) stop selling to low-income families because of their unscrupulous business practices that increased the cost of energy. New York State, Department of Public Service, “ESCOs Banned from Selling to Low-Income Customers in New York,” New York Public Service Commission, December 15, 2016, [https://www3.dps.ny.gov/pscweb/WebFileRoom.nsf/Web/565828CCDE596E-7B8525808A006F1803/\\$File/pr16085.pdf?OpenElement](https://www3.dps.ny.gov/pscweb/WebFileRoom.nsf/Web/565828CCDE596E-7B8525808A006F1803/$File/pr16085.pdf?OpenElement). In Texas, the marketized energy system hit full crisis mode during the 2021 storm, upending the rates and serving up bills for hundreds of dollars. Johanna Bozuwa and Jean Su, “Texas's Energy Crisis Shows Why We Need to Reform Our Privatized Energy System,” *Jacobin Magazine*, February 25, 2021, <https://jacobinmag.com/2021/02/texas-energy-crisis-privatized-system>.

16. Patrick Bigger, et al, “Inflation Reduction Act: The Good, The Bad, and The Ugly,” The Climate and Community Project, August, 2022, https://www.climateandcommunity.org/_files/ugd/d6378b_f05b177ba-6b142aaa50ca7111a91f08b.pdf.

17. Sylvia Chi, “IRA: Our Analysis of the Inflation Reduction Act,” Just Solutions Collective, 2022, <https://www.justsolutionscollective.org/solutions/jsc-ira-analysis>.

The IRA provided a useful downpayment on renewable energy development, but there is still a serious need to mobilize renewables at unprecedented rates to stem climate disaster. Time is precious, and the energy market has not proven itself to be able to move far enough, fast enough to keep up with a warming world. **Instead of pressuring utilities to transform or relying on an outdated, neoliberal handbook, the federal government could take matters into its own hands and build the renewables needed itself through a public option.**

A new Federal Public Power Program could mobilize to get a massive amount of public renewable energy online and displace old, polluting power plants. The Program could bring major regional economic development, add jobs and commerce to distressed parts of the country, and build resilience into energy systems increasingly hit by climate-related disasters. This sort of program is a way to get crucial renewable projects online to achieve our decarbonization goals, while also addressing both histories and geographies of disinvestment.

“

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The Federal Public Power Program Investments

We propose a new Federal Public Power Program that can build public renewable energy right away, by investing in existing public, Tribal, and cooperative power, as well as authorizing 10-15 Regional Power Authorities (RPAs) that can build public renewables. RPAs would act as public multi-state energy developers that coordinate investment in their regions. Developing the Federal Public Power Program as a public option for renewable energy opens space for renewable energy projects with an eye to the public good and environmental justice rather than creating another energy product from which to extract profit.

This type of program is not unprecedented in US history. In fact, expanding public and cooperative ownership over the energy system was a cornerstone of the original New Deal. In particular, the Rural Electrification Administration financed the development of hundreds of rural electric cooperatives — many of which continue to operate today — where private utilities saw little profit motive to serve.¹⁸ Within 10 years, the program had taken rural America from 10 percent access to electricity to 90 percent.¹⁹ This is the sort of scale and ambition necessary to pull off another energy transformation. The New Deal also experimented with regional economic development through power buildout with projects like the Tennessee Valley Authority (TVA) that electrified the Southeast region, and Power Marketing Administrations, like the Bonneville Power Administration, which currently market and transmit hydroelectric power throughout the American West and South.

Much like the rural electrification challenge, today's energy and climate crisis is a call for the federal government to step in where the market and utility incumbency has failed to move. However, in a far more electrified and crowded energy system, the Federal Public Power Program stands apart from its predecessors, having to navigate differentiated and complex regulatory, political, and environmental contexts. It also seeks to build beyond

the legacies of the New Deal, which often failed to address, or even further entrenched, racial injustice. In contrast, the Federal Public Power Program will explicitly embed commitments to BIPOC and working-class communities within its programming and development practices.

We propose injecting the upfront capital necessary to catalyze renewable energy development when the projects are most financially intensive. Considering the social value of transitioning the energy sector, the funds should be delivered through direct funding so that institutions covered by this program are more able to invest in projects for the public good and decarbonization, even if they do not return any profit.²⁰ The Federal Public Power Program should use forgivable loans as a strategy to enforce funding terms (much like the federal government did in the CARES Act's Paycheck Protection Program), forgiving the loans if the funds are used for the intended program goals.²¹ However, we see this funding as a long-term strategy to design a more just energy system, and therefore the Program should be funded in perpetuity beyond the first 10 years. Importantly, we propose that a minimum 40 percent of all investments go directly into BIPOC and working-class communities and that any net revenue generated from the Program be reinvested to directly tackle energy poverty in the United States. The initial appropriation would:

- **Authorize 10-15 Regional Power Authorities (RPAs) to coordinate** public renewables. RPAs would be determined via cross-cutting consideration of regional resources and needs.
- Provide **grants and forgivable loans to existing publicly owned and cooperative utility energy providers** to build renewable energy.²²
- Provide **grants and forgivable loans for Tribal Nations** to develop new renewable energy projects.

18. Abby Spinak, "Not Quite So Freely as Air": Electrical Statecraft in North America," *Technology and Culture* 61, no. 1 (2020): 71–108, <https://doi.org/10.1353/tech.2020.0033>.

19. National Rural Electric Cooperative Association, "History: The Story Behind America's Electric Cooperatives and NRECA," accessed June 22, 2022, <https://www.electric.coop/our-organization/history>.

20. On the benefits of direct public funding as compared to financing or crowding in private finance into public interests, see Mark Paul, "Why Muddle the Public Side of the Green New Deal?," *The American Prospect*, December 2, 2020, <https://prospect.org/economy/why-muddle-the-public-side-of-the-green-new-deal/>.

21. US Department of the Treasury, "Paycheck Protection Program (PPP) Information Sheet: Borrowers," accessed June 22, 2022, <https://home.treasury.gov/system/files/136/PPP--Fact-Sheet.pdf>.

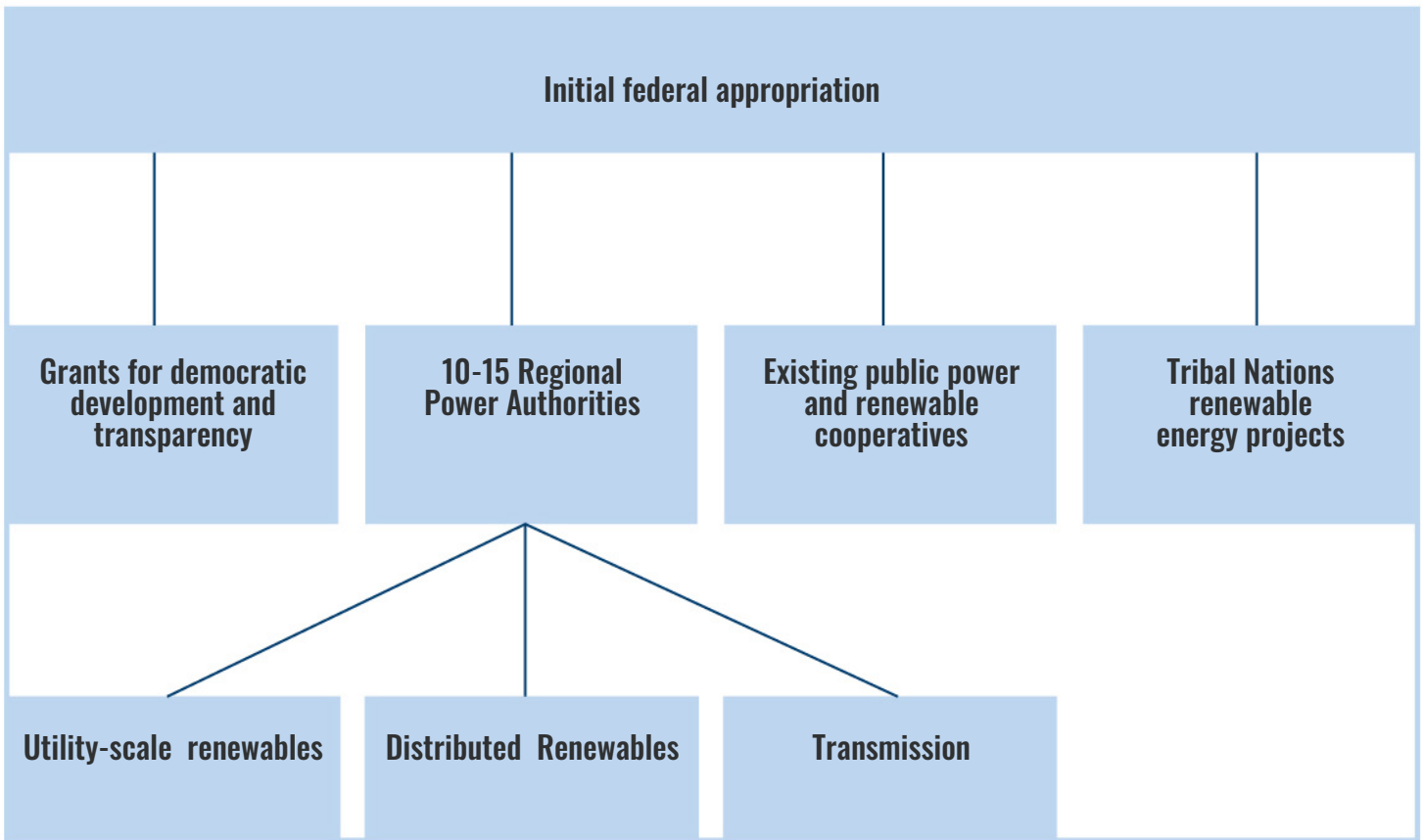


FIGURE 1. Federal Public Power Program Funding Streams

- Provide **grants for democratic development and transparency** to establish and support a set of Power Observatories—an important oversight mechanism for RPAs—and to further fund democratization of existing utilities under the Program.

We believe that the proposed Federal Public Power Program can change the landscape of energy in the United States. We think this level of investment, paired with intentional implementation, will **help stop the financialization of the energy transition, displace corporate energy power, prioritize planning and environmental justice, and insert community needs into public institutions.**

As authors, our goal is to catalyze a renewable energy transformation grounded in the belief that access to clean, reliable energy is a human right. This proposal does not intend for the federal government to provide all

the renewable energy to the grid at the outset, but instead to significantly increase the amount of renewable energy on the grid, create well-paid public renewable energy jobs, push the transition in the market toward renewable energy to keep up, and help grow an innovative, high-roads manufacturing sector to provide the component parts necessary for energy projects built. The Federal Public Power Program is one step in a larger mosaic of funding, policy, and planning to achieve energy as a human right.

22. The grant and loan recipients also include Community Choice Aggregators as well as wholesale public providers like the TVA, the Power Marketing Administrations, Generation and Transmission Cooperatives, and Joint Action Agencies. We propose forgivable loans in addition to grants, so that if an entity receiving funds from the program does not achieve the set-out goals, the grants can be reorganized as loans.

Stopping the Financialization of the Transition

The Federal Public Power Program injects straightforward investments in the form of grants or forgivable loans directly into the electricity system, stopping the sector's financialization. While never intended to be a backdoor subsidy for Wall Street and big energy companies, the ITC and PTC—the strongest form of Federal incentives for renewables—have mutated into a major tax shelter for banks until recently. Essentially, upfront tax breaks do not do much to help new solar and wind projects that are not generating income yet, are inaccessible to nonprofit or public entities that do not pay taxes.²³ To get the value of the incentives and make project costs pencil out, most must go to massive banks like JP Morgan or Bank of America and try to “sell” their tax break in return for funds, via complex and costly deals known as tax equity partnerships.²⁴

The IRA of 2022 changed the tax incentive structure in an important way by offering direct pay as an option that allows companies, governments, and nonprofits to receive the tax incentive as a reimbursement. The change should give the developers more latitude to sidestep the banks to access the credit.²⁵ This is a big development and could beneficially support renewables financing, especially for nonprofit or governmental actors. However, these changes still largely rely on a market-based approach to renewable energy development and do not truly level the playing field—nonprofits and governments still face major disadvantages competing with entrenched private players who have unequally benefited from past subsidies. We need a more robust, comprehensive funding of the renewable energy transition. At the writing of this report, we have yet to see the new policy deployed and thus will have yet to see how it will affect financing decisions.

Tax credits are not the only piece of the renewable financing puzzle, though. Most renewable energy projects heavily rely on capital markets for development, taking out debt from banks and other private lenders. Though other countries have avoided the US's particular pre-IRA abuses, rising monopoly ownership of renewables by transnational corporations is a global concern, abetted by dominant forms of private finance.²⁶ Meanwhile, publicly owned and nonprofit utilities have increasingly relied on municipal bond markets for public-good projects, particularly in the form of revenue bonds. The form of public finance was pioneered by Robert Moses, the (in)famous New York City “power broker” in the 1920s. Urban redevelopment policies pioneered by Moses notoriously displaced thousands of Black and minority neighborhoods to make way for highways, and created revenue bonds as an innovative new financing mechanism (once that has become the basis for decades of urban ‘financialization’ since),^{27 28} Revenue bonds are a special bond type that allows money-making infrastructures to “pay for themselves” via collecting fees, tolls, and other revenues—and, crucially, avoid processes of democratic approval needed to take out conventional general obligation bonds. Reliance on these forms of bond market debt pushes public institutions to keep renewable projects making money so they can pay back private lenders—even as renewables become much cheaper. Plummeting costs of renewables should be a win for energy cost-burdened communities and the broader public. Within this system, the plummeting costs of renewables instead become a potential hazard and source of perverse incentives.

The financialization of the energy transition means higher complexity of renewable energy deals, more focus on return on investment than delivering the public value of an energy transition, and limiting the agency of

23. Mostly owned by IPPs rather than IOUs, according to the National Renewable Energy Laboratory (NREL): “IPPs owned the majority of new U.S. generating capacity from 2010 to 2018 . . . [and] the IPP ownership percentage is significantly higher for renewable energy assets than fossil assets” (3–4). For example, as of 2019, IPPs' ownership share of projects was upwards of 70 percent for utility-scale solar photovoltaic, almost 80 percent of onshore wind, and 100 percent for offshore wind (though few of the last have been completed in the US). David Feldman, Mark Bolinger, and Paul Schwabe, “Current and Future Costs of Renewable Energy Project Finance Across Technologies,” NREL, July 2020, <https://www.nrel.gov/docs/fy20osti/76881.pdf>.

24. Banks are free to say no and often do, particularly to smaller-scale developers and projects. Sarah Knuth, “Rentiers of the Low-Carbon Economy? Renewable Energy's Extractive Fiscal Geographies,” *Environment and Planning A: Economy and Space* (December 2021), <https://doi.org/10.1177/0308518X211062601>.

25. Miguel Yañez-Barnuevo, “Clean Energy Tax Credits Get a Boost in New Climate Law,” Environmental and Energy Study Institute, September 2022, <https://www.eesi.org/articles/view/clean-energy-tax-credits-get-a-boost-in-new-climate-law>.

26. Lucy Baker, “Procurement, finance and the energy transition: Between global processes and territorial realities,” *Environment and Planning E: Nature and Space* (2021), <https://doi.org/10.1177/2514848621991121>.

27. Robert Caro, *The Power Broker: Robert Moses and the Fall of New York*, New York: Knopf, 1974.

28. Patrick Bigger, and Nate Millington. “Getting soaked? Climate crisis, adaptation finance, and racialized austerity,” *Environment and Planning E: Nature and Space* 3, no. 3 (2020): 601–623.

the public and nonprofit actors over projects. The Federal Public Power Program shifts the tendency to both privatize and financialize the energy transition by providing public funding for renewable energy production and prioritizing the development of public and cooperative ownership in the next energy system. The Program's predecessors like the REA and the PMAs relied on access to low-cost financing or direct funding. However, today many public and cooperative utilities have to self-finance. Considering the social value of transitioning the energy sector, we propose that the Program, particularly at the outset, provide its funding through grants or forgivable loans.

Displacing Corporate Energy Power

The Federal Public Power Program would actively put pressure on fossil fuel companies, utilities with monopoly power, Independent Power Producers (IPPs), and even big banks. First, we see the Program as an opportunity to fill the gaps the private energy sector refuses to fill. Second, we see it as a yardstick against which corporations can be judged on labor, environmental protection, and speed of deployment. Third and last, it intends to displace corporate actors from the energy sector, squeezing current Investor-Owned Utilities (IOUs) and undermining their position of authority. Importantly, RPA investments do not include distribution lines at the outset, since that would require taking over distribution from currently operating utilities and could slow down the process of renewable energy deployment. Instead, the Program largely operates within current utility and state regulatory contexts, flooding the market with low-cost, equitably developed renewable energy that can displace the political and economic power of the IOUs and IPPs. This robust public supply will also create new options for regulatory action going forward. For example, if states or utilities are not achieving decarbonization goals, the federal government could require that they buy from the Federal Public Power Program.

We ultimately believe that corporately held utilities should be transferred to public and community ownership. Within the scope of this report, we do not have the capacity to define that policy in the necessary detail. However, broadly, we anticipate that this Federal Public Power Program could catalyze IOUs to topple or attempt to exit the sector, and that access to ready funding may embolden and accelerate current public power campaigns. We generally see distribution grids as well suited for either

state or municipal management as compared to federal or multi-regional management. We believe that the federal government should create a vehicle to acquire these failing or negligent entities, support their workers through the transition, and cede them to the jurisdiction of their municipality, state, or community. Doing so could open even more space for transformational conceptions of how we pay for—and even de-commodify—energy in the United States.

Prioritizing Planning and Environmental Justice

The Federal Public Power Program offers an important tool for planning the energy transition, as well as ensuring that community needs get prioritized over profit motives. The geography of renewable energy will look different from that of the centralized, fossil fuel system of the past. It requires a different and increased amount of land use and must be able to contend with ever-increasing climate disasters.²⁹ RPAs and existing public and cooperative utilities can act as regional planning entities, coordinating renewables investments to best serve climate, environment, and community needs—a necessary departure from today's piecemeal approach, which relies on uncoordinated renewables developers with independent agendas. One of the ways we propose to embed this environmentally just planning is through a program loading order that considers the potential role of decentralized and “non-wire” investments first in addressing identified power needs and challenges, before building out utility-scale renewables or transmission lines. This reimagined loading order could not only alleviate the land-use burdens of a heavily renewable energy system, but also provide important resilience benefits by siting smaller-scale renewable infrastructure closer to its point of use. Furthermore, a key concern for rural communities has been continued extraction from their land for the benefit of urban environments—for example, the siting of big infrastructure like transmission that has historically done little to benefit such communities. With more energy projects likely to be sited in rural places in a transition to renewables, justly governing the relationship between rural and urban communities could ensure that larger-scale renewable infrastructure like utility-scale wind or transmission is developed in ways that build community wealth and provide public value.

Finally, the Federal Public Power Program's status as a publicly owned program provides the opportunity to embed environmental justice into the mandate at the

29. Dave Merrill, “The U.S. Will Need a Lot of Land for a Zero-Carbon Economy,” *Bloomberg*, June 3, 2021, <https://www.bloomberg.com/graphics/2021-energy-land-use-economy/>.

outset. The Program could be a way for President Biden to deliver on his commitment to Justice40—requiring that 40 percent of benefits of federal climate investments go to environmental justice communities. It could also take that commitment further. Instead of focusing on “benefits of investments” (a somewhat hard concept to measure), control through a public authority would mean that the President could simply invest directly into environmental justice communities.³⁰ We discuss implementation further in the Cross-Cutting Priorities section below.

Putting the Community into Public

This is a proposal to expand publicly owned power. We see public ownership as a tool to produce higher accountability to community members (in a way that is more easily organizable than with private actors), shift control over the energy transition, and make investment decisions that go beyond profit. Not all publicly owned or cooperative utilities have flawless histories, though. Even when coming out of radical histories, they can become manipulated or experience elite capture.³¹ Too often, top-down federal projects will ignore the particular needs or knowledge of BIPOC and working-class families. Meanwhile, more localized cooperatives or community solar schemes have experienced their own capture or in some instances have been confronted with the limitations of scale.³² We have attempted to work against such tendencies by designing systems of accountability at multiple scales, and by creating opportunities for the Program’s public institutions to work in partnership with communities. Unlike many federal funding programs, the Federal Public Power Program incorporates

funding for democratic process and transparency and creates mechanisms for community members and workers to influence Program funding decisions at multiple scales. We talk about these accountability mechanisms in more depth in the Cross-Cutting section below.

The Program eschews the public–private partnership trend that has plagued public institutions in the neoliberal era, and instead proposes that there is an under-explored role for public–public and public–community partnerships in the United States. For example, Denmark has effectively used such tools to engender support for wind being built in municipalities.³³ As Andrew Cumbers has described, “Denmark’s wind power revolution has been based upon public ownership and planned interventions but is neither a top-down state-driven process nor a grassroots achievement. Instead, it reflects the combination of grassroots social mobilization, state action and a diversified set of public ownership arrangements operating at different geographical scales.”³⁴ That model of public and community development reflects the spirit of this proposal. For instance, working with a local worker cooperative to implement rooftop solar in a low-income neighborhood may be crucial to deployment, while also building local wealth. The scale of distributed renewables—in the cost of projects, their physical appearance in community spaces, and localized resilience benefits—makes them particularly well suited to relationships with local municipalities, nonprofits, or local enterprises.³⁵ By combining a public approach with community engagement and partnership at different scales, we hope to create collective benefit and mobilize projects that would have otherwise received

30. Shalanda Young, Brenda Mallory, and Gina McCarthy, “The Path to Achieving Justice40,” The White House, Office of Management and Budget, Briefing Room (blog), July 20, 2021, <https://www.whitehouse.gov/omb/briefing-room/2021/07/20/the-path-to-achieving-justice40/>.

31. Thomas Hanna, Johanna Bozuwa, and Raj Rao, “The Power of Community Utilities: Publicly Owned and Cooperative Electric Utilities as Anchors for Community Wealth Building and a Just Energy Transition,” The Climate and Community Project and The Democracy Collaborative, April 2022, https://www.climateandcommunity.org/_files/ugd/d6378b_00d50768f59640e5949920341b611465.pdf.

32. We Own It describes the corruption that set in at the Choctaw rural electric coop: “How the Choctaw REC Member-Owners Took Back Their Coop,” We Own It, accessed June 22, 2022, <https://weown.it/choctaw-film>; Shalanda Baker notes that many community solar policies in the US suffer from flaws including barriers to entry for low- to moderate-income customers, no benefits of local control, and making a wealth transfer from utilities and taxpayers to the solar industry. Shalanda Baker, *Revolutionary Power* (Washington, DC: Island Press, 2021), 133–134.

33. Andrew Cumbers, “Making Space for Economic Democracy: The Danish Wind Power Revolution,” United Nations Research Institute for Social Development, March 8, 2013, <https://www.unrisd.org/think-piece-cumbers>.

34. Andrew Cumbers, “Making Space for Economic Democracy: The Danish Wind Power Revolution,” United Nations Research Institute for Social Development, March 8, 2013, <https://www.unrisd.org/think-piece-cumbers>.

35. Ownership models may relate to democratic enterprises at different scales. See Alec Nove, *The Economics of Feasible Socialism* (New York: Routledge, 1983); Gar Alperovitz, “Principles of a Pluralist Commonwealth,” The Next System Project, June 28, 2017, <https://thenextsystem.org/principles>.

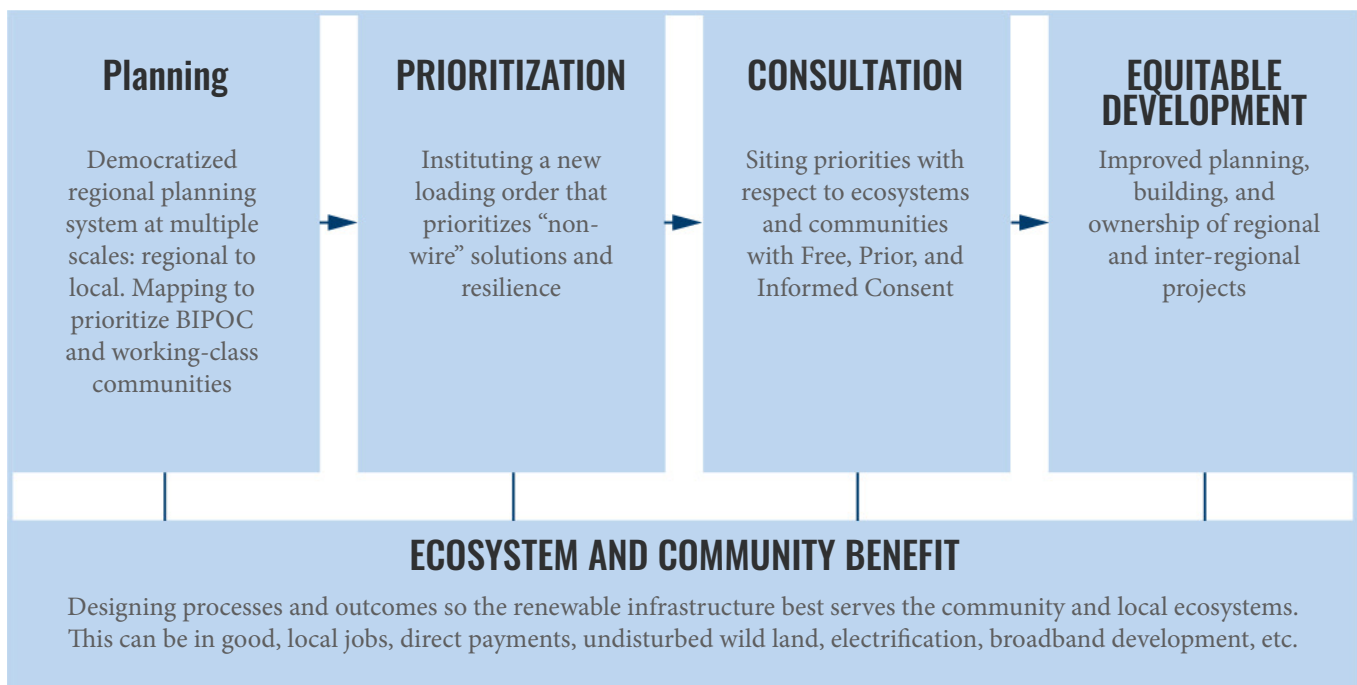


FIGURE 2. The Planning and Prioritization of the Federal Public Power Program

pushback and delays, as well as build in systems of accountability for both public and community groups.

What This Proposal Covers

In the next sections, we describe the investments in existing public, Tribal, and cooperative power. Then, we describe the new public Regional Power Authorities (RPAs) and detail their three major investment areas: distributed renewables, utility-scale renewable energy, and transmission. After that, we describe some of the cross-cutting standards and policies associated with the Federal Public Power Program, showing how investments will directly support environmental justice, democratization and governance, and labor.

One important note is that we do not include efficiency or retrofits in the scope of this report. This omission is because we believe that efficiency is such a large and crucial component of the energy transition that it deserves its own robust, although heavily coordinated, funding stream. Similarly, in this initial report we do not fully evaluate the potential for public manufacturing of clean energy products (other than through procurement systems to set high labor standards), nor map out

a program of federal support for distribution grid acquisition. Both important proposals are likewise out of the immediate scope of this report, and demand more comprehensive treatment in follow-up work.

Investing in Existing Public Power

We propose investing in existing public, cooperative, and Tribal utilities, paired with clear decarbonization and environmental justice requirements to help existing utilities transition.

Public and Cooperative Utilities

There are already hundreds of existing publicly owned and cooperatively owned utilities in the United States, serving close to 30 percent of the public.³⁶ This coverage includes whole states like Nebraska that run on public power, small rural communities, and major cities like Seattle. Community Choice Aggregators (CCAs), prolific in California, have also been used to get publicly governed renewables online.³⁷ While some public and cooperative utilities have made strides toward decarbonization, many remain entrenched in the fossil fuel system. When they have been able to develop renewables, public and

36. US Energy Information Administration, “Investor-Owned Utilities Served 72% of U.S. Electricity Customers in 2017,” August 15, 2019, <https://www.eia.gov/todayinenergy/detail.php?id=40913>.

37. Al Weinrub, “Community Choice Energy: Democratizing Municipal-Scale Power,” Local Clean Energy Alliance, February 2017, <http://www.localcleanenergy.org/files/CCA-Democratizing%20Municipal-Scale%20Power.pdf>.

cooperative utilities have largely outsourced to the private sector. The reasons for this trend range from fossil fuel incumbency and lock-in to decades of disinvestment and austerity in the public sector and lack of political will.³⁸

The Program should earmark funds to flow directly via grants and forgivable loans to existing publicly owned and cooperative utility energy providers so they can build their own renewable energy. The Program provides direct access to investment for renewable energy development, paired with clear requirements for the grants around decarbonization, environmental justice, labor, and democratization commitments to ensure the transition to equitable renewable energy in existing public and cooperative power utilities. In particular, all of the public and cooperative utilities would be required to provide Integrated Resource Plans—in other words, transition roadmaps—every five years, showing their progress toward both their decarbonization goals and their other planning targets.³⁹ These environmental justice, democratization, and labor standards will be described in more depth in the Cross-Cutting Priorities section.

With access to funding, the utilities could bring production in-house or collaborate through public–public or public–community partnerships to transition off fossil fuels. The Program would provide access to the funding to rural electric cooperatives, municipal and state utilities, and CCAs. We also suggest extending the funding to existing federal energy providers like the current Power Marketing Administrations and the Tennessee Valley Authority (TVA), as well as the wholesale public and cooperative providers called Generation and Transmission Cooperatives and

Joint Action Agencies. This funding could be game-changing for campaigns already on the ground advocating for change in places like New York, where the New York Public Power campaign is actively organizing to catalyze the state-owned New York Power Authority into a renewable energy powerhouse.⁴⁰ Similarly, many communities have taken up campaigns to municipalize or take over corporate utilities operating in their region.⁴¹ The funds through the Program could help newly developed public or community-owned utilities invest in renewable energy.

Tribal Nation Energy Sovereignty

Tribal Nations in the United States are far too often underfunded, and places of extraction and exploitation. Native reservations in the United States only cover 2 percent of US land— due to rapacious land grab tactics by white colonizers and the federal government over hundreds of years. However, that reservation land contains up to one fifth of all the coal, oil, and gas reserves in the country.⁴² This oil-rich land has brought in companies ready to exploit fuel reserves and given underfunded reservations a stream of revenue at the cost of their communities' health. For example, members of the Navajo Nation, which extends into parts of Arizona, New Mexico, and southern Utah, are two times more likely than the general population to live within a half mile of an oil and gas facility.⁴³ Native communities across the United States have pushed back on this extraction, and are building renewable energy alternatives on their land. For instance, Native Renewables, a social enterprise in Arizona, provides 15,000 Navajo families with access to and ownership of solar energy.⁴⁵

38. Thomas Hanna, Johanna Bozuwa, and Raj Rao, “The Power of Community Utilities: Publicly Owned and Cooperative Electric Utilities as Anchors for Community Wealth Building and a Just Energy Transition,” The Climate and Community Project and The Democracy Collaborative, April 2022, https://www.climateandcommunity.org/_files/ugd/d6378b_00d50768f59640e5949920341b611465.pdf.

39. Integrated Resource Plans are already required in 36 states for regulated utilities, but often do not include cooperatives or municipal utilities. Coley Girouard, “Understanding IRPs: How Utilities Plan for the Future,” Advanced Energy Perspectives (blog), August 11, 2015, <https://blog.aee.net/understanding-irps-how-utilities-plan-for-the-future>.

40. Johanna Bozuwa et al., “A New Era of Public Power: A Vision for the New York Power Authority in Pursuit of Climate Justice,” Climate and Community Project, April 22, 2021, <https://www.climateandcommunity.org/a-new-era-of-public-power>.

41. Greta Moran, “Publicly Owned Utilities Could Help Fight the Climate Crisis,” *Teen Vogue*, October 25, 2019, <https://www.teenvogue.com/story/public-utilities-energy-grid>.

42. Valerie Volcovici, “Trump Advisors Aim to Privatize Oil-Rich Indian Reservations,” *Reuters*, December 6, 2016, <https://www.reuters.com/article/us-usa-trump-tribes-insight/trump-advisors-aim-to-privatize-oil-rich-indian-reservations-idUSKBN13U1B1>.

43. “Tribal Communities at Risk: The Disproportionate Impacts of Oil and Gas Air Pollution on Tribal Air Quality,” Clean Air Task Force, 2018, https://www.catf.us/wp-content/uploads/2018/05/Tribal_Communities_At_Risk.pdf.

44. Dallas Goldtooth, Alberto Saldamando, and Kyle Gracey, “Indigenous Resistance Against Carbon,” Oil Change International, August 2021, https://priceofoil.org/content/uploads/2021/08/indigenous_resist_report_FINAL.pdf.

Considering the sovereign powers of the Tribal Nations, the federal government should allocate funds to them for renewable energy development. In deploying these funds, Tribal Nations should have the authority to make decisions about their energy future, with limited stipulations from the federal government beyond an Integrated Resource Plan and environmental justice standards. Likewise, they should have autonomy to distribute and reinvest revenues generated by this renewable energy infrastructure as they see fit. Not all Tribes are federally recognized or hold ratified treaties, and so the Federal Public Power Program should work with Tribal communities across the US as stakeholders, whether federally recognized or not, to ensure that fisheries, farmlands, hunting grounds, and other culturally important sites are protected throughout all the Program's investments.⁴⁶

Investing in New Regional Power Authorities

We propose between 10 and 15 RPAs spread across the United States that have the authority to plan, build, and operate renewable energy projects and associated infrastructure.

History of Regional Power in the US

A new regional strategy for public renewable energy development should be informed by past federal models such as the TVA and Power Marketing Administrations—their failures as well as their successes. The TVA's original “grass-roots” doctrine largely aligns

with the values of a Green New Deal: local community control, union jobs, comprehensive public planning, a “yardstick” for other renewable energy projects, and an institutional design appropriate for meeting the urgency of our climate crisis.⁴⁷ However, TVA's model cannot be mentioned without acknowledging problematic aspects of its legacy, including its own failures of democratic accountability and justice. Notably, developed within a Jim Crow South, the TVA was complicit in institutional segregation and discrimination against Black residents in the Tennessee Valley. Many Black farmers lost their land, with unequal levels of compensation and without access to the many jobs that the TVA offered. This uneven legacy continues today, as the TVA lags other utilities in solar and clean energy investment and has the second-highest planned gas buildout by 2030 among all major utilities.⁴⁸

Similarly, both the TVA and most PMAs were centrally built around big dam projects. The PMAs' founders had equally broad social visions, but in practice their scope was diminished to focus mainly on power marketing.⁴⁹ The dams developed in the era of the TVA and PMAs had massive effects on Indigenous populations, who often lost access to traditional lands, were denied adequate or appropriate compensation, or were excluded from project benefits.⁵⁰ The regional strategies of the TVA and PMAs offered cheap electricity, regional planning, and economic development—key goals still crucial to the next era of regional public power. However, in some areas these developments came with high social costs.

45. “Off-Grid Solar Power Impact on Navajo and Hopi Nations,” Native Renewables, accessed June 22, 2022, <https://www.nativerenewables.org/solar-installation/>.

46. These commitments will at least meet some of the most common features of treaties signed by the United States. See Baldy Taylor, Diver Fletcher, Houska George-Warren, and Rory Taylor Crow, “6 Native Leaders on What It Would Look Like If the US Kept Its Promises,” Vox, September 23, 2019, <https://www.vox.com/first-person/2019/9/23/20872713/native-american-indian-treaties>. For a helpful review of engaging Non-Federally Recognized Tribes, see “Guide to Working with Non-Federally Recognized Tribes in the Section 106 Process,” Advisory Council on Historic Preservation, 2018, <https://www.achp.gov/sites/default/files/whitepapers/2018-06/GuidetoWorkingwithNon-FederallyRecognizedTribesintheSection106Process.pdf>.

47. “Lilienthal also saw the TVA as an effective response to a world in the throes of decolonization . . . To prevent global exploitation of the many by an elite few, the TVA could provide an example of inclusive development that would allow people local control over their own economic futures while providing economic growth.” David Ekbladh, “Mr. TVA:

Grass-Roots Development, David Lilienthal, and the Rise and Fall of the Tennessee Valley Authority as a Symbol for U.S. Overseas Development, 1933–1973,” *Diplomatic History* 26, no. 3 (2002): 335–374, <http://www.jstor.org/stable/24914467>.

48. “New Coalition Pressures Tennessee Valley Authority to Cut Fossil-Fuel Emissions, Ramp Up Renewable Energy,” Center for Biological Diversity, April 5, 2022, <https://biologicaldiversity.org/w/news/press-releases/new-coalition-p pressures-tennessee-valley-authority-to-cut-fossil-fuel-emissions-ramp-up-renewable-energy-2022-04-05/>; Kate Tracey, “Tracking Decarbonization in the Southeast,” Southern Alliance for Clean Energy, April 14, 2021, <https://cleanenergy.org/news-and-resources/tracking-decarbonization-in-the-southeast-april-2021/>.

49. Richard White, *The Organic Machine* (New York: Hill and Wang, 1995), 65–67.

50. While not within a PMA or TVA territory, the Park Sloan Plan was developed by the Army Corps of Engineers, which also developed the PMA dams. Nick Estes, *Our History Is the Future* (New York: Verso, 2019), 139.

Crucial to the vision for RPAs proposed here is repairing harms from these past eras of federal investment while considering new ways to embed environmental justice, democracy, and labor rights into the DNA of federally funded power institutions. Today's leading renewable energy sources and technologies range much more in scale than the big dams, large-scale fossil fuel plants, and other centralized infrastructures of past regional power programs.⁵¹ This means that the RPAs have an opportunity—and environmental justice mandate—to deploy a far more multi-scalar approach, one that does not prioritize large-scale projects above all else. In employing this multi-scalar strategy, RPAs will build stronger and more democratically accountable relationships with local communities, while developing a more resilient and climate-ready grid.

Where and How the RPAs Will Operate

We propose between 10 and 15 RPAs operating at a regional scale (usually across multiple states). While we do not prescribe those regions, we believe they should be developed in a way that reflects the region's geography, culture, and regulatory context. In particular, the Federal Public Power Program's funds distribution should include both the 50 US states and US territories that the United States consistently exploits or disinvests, including the US Virgin Islands, Puerto Rico, and Guam. As a public option program for developing renewable energy, RPAs will have to engage in different regulatory contexts to deploy their resources. We discuss how they can navigate the varied energy markets in the United States in the following sections based on the different investment types.

RPAs could act as important planning bodies that consider a range of different energy infrastructure investments—planning across multifaceted needs to optimize resilience, justice, environmental impact,

and fast-paced deployment. RPAs would invest at the outset of the program in the following sorts of projects: **1) distributed renewables, 2) utility-scale renewables, and 3) transmission infrastructure.** These infrastructure investments would construct a durable public resource in their regions and are discussed in more detail below. We propose that the RPAs largely plan, develop, and operate their infrastructure in-house so as to build a large public energy workforce and keep the infrastructure development accountable to the public, as will be described in the Cross-Cutting Priorities section.

Distributed Renewables

Distributed renewables (rooftop solar, community-scale wind or solar, and battery or storage systems) build crucial resilience against grid shutoffs and weather disasters, helping to keep the power on while making regional grids more stable and able to recover from power crises. Energy storage options smooth daily and seasonal variations in power generation in a renewables-dominated grid and reduce the need for utility-scale renewables and transmission. However, for many today, installing distributed renewables can be prohibitively expensive or hard to do.⁵² Distributed renewables, especially rooftop solar, have been catalyzed to date largely through net metering programs, which allow residential and commercial customers to generate their own electricity from solar power and sell the electricity they are not using back into the grid.⁵³ However, absent robust policy support, those able to install solar or storage are households who can afford the upfront investment and own property. Homeownership and access to loans have a long history of racial bias in this country, and both tend to be preconditions for going solar, which means that solar distribution reflects pre-existing patterns of racial injustice even when controlled for income.⁵⁴

51. Even the largest wind and solar installations are eclipsed by the scale of hydropower. Today, the largest onshore wind farm in the US, the Roscoe Wind Farm in Texas, has a generating capacity of 782 MW. Meanwhile, the average US hydroelectric station has a capacity of 910 MW, and the largest, the Grand Coulee Dam in Washington, has a capacity of 6,809 MW.

52. Galen Barbose, Naim Darghouth, Eric O'Shaughnessy, and Sydney Forrester, "Tracking the Sun: Pricing and Design Trends for Distributed Photovoltaic Systems in the United States," Lawrence Berkeley National Laboratory, September 2021, https://emp.lbl.gov/sites/default/files/2_tracking_the_sun_2021_report.pdf.

53. "Net Metering," Solar Energy Industries Association, accessed November 2021, <https://www.seia.org/initiatives/net-metering>; "Net

Metering Customers and Capacity by Technology Type, by End Use Sector, 2010 through 2020," U.S. Energy Information Administration, accessed November 16, 2021, https://www.eia.gov/electricity/annual/html/epa_04_10.html.

54. Deborah A. Sunter, Sergio Castellanos, and Daniel M. Kammen, "Disparities in Rooftop Photovoltaics Deployment in the United States by Race and Ethnicity," *Nature Sustainability* 2 (January 10, 2019): 71–76, <https://doi.org/10.1038/s41893-018-0204-z>. As a result of the structural effects of redlining, many environmental justice organizations have thus been wary of single-offtaker net-metering as an effective economic justice tool. See "Energy Justice Statement on Rooftop Solar & Distributed Generation in California," California Environmental Justice Alliance, September 2021, <https://caleja.org/wp-content/uploads/2021/09/Energy-Justice-Statement-on-Rooftop-Solar-DG-in-CA-2.pdf>.

One of the clearest ways to make distributed renewables projects more accessible is by eliminating the upfront cost and treating distributed renewables as a community value— not an individual asset. In the case of this program, we propose that the RPAs install and operate public distributed renewables on buildings, households, and community centers. Basically, the public pays building owners to host distributed renewables because it builds the resilience of the building, the neighborhood, and the greater region.

RPAs should implement the project by delineating high-need neighborhoods or rural regions to prioritize—mapping the collective climate vulnerabilities, electricity network nuances, and roof capacity. Then, they can determine which buildings (standalone homes, local businesses, community centers, schools, public buildings, or multi-units) have capacity for distributed renewables. RPAs should prioritize partnering with and building on existing community and public institutions such as schools, hospitals, and churches. These spaces are often staffed by people familiar with the community who are uniquely prepared to respond to climate events and disasters.⁵⁵

At each building that elects to join the project, the DER installer can evaluate community needs and what distributed renewables can be implemented. Those building owners with the capacity to host distributed renewables then sign off on the plans for renting their space. **If the owner has tenants, at least 50 percent of the payments received by the owner must be transferred to the tenants either through lowered rental costs or direct payments.** This

split benefit is crucial to the Program—too often BIPOC or working-class families do not see investments made in their households because the landlord sees no increased value.⁵⁶ In particular, renters have been cut out of energy savings programs or net metering policies because the landlord does not pay the energy bills; the tenants do. In the Program's case, the landlord is not paying for anything, and instead is receiving a benefit in forms of payments directly from the RPA for housing the distributed renewables. These payments give landlords an incentive to participate. However, this value should not solely fatten landlord checks, but also reduce the rent burden of those living in the community.

RPAs and Distribution Utilities

The RPA can negotiate directly with the local utility to sell electricity from distributed renewables back to the grid. Instead of multiple small actors negotiating with large utility companies or relying upon increasingly weak net metering policies,⁵⁷ the RPA's aggregation would increase the scale and therefore power of small actors.⁵⁸ In states with Regional Transmission Organizations (RTO) or Independent Service Operators (ISO), the RPAs could also sell as DER aggregators directly on the wholesale market.⁵⁹ In the case of the RPA working in partnership with a local publicly owned utility or cooperative, the RPA could essentially provide a low- or no-interest loan to the utility for the installation, rental payment, or both. In turn, the public or cooperative utility would own the DER and pay back the RPA loan over time out of its share of the revenue generated from the installation.

55. This draws from the “Resilience Hub” model put forth by APEN and BlueGreen Alliance. See Zach Lou, Ameet Raval, Marguerite Young, and Sam Appel, *Resilience Before Disaster: The Need to Build Equitable, Community-Driven Social Infrastructure*, Asian Pacific Environmental Network, SEIU California, SEIU 2015, BlueGreen Alliance, September 2020, <http://apen4ej.org/wp-content/uploads/2020/10/Resilience-Before-Disaster-FINAL-UPDATED.pdf>.

56. Often referred to as the “split incentive problem”; see Marilyn A. Brown, Anmol Soni, Ameet D. Doshi, and Charlotte King, “The Persistence of High Energy Burdens: A Bibliometric Analysis of Vulnerability, Poverty, and Exclusion in the United States,” *Energy Research & Social Science* 70 (December 2020), <https://doi.org/10.1016/j.erss.2020.101756>.

57. Ingrid Behrsin, Sarah Knuth, and Anthony Levenda, “Thirty States of Renewability: Controversial Energies and the Politics of Incumbent Industry,” *Environment and Planning E: Nature and Space* 5, no. 2 (April 24, 2021): 762–786, <https://doi.org/10.1177/25148486211006340>. For instance, after over five years of struggle, in 2022 Arizona's public utility commission shot down the state's 100 percent carbon-free energy

standard. See Ryan Randazzo, “In Major Reversal, Arizona Utility Regulators Kill 100% Clean-Energy Rules in the State,” *Azcentral.com*, January 26, 2022, <https://www.azcentral.com/story/money/business/energy/2022/01/26/arizona-corporation-commission-votes-down-carbon-free-energy-rules-3-2/9227048002/>.

58. For example, as individual households who install rooftop solar are compelled to do. These numerous smaller-scale interconnections fall under the power of IOUs and state-level regulators (one reason customer net-metering programs have faced difficulties in states with resistant incumbent utilities and regulators). In deregulated states, DER aggregators can now bypass these distribution utilities and deal directly with ISOs/RTOs.

59. In 2020, the Federal Energy Regulatory Commission (FERC) signed off on allowing DER aggregators to enter ISO/RTO-operated wholesale power markets. Bud Earley and Mark Perlis, “FERC Opens Electricity Markets to Distributed Resource Aggregators,” *Power Magazine*, November 7, 2020, <https://www.powermag.com/ferc-opens-electricity-markets-to-distributed-resource-aggregators/>.

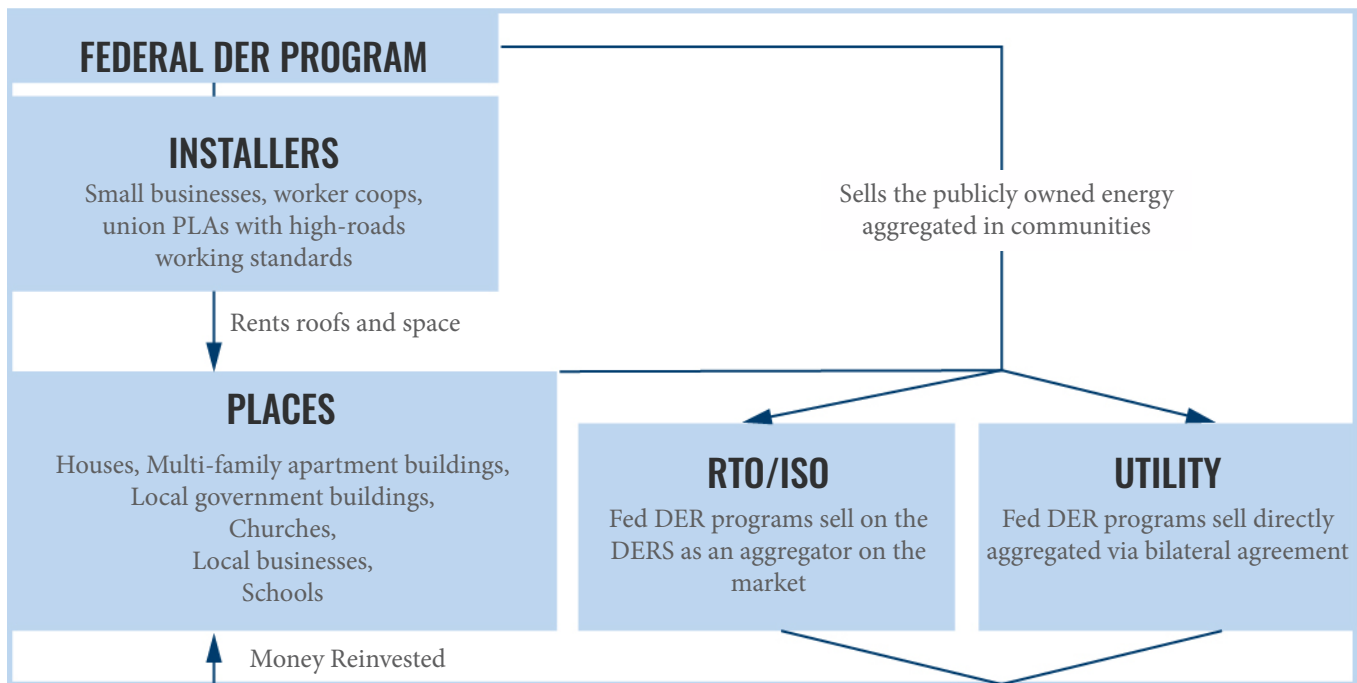


FIGURE 3. How the Public Option for Distributed Renewables Works

Distribution utilities have been known to slow down or even block distributed renewable interconnections to their grids to disincentivize projects. An individual family or small business’s ability to wait out long interconnection timelines is much less than that of a large, well-funded public entity with the public interest in mind. The RPAs have the funding capacity to wait out utility interconnection games that individual households or buildings cannot.

Utility-Scale Renewables

There is a need to move the energy transformation faster than can be done with private markets alone, and to ensure that investments prioritize vulnerable communities. While the Program prioritizes distributed renewables in its planning and development, we believe that utility-scale projects will have to be part of the solution. Urban areas require the most energy use, and even with rooftop solar and urban-sited renewable energy, cities will need to draw additional energy.

RPA investments in utility-scale renewable energy projects counter the private energy model in dual ways: both because they have the potential to mobilize renewable energy quickly and because they can foreground a larger regional development strategy that considers factors beyond price.⁶⁰ As a federally funded institution, the Program would have the authority to build renewable energy itself instead of waiting for the market while providing private giveaways in attempts to incentivize or “crowd in” market actors. In addition, as new institutions, the RPAs do not have a legacy of investments in fossil fuel infrastructure, making them far nimbler in moving into renewable energy projects than many incumbent companies.

Environmental justice advocates have often been wary of utility-scale renewable development. Utility-scale renewables differ from distributed renewable energy because the value of utility-scale development is often less direct for BIPOC and working-class families in its current conception.⁶¹ Since distributed renewables have relied on net metering, they can bring individualized value directly to a household via lowered bills.⁶² For utility-scale solar, the value of the project largely stays with the

60. This could alleviate the new planning for new natural gas for reliability issues, and focus on renewables and storage. *Considering Gas Capacity Upgrades to Address Reliability Risk in Integrated Resource Planning*. California Public Utilities Commission, Staff Paper (2021), <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltp-p/2019-2020-irp-events-and-materials/cpuc-gas-upgrades-staff-paper-october-2021.pdf>.

61. A clear example is the Cooperative Energy Futures model in Minneapolis, Minnesota. “Cooperative Energy Futures,” accessed April 2022, <https://www.cooperativeenergyfutures.com/>.

62. As discussed earlier, traditional single-offtaker net-metering policies predicate home ownership or high credit, conditions rooted in the structural effects of redlining.

developer or financiers, utilities with shareholders, or spread across all the ratepayers without the reparative potential of direct investment—meaning BIPOC and working-class communities feel less of the value.⁶³

Publicly owned utility-scale renewables offer an opportunity to flip the script by collectivizing the value of utility-scale projects. This can come in the form of local jobs, lowered costs, Community Benefits Agreements, less pollution, effective land use, and more. RPAs can run a coordinated and equitable process of siting consultation, and work in direct partnership and collaboration with local communities. In particular, the RPAs should identify synergies between rural needs and the need for renewable energy space. For example, RPAs’ planning can include strategies such as “agrivoltaics,” in other words the co-development of both solar systems and agriculture. This sort of deliberate land use can alleviate land use competition, provide new forms of value in rents to farmers, and increase social acceptance of renewable energy.⁶⁴ Working in direct partnership and collaboration with local communities to plan renewable energy development and share the value of that investment is a crucial way to achieve both fast-paced deployment and environmental justice.

Handling the Patchwork of State Regulation

The United States consists of a patchwork of different state regulatory structures. They range from fully “vertically integrated” (the utility owns the generation, transmission, and distribution) states like Georgia to highly deregulated, marketized systems like Texas, where both the wholesale markets and the consumer markets are open. The RPAs need to be able to operate within each, and even across state lines. This will require a range of different contracts to sell the renewable energy onto the grid:

- **Public Power and Cooperatives:** RPAs can provide renewable energy to public or cooperative utilities.
- **Vertically Integrated States:** States like Georgia or Alabama where the utilities control generation through distribution will require bilateral agreements

with the utilities in which the RPA directly negotiates with the utility companies to sell their energy.

- **Wholesale Deregulated States:** In states where energy can be developed by IPPs or other actors, the RPAs can enter into bilateral agreements with the distribution utilities in the region or directly sell the energy on the open market.
- **Fully Deregulated States with Consumer Choice:** In states like Ohio or Texas, the RPA can create a public option for power, providing energy to consumers directly.

Transmission

Transitioning away from fossil fuels makes effective long-distance electricity transmission even more crucial—much utility-scale renewable power generation will be sited where sun, wind, and other renewables are strongest, often away from centers of demand. Simply put, insufficient transmission means power produced cannot flow to where it is needed. The scale and geography of the transition to renewables will undoubtedly require new transmission lines. However, equally central to the Program’s vision are limiting the need for new transmission, and effectively planning transmission development—both what is built and what is not built. Prioritizing distributed renewable technologies and “non-wires” solutions to grid challenges will reduce the need to build more long-distance transmission, as well as help limit blackouts from climate-induced storms and wildfires.⁶⁵

Building new lines is frequently slow, costly, and politically controversial. Siting has been marked by conflict, with communities protesting that proposed new lines harm views, regional ecologies, culturally significant and sacred sites, and land values, while contributing little to the communities they pass through—and sometimes significantly harming them. Contributing to this problem is a broader breakdown in US transmission planning. Federal reforms have favored market-based deregulation in response to allegations of unfair access to transmission on behalf of energy generators—including

63. Jenny Heeter and Tony Reames, “Incorporating Energy Justice into Utility-Scale Photovoltaic Deployment: A Policy Framework.” *Renewable Energy Focus* 42 (September 2022): 1–7, <https://doi.org/10.1016/j.ref.2022.04.003>.

64. Alexis S. Pascaris, Chelsea Schelly, Laurie Burnham, and Joshua M. Pearce, “Integrating Solar Energy with Agriculture: Industry Perspectives on the Market, Community, and Socio-Political Dimensions of Agrivoltaics,” *Energy Research & Social Science* 75 (May 2021), <https://doi.org/10.1016/j.erss.2021.102023>.

65. Transmission itself can spark wildfires, as under-invested PG&E lines did in 2019. Katherine Blunt and Russell Gold, “PG&E Knew for Years Its Lines Could Spark Wildfires, and Didn’t Fix Them,” *Wall Street Journal*, July 10, 2019.

renewables.⁶⁶ Still, private actors have been slow to enter the space meaningfully.⁶⁷ Between 2013 and 2017, only 3 percent of ISO and RTO transmission investments were made under competitive bidding processes.⁶⁸

Meanwhile, ISOs, RTOs, and IOUs continue to systematically under-invest in the large-scale regional transmission infrastructure, opting to instead pass on the cost of large-scale grid upgrades to new projects seeking access.⁶⁹ As more renewable projects try to connect, interconnection queues have lengthened and interconnection fees have ballooned—from approximately 10 percent of projects’ total costs a few years ago to 50–100 percent today.⁷⁰ These cost jumps and long delays have halted hundreds of projects⁷¹ and provoked mounting calls for better regional planning to more equitably disperse costs and expand infrastructure in a more forward-looking way.⁷²

We suggest a more transformative rethinking: a public option for transmission. This program would provide a game-changing wave of federally funded, planned, and built transmission infrastructure organized through the new RPAs. As public entities with a regional and inter-regional mandate, long-term planning horizons, and an ability to absorb the financial risks of transmission development, the RPAs would be better able to build the projects needed than incumbent IOUs, ISOs or RTOs, or non-utility private players. Unlike new

proposed private transmission developers bidding on open markets, RPAs would not have profit-driven incentives to raise the costs of interconnecting or contracting for use of their lines and could deliver interconnection at cost or at a discount.⁷³ Over the longer term, RPAs provide an important pathway toward nationalization of transmission, building and coordinating a climate-ready grid in a way ISOs and RTOs have been unable to.

Publicly funded and operated transmission also can consider thoughtfully what, how, and where transmission is built. Its mandates should include leading on innovative new ways of integrating DER resources and aggregators into the transmission grid and on other smart grid solutions that can improve the overall resilience of regional grids.⁷⁴ Besides linking transmission siting to DERs, RPAs should prioritize transmission siting in corridors that minimize harm and disruption, while advancing potential co-benefits. Important possibilities exist for co-locating new transmission with existing federal infrastructure such as highway and rail lines, prioritizing these already disrupted sites, and even co-locating other valuable infrastructure like broadband development.

The Relationship with ISO/RTOs and IOUs

The new RPAs would have overlapped jurisdiction with existing ISO or RTO service territories,

66. Though power cooperatives may also own and operate their own transmission lines, they have typically depended on IOUs’ larger networks as well. See Ari Peskoe, “Is the Utility Transmission Syndicate Forever?,” *Energy Law Journal*, forthcoming (March 8, 2021), <https://doi.org/10.2139/ssrn.3770740>.

67. For instance, in 2011, FERC Order 1000 rolled back incumbents’ “natural monopoly” over regional/inter-regional transmission development and ownership.

68. Johannes Pfeifenberger, Judy Chang, and Michael Hagerty, “Cost Savings Offered by Competition in Electric Transmission, Experience to Date and Potential Value for Electricity Consumers,” Power Markets Today Webinar, lecture, accessed 2022, https://www.brattle.com/wp-content/uploads/2021/05/17805_cost_savings_offered_by_competition_in_electric_transmission.pdf.

69. FERC rules allow ISOs/RTOs to pass on the cost of large-scale grid upgrades to individual projects even though other transmission customers and the grid also benefit from the upgrades.

70. Catherine Morehouse, “FERC Launches Proceeding to Reform Transmission Policy,” *Utility Dive*, July 16, 2021, <https://www.utilitydive.com/news/ferc-launches-proceeding-to-reform-transmission-policy/603416/>.

71. FERC Order 2003 is particularly at fault here, causing major queues, withdrawals, and cumbersome planning (and re-planning) processes. For example, one estimate suggests that over 278 projects were withdrawn from Midcontinent Independent System Operator’s (MISO) regional queue in 2016–2020. See Julie Lieberman, “How Transmission Planning & Cost Allocation Processes Are Inhibiting Wind & Solar Development In SPP, MISO, & PJM,” American Council on Renewable Energy, Concentric Energy Advisors, March 2021, <https://acore.org/wp-content/uploads/2021/03/ACORE-Transmission-Planning-Flaws-in-SPP-MISO-and-PJM.pdf>.

72. Jeff St. John, “Report: Renewables Are Suffering From Broken US Transmission Policy,” Greentech Media, January 12, 2021, <https://www.greentechmedia.com/articles/read/report-renewables-are-suffering-from-broken-u.s-transmission-policy>.

73. This includes, though is not limited to, interconnection services for projects built by RPAs themselves, or interconnection to other RPA-owned grids.

74. As recently authorized by FERC Order 2222 for ISO/RTO wholesale markets.

and alongside IOUs in the Southeast and West.⁷⁵ In this way, RPAs would serve as a valuable federally funded resource for mitigating ISOs' and RTOs' current strategic grid management and resilience challenges.

- **In regions served by existing ISOs or RTOs:** RPAs will have a seat at the table to advance regional and inter-regional interests and planning priorities, and to advance projects in line with their twin federal mandate.
- **In regions without existing RTOs or ISOs:** In Southeastern and Western regions where IOUs still maintain vertically integrated monopolies, RPAs will strengthen regional planning processes. RPAs will also be empowered to build out transmission and upgrades to better serve the needs of existing public providers such as power cooperatives and municipal utilities.

⁷⁵ In this way, similar to the overlapping jurisdiction ISOs/RTOs already have with IOUs, cooperatives, and existing public power entities in their service areas.

CROSSING-CUTTING PRIORITIES

In this section, we develop key cross-cutting priorities for all the major investments deployed via the Federal Public Power Program. Specifically, we discuss how the Program will embed environmental justice, strengthen democracy, and uphold labor values.

Environmental Justice

Within the United States, BIPOC and working-class communities have borne the disproportionate burdens of an extractive energy system. These communities are not only more likely to have faced historical environmental or economic injustice, but citizenship status, income, credit, race, and other factors play an important role in defining their ability to relocate, rebuild, or otherwise adapt to future climate shocks.⁷⁶ The Federal Public Power Program offers an opportunity to move beyond solely a decarbonization framework, through providing energy as a public good while acknowledging and addressing harms created by the US's public and private legacies of energy investment.⁷⁷

Communities harmed by today's fossil-dominated energy system must be present in designing, controlling, and evaluating the Federal Public Power Program.⁷⁸ **To do so, we propose that 1) 40 percent of all investments go directly to environmental justice communities, 2) any profits generated from this Program not used for system reinvestments be invested in environmental justice communities, and 3) infrastructure developed through the project be sited with respect and community benefit.**

76. "Some people who retreat from a coastline will have access to money or credit to manage the financial costs of relocation, a passport or citizenship status that will widen their legal relocation options, and a social status that will make their new communities likely to welcome them. Many others will lack some or all of these advantages: they will be cash-poor and indebted, have a citizenship status that radically curtails their mobility, or a social status that draws stigma and violence. These outcomes aren't purely geographical; they are shaped by our social and political arrangement," quote from Olúfẹ́mi O. Táíwò, "The Fight for Reparations Cannot Ignore Climate Change," *Boston Review*, January 10, 2022; Aneesh Patnaik, Jiahn Son, Alice Feng, and Crystal Ade, "Racial Disparities and Climate Change," August 15, 2020, <https://psci.princeton.edu/tips/2020/8/15/racial-disparities-and-climate-change>. <https://bostonreview.net/articles/the-fight-for-reparations-cannot-ignore-climate-change/>.

77. Olúfẹ́mi O. Táíwò, *Reconsidering Reparations* (New York: Oxford University Press, 2022)

Justice40

First, investments under the Program should directly transition to low-income and BIPOC neighborhoods, as well as be prioritized in project timelines. President Biden committed to the Justice40 initiative that requires the federal government "to deliver at least 40 percent of the overall benefits from federal investments in climate and clean energy to disadvantaged communities."⁷⁹ The Justice40 initiative arose from the work of environmental justice organizers in California and New York who fought to embed commitments in the states' major climate legislation; a larger coalition then fought for President Biden to incorporate it into his climate plan. Some environmental justice groups have critiqued the commitment because it does not require 40 percent of investment, but rather 40 percent of the "benefit of investment." This distinction has led to a complex accounting system with different parts of the federal government using different measurements.⁸⁰

Here, we propose that the Federal Public Power Program require all RPAs and utilities that receive funds to prove that at least 40 percent of the money received is directly invested in environmental justice. In the event that they are unable to achieve this goal, the grants would turn into loans paid back to the federal government and then redirected into BIPOC and working-class communities. In California, the CalEnviroScreen program, developed by the California Environmental Protection Agency, is designed to help identify communities disproportionately impacted by

78. See the Just Transition framework designed by Movement Generation and the Our Power Campaign: "Just Transition, A Framework for Change," Climate Justice Alliance, February 14, 2022, <https://climatejusticealliance.org/just-transition/>.

79. Shalanda Young, Brenda Mallory, and Gina McCarthy, "The Path to Achieving Justice40," The White House, Office of Management and Budget, Briefing Room (blog), July 20, 2021, <https://www.whitehouse.gov/omb/briefing-room/2021/07/20/the-path-to-achieving-justice40/>.

80. Jean Chemnick, "On Anniversary of Biden's EJ Order, Is Justice40 Delivering?," *E&E News*, January 27, 2022, <https://www.eenews.net/articles/on-anniversary-of-bidens-ej-order-is-justice40-delivering/>.

environmental injustices: it collects pollution and income data for equitable policy design.⁸¹ The Federal Public Power Program should heed the adage that “what gets measured gets managed,” and seek to employ a similar screen to determine where to invest funds, as well as review investments made under the Program by both existing utilities and RPAs.⁸²

In addition to the 40 percent of investments directed to environmental justice communities, any revenues generated from the Federal Public Power Program’s investment beyond what is needed to reinvest in the Program itself (for instance, made through wholesale market engagement) should explicitly fund the alleviation of energy burdens on communities. We advise that this include additional grants for low-income energy interventions, direct cash payments to alleviate energy burdens, and popular education programming. However, we expect that reinvestment may be best defined by communities themselves.

Siting with Respect and Community Benefit

Where new projects are determined to be needed, all utilities and RPAs would be charged to deploy more democratic and just methods for siting than the procedures characteristic of the sector to date. They would need to develop robust and codified procedures for consulting on siting decisions with neighborhoods and communities at an early planning stage. This improved planning would avoid needless harm to social, ecological, and cultural spaces while incorporating local benefits in a way that responds to the distinctive needs of particular regions—and communities themselves will have a seat at the table in defining what those are. This dialogue must particularly prioritize the needs of communities traditionally excluded and harmed in power siting decisions.

In addition to ensuring consultation on the siting of projects, the Federal Public Power Program has the important ability to advance novel models of community benefit and Community Benefit

Agreements, in strategies that go beyond short-term local jobs created in construction. By working upfront on enforceable Community Benefits Agreements that bolster the local community instead of harming them, renewable projects are more likely to move forward and Justice40 commitments more likely to be achieved.

Community Benefits Agreement stipulations might include, for example, obligations to build out local distributed renewable solutions alongside larger-scale projects, or efforts to electrify rural homes and communities via heat pumps and other low-carbon technologies. For gridded infrastructure like transmission, they might include co-locating wires with other infrastructure like rural broadband. The projects under the Federal Public Power Program also have an important ability to integrate investments in low-carbon energy and regional resilience needs—for example, building wildfire prevention strategies (e.g., fire breaks) into new transmission lines constructed, or integrating them with new green infrastructure for flood mitigation. As is discussed in more detail in the Labor section, Community Benefit Agreements can also include important requirements around local hiring and progressive procurement to bolster the larger economy within the communities in which the projects are developed.

Governance and Democracy

One crucial way to deliver on commitments to environmental justice and investments in BIPOC and working-class communities is to ensure that the Federal Public Power Program require robust governance processes that bring stakeholders—including workers, communities, environmental advocates, and the public—to the table. **The Program provides specified democratization funds for both existing utilities and the development of RPA democratization.**

Investments made through the Federal Public Power Program will be democratic to the extent that the institutions the Program funds do the following:

81. The EnviroScreen program is even used as the legal basis for determining “disadvantaged communities” in California state law. Preliminary Designation of Disadvantaged Communities Pursuant to Senate Bill 535 § (2021), https://calepa.ca.gov/wp-content/uploads/sites/6/2021/10/2021_CalEPA_Prelim_DAC_1018_English_a.pdf.

82. Many national indexes exist already, including the Climate Resilience Screening Index, developed by the Environmental Protection Agency; Baseline Resilience Indicators for Communities and the Social Vulnerability Index, both developed by the University of South Carolina; and the Social Vulnerability Index, developed by the Centers for Disease Control. Even more exist at the state level. The federal government has begun to create its own Environmental Justice screen, but it has omitted race. Drew Costley, “Race Excluded as WH Rolls out Climate Justice Screening Tool,” *ABC News*, February 18, 2022, <https://abcnews.go.com/Technology/wireStory/race-excluded-wh-rolls-climate-justice-screening-tool-82977989>.

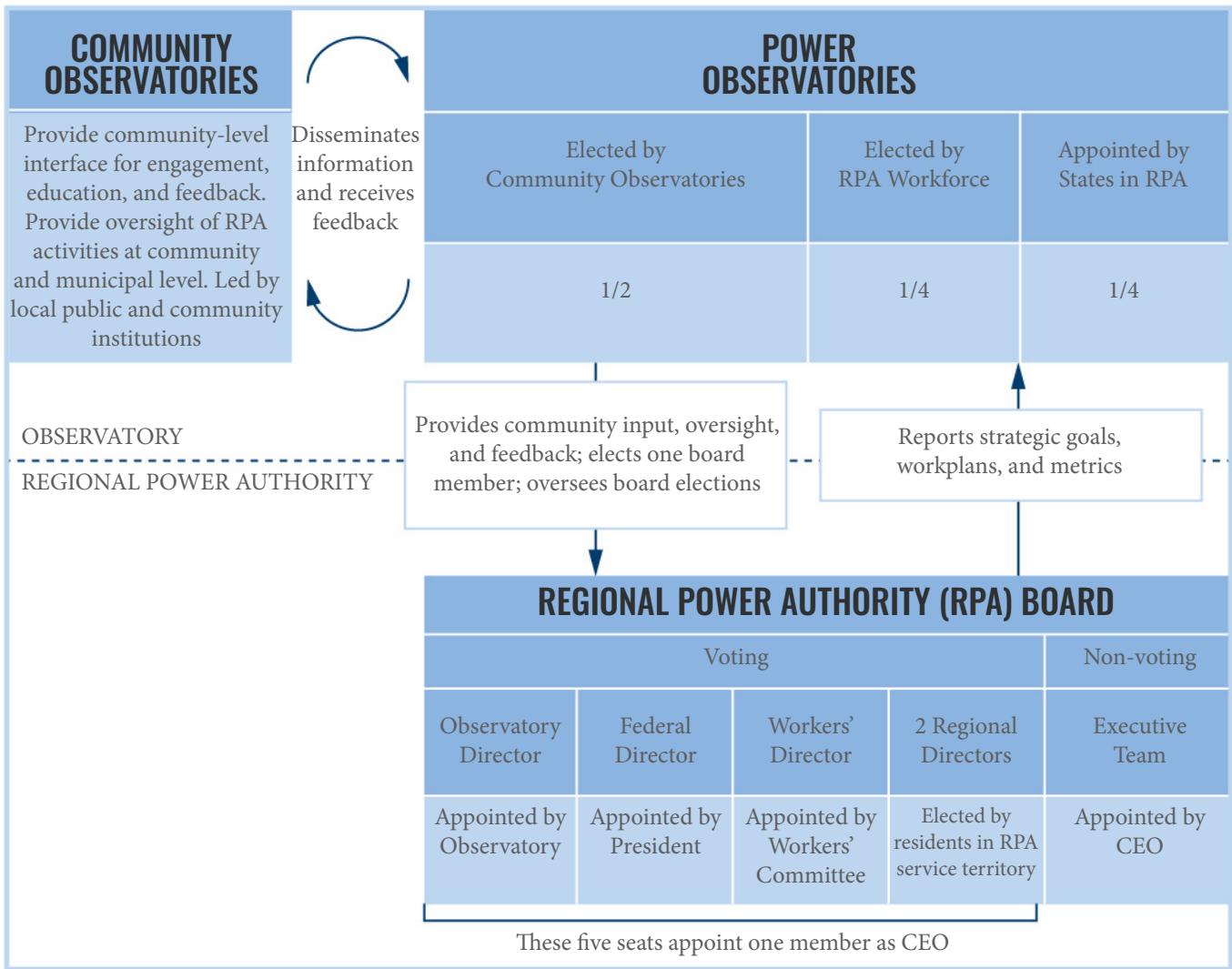


FIGURE 4. Governing the RPAs

1) encourage subsidiarity and a multi-scalar approach, 2) entrench the political salience of energy with the public, 3) enable independent public oversight of the RPA, and 4) foster an adjacent ecosystem of public and cooperative solutions. We spend most of this section focused on RPAs, since they are new institutions. We then consider the ways that the Program could increase democratization of existing utilities and power providers.

Governing RPAs

The governance of the Program's RPAs would be modeled in some ways after the original vision for the PMAs and other public power programs in the United States, while correcting for the significant historical democratic shortcomings of these organizations and adopting more contemporary models for participatory governance and oversight. RPAs will be governing the planning and financing

of transmission, large-scale renewables, and distributed renewables—resources that require planning at a regional, statewide, and community level. For this reason, we propose a multi-scalar approach to governance and oversight.

In addition to the governance of the RPAs themselves, we propose the creation of Regional Power Observatories modeled after the Paris Water Observatory. These Observatories, detailed below, should exist parallel to—but autonomous from—the RPAs. The Observatory would serve to 1) provide accessible spaces for community oversight and engagement of the RPAs' activities and 2) foster the political salience of renewable energy development in a region, making local institutions less vulnerable to capture. This sort of oversight directly contrasts with the historically more top-down approach of the PMAs and TVA, which offered fewer direct accountability mechanisms.

RPA Structure and Leadership

As mentioned above, each RPA will have many stakeholders. Unlike the TVA, whose five Directors are appointed by the President, we propose a multi-stakeholder board for each RPA. The design outlined in Figure 4 would create a majority-elected board that is 1) more accountable to stakeholders, 2) less accountable to non-democratic bodies like the Senate, and 3) more likely to remain friendly to the mission of the authority as policy feedback sets in.⁸³ The makeup of Directors should be:

- One voting Observatory Director appointed by the Power Observatory
- One voting Federal Director appointed by the President and approved by the Senate
- One voting Workers' Director elected by the workers of the RPA
- Two voting Regional Directors elected by constituents within the RPA's region in a non-partisan, publicly funded election process (e.g., with a ban on private campaign fundraising or spending)⁸⁴
- One voting Environmental Director appointed by the existing RPA board based on lists provided by local environmental, environmental justice, and community organizations
- A non-voting Executive team appointed by the CEO

83. When it comes to PUCs, “results support the idea that direct elections produce more pro-consumer regulators.” See Timothy Besley and Stephen Coate, “Elected Versus Appointed Regulators: Theory and Evidence,” *Journal of the European Economic Association* 1, no. 5 (2003): 1176–1206m <http://www.jstor.org/stable/40004855>.

84. These could be elected from two separate subregions within the RPA's region, guaranteeing more geographic decentralization in the Board's representation.

85. Andrew Cumbers and Thomas M. Hanna, “Constructing the Democratic Public Enterprise,” Democracy Collaborative, Democracy Collaborative & University of Glasgow, June 2019, 12–15; <https://democracycollaborative.org/sites/default/files/2020-02/Constructing%20the%20Democratic%20Public%20Enterprise.pdf>. The Workers' Committee could be chosen by sortition (random selection) instead of election so as to discourage elite capture and provide opportunities for leadership development.

The workers of the RPA should lead **Regional Workforce Committees**, which would be in charge of collecting workers' views as well as setting work, hiring, wage, and training policies for the RPA.⁸⁵ Whenever worker representation is included in this proposal—in the Power Observatories, in the Workforce Committees, and in the share of votes applied by workers toward the RPA's Board—we refer not only to the existing workforce, but students enrolled in at least one year of the training programs, apprenticeship programs, and workforce development institutes who can be expected to become workers for RPA projects in the future.

Regional Power Observatories

The Regional Power Observatories would be open to all residents of an RPA's service territory. As Anne Le Strat, former chairwoman of Eau de Paris, describes, these Observatories should operate as oversight bodies, making sure that citizens', workers', and BIPOC and working-class communities' views are taken into account and that all information and decisions are made available in an accessible and engaging way.⁸⁶ Observatories would receive federal appropriations independent of the RPAs to decouple their capacity from the performance of the local RPA. The Power Observatories would act as a complement to existing ISO/RTO and PUC/PSC authority, instead of superseding them.

While Power Observatories would have a central Board, a substantial portion of their capacity and resources should be dedicated to maintaining a network of smaller **Community Observatories**.

86. See Anne Le Strat and Michael Menser, “Democratizing Public Services,” Rosa Luxemburg Stiftung, New York Office, February 16, 2022, <https://rosalux.nyc/democratizing-public-services/>; and Olivier Petitjean and Anne Le Strat, “Taking Stock of Remunicipalisation in Paris,” Interview, Transnational Institute, Public Services International Research Unit, Multinationals Observatory, Municipal Services Project, and the European Federation of Public Service Unions, April 2015, <https://www.tni.org/files/download/ourpublicwaterfuture-1.pdf>. The cartoon “Bylaws of People Power Solar Cooperative,” in Oakland, California, provide one example of making energy governance accessible. These bylaws were the focus of a Stanford Law School reading group and are currently being adapted for a new energy cooperative in Cleveland, Ohio. “Bylaws of People Power Solar Cooperative,” People Power Solar Cooperative, March 31, 2019, https://d3n8a8pro7vhnmx.cloudfront.net/peoplepowersolar/pages/22/attachments/original/1554318079/small_331amended_peoplepowerbylaws_compressed.pdf?1554318079.

These Community Observatories would then provide an important local, community-level forum for the socialization, education, and oversight of the RPA's programs and plans, as well as an interface for coordination with other local public and cooperative utilities.

The Power Observatory's Board would be a body composed of stakeholders throughout the RPA's service region, including the Community Observatories, RPA workforce, and state governments. This Board would largely serve to facilitate communications between the RPA and its subsidiary Community Observatories, but it would also have the decision-making power to elect one board member to the RPA and to provide an annual review of the RPA. The number of people on a given Power Observatory's Board may vary by region, but should reflect a makeup similar to:

- One half appointed from among the Community Observatories⁸⁷
- One quarter appointed by the RPA's workforce
- One quarter appointed by states within the RPA's service region

The Power Observatories will be crucial in ensuring that the RPAs maintain a strong social vision and do not fade into the realm of the technical and abstract, nor fall prey to blindness to internal reform. To do so, the devolved Community Observatories will need to design culturally appropriate programming that builds knowledge about

the new energy system and makes clear how community members have a defining stake in shaping their RPA and energy systems. These programs could include education about our energy system, feedback sessions, media campaigns, workforce development programs, town halls, participatory budgeting sessions, and more, partnering with and working through local institutions where possible.

These programs will not only shape RPA activities, but they will also make the RPAs more resilient to capture, aid in creating a strong culture of engagement and pride in the growing institution, and build important policy feedback.⁸⁸ This is crucial because organizations that carry powerful political symbolism can block critique in the need to constantly defend the organization externally from public detractors. In TVA's case, this instilled a rigidity that made it less accountable to its grassroots doctrine.⁸⁹ RPAs should work to maintain accountability through the Power Observatory and the devolved Community Observatories, and evaluate success and failures beyond just financial indicators. California, Brazil, and Paris offer examples of benchmarks used to measure these priorities that are not market-centric, as does Bonneville Power Administration, a PMA that is required to evaluate both affordability and environmental protection.⁹⁰

Democratizing Existing Public, Tribal, and Cooperative Utilities

Currently, governance and democratization in existing public, Tribal, and cooperative utilities range

87. Tom Atlee's books on democracy offer helpful examples of randomly selected citizen juries for designing public policy.

88. Daniel Carpenter and David A. Moss, "Introduction," in *Preventing Regulatory Capture: Special Interest Influence and How to Limit It*, 11–19 (New York: Cambridge University Press, 2014).

89. Philip Selznick, *TVA and the Grass Roots: A Study in Politics and Organization* (New Orleans: Quid Pro Books, 2011), 20.

90. In California, see again the EnviroScreen program, which collects pollution and income data and which is used as the legal basis for determining "disadvantaged communities," https://d3n8a8pro7vhm.cloudfront.net/peoplepowersolar/pages/22/attachments/original/1554318079/small_331amended_peoplepowerbylaws_compressed.pdf?1554318079. For Brazil, see Silvano Silvério da Costa, Leo Heller, Luiz Roberto Santos Moraes, Patricia Campos Borja, Carlos Henrique de Melo, and Denise Sacco, "Successful Experiences in Municipal Public Water and Sanitation Services from Brazil," Transnational Institute, ASSEMAE, January 9, 2007, <https://www.tni.org/en/publication/successful-experiences-in-mu>

nicipal-public-water-and-sanitation-services-from-brazil. "The Municipal Services Project has expanded on these indicators [from Brazil] in the form of 'normative criteria' for performance, which have been applied to the study of a wide range of public services around the world." David A. McDonald, "You Are Public . . . Now What? New Ways of Measuring Success," in *Our Public Water Future: The Global Experience with Remunicipalisation*, 86–94 (Amsterdam: Transnational Institute, Public Services International Research Unit, Multinationals Observatory, Municipal Services Project, and the European Federation of Public Service Unions, 2015). The Northwest Power Act of 1980 required Bonneville Power Administration to work with federal agencies and four Northwest states in a compact called the Northwest Power and Conservation Council. This council requires a plan to ensure adequate and efficient energy use as well as to mitigate the adverse effects of hydropower dams. "Clean Air, Affordable Power and Environmental Mitigation: Northwest Power Act Turns 40," Bonneville Power Administration, Northwest Power and Conservation Council, December 16, 2020, <https://www.bpa.gov/-/media/Aep/about/publications/news-releases/20201216-pr-clean-air-affordable-power-and-environmental-mitigation-northwest-power-act-turns-40.pdf>.

substantially. Some hold forward-thinking strategies that have further embedded democratization into their structures,⁹¹ and new city councilors or board members have come into power at some public utilities on explicit climate agendas. However, some utilities are still highly bureaucratic and unaccountable. Rural electric cooperatives across the country are currently plagued by low turnout, political irrelevancy, and in some cases outright corruption.⁹² Similarly, because public utilities often lack a higher regulatory body (beyond a local city council), democratic rot and sclerotic governance processes can be an issue.

The Federal Public Power Program can inject funding into existing public, Tribal, and cooperative utilities with the express purpose of increasing democratization. Much like the RPAs, the existing utilities would have access to funding to enhance democratization and governance processes. Furthermore, democratization would be a method to evaluate utilities' continued access to funds. This could include transparency requirements like open meeting laws, required disclosure of key issues like voting processes and investments, and fair election laws for elected boards. The state of Colorado recently passed legislation with similar requirements that could be a model to follow.⁹³

Labor

As the United States transitions to renewable energy, there is an opportunity to design high labor standards into the industry at the outset. According to the Bureau of Labor Statistics, solar photovoltaic installation jobs are projected to grow 50 percent and wind turbine technician jobs by 60 percent between 2019 and 2029.⁹⁴ However, many private sector renewable energy businesses

adhere to market principles such as profit maximization and shareholder primacy and have been hostile to unions. As labor historian Erik Loomis told Vox News, “The fossil fuel industries were unionized in long struggles that were classic labor stories. . . . Now, they’re in decline and you have these new industries. But a green capitalist is still a capitalist, and they don’t want a union.”⁹⁵ To name two examples, New York solar developer Bright Power laid off its entire workforce after an unsuccessful unionization effort in 2019,⁹⁶ while Tesla has been accused of suppressing unionization efforts on its factory floors for years.⁹⁷

The 2021 US Energy and Employment Report shows that solar installation unionization is at 4 percent. This figure may skew high, as California represents a mammoth share of all installation jobs nationwide (almost 30 percent) and has unionization rates higher than the national average. Transmission, distribution, and storage workers represent the most unionized portion of the sector relevant to the Program, which may be because it constitutes more traditional utility work that has been unionized over decades in comparison to newer solar and wind companies.⁹⁸ All of the jobs mentioned above reflect a majority white workforce, showing a clear racial divide in access to the new clean energy economy.

High Road Clean Energy Jobs

A federal public renewables strategy can help create unionized, high-paying, and high-roads jobs. Because it is federally deployed, the Program can take advantage of one clear tool for labor standards: ensuring that workers directly employed or contracted through the Program receive prevailing wages under the Davis–Bacon

91. “Beartooth: A Beacon of Transparency,” *We Own It*, accessed 2022, <https://weown.it/resource/beartooth-beacon-transparency>.

92. Matt Grimley, “Just How Democratic Are Rural Electric Cooperatives?,” Institute for Local Self-Reliance (blog), January 13, 2016, <https://ilsr.org/just-how-democratic-are-rural-electric-cooperatives/>.

93. Maria McCoy John Farrell, and Joe Smyth, “Colorado Law Creates Transparency at Rural Electric Co-Ops — Episode 139 of Local Energy Rules,” Institute for Local Self-Reliance (audio blog), September 22, 2021, <https://ilsr.org/electric-cooperative-transparency-tristate-ler139/>.

94. William Lawhorn, “Solar and Wind Generation Occupations: A Look at the Next Decade,” *Beyond the Numbers* 10, no. 4 (February 2021), US Bureau of Labor Statistics, <https://www.bls.gov/opub/btn/volume-10/solar-and-wind-generation-occupations-a-look-at-the-next-decade.htm>.

95. Ella Nilsen, “Why Major Unions Are Wary of the Move to Wind and Solar Jobs,” *Vox*, March 19, 2021, <https://www.vox.com/22301534/major-unions-worried-about-wind-solar-jobs>.

96. Lauren Kaori Gurley, “This Solar Energy Company Fired Its Construction Crew After They Unionized,” *Vice*, November 21, 2019, <https://www.vice.com/en/article/evjenn/this-solar-energy-company-fired-its-construction-crew-after-they-unionized>.

97. Ryan Felton, “UAW Says Tesla Interrogated and Intimidated Giga-factory Employees Over Union Activities,” *Jalopnik*, December 5, 2017, <https://jalopnik.com/uaw-says-tesla-interrogated-and-intimidated-giga-factory-1820986815>.

98. “Clean Jobs America 2021: After Hard Year, Promise of Unparalleled Jobs Growth,” *E2* (Environmental Entrepreneurs), April 2021, <https://e2.org/wp-content/uploads/2021/04/E2-2021-Clean-Jobs-America-Report-04-19-2021.pdf>.

Type of Job	Unionization Rate	Percent of Non-White Workers (Union and Non-Union)
Construction/ Efficiency	10%	23%
Transmission, Distribution, Storage	17%	31%
Solar	4%	29%
Wind	6%	31%

TABLE 1. Unionization and Demographics based on 2021 US Energy and Employment Report

Act.¹⁰⁰ The IRA’s tax credit incentives incorporated important incentives for prevailing wages to acquire the entirety of the credit— a boon to creating high-quality renewables jobs. The Program would build on that important win by funneling additional funds into high-roads renewables projects. The program can also attach important strings to disbursement or procurement, such as Project Labor Agreements that guarantee stability and continuity for the workforce. Carol Zabin has shown in California that increased productivity resulting from high-roads jobs often counterbalances the short-term costs of higher wages.¹⁰¹

Creating centralized employers for thousands of new renewable energy workers makes union organizing more possible, since the RPAs would constitute large employers that outsize the smaller, IPP renewable providers. In particular, the RPAs can bundle much smaller jobs into larger contracts. This matters particularly for distributed renewables—in this sector, projects are often too small or piecemeal for unions to consider them worth the effort, but taken in aggregate, this represents a major body of work that

could be an opportunity for organized labor. This tactic has been used elsewhere in union organizing, for instance with homecare workers. Homecare workers not centralized by a single workplace are among the most difficult to organize. However, SEIU successfully unionized 74,000 home care workers in California in 1999, in large part by aggregating workers under one “employer of record” to negotiate with.¹⁰²

While prevailing wage agreements like Davis–Bacon are important, we propose that these wages be instituted as a floor, rather than a ceiling, and that Regional Workforce Committees negotiate the terms of employment and contracting across all of the Programs’ investments—both existing utilities and new RPAs. These would function as regional wage boards and could help create alliances across workers geographically and demographically to create stronger standards. These entities would ensure a participatory and open process for determining wages, designing wage scales and workplace standards, and would participate in the siting process to ensure that project siting supports the goal of employing and benefiting frontline communities.

High labor standards and strong public sector unionization of clean energy workers would have positive knock-on effects for the larger clean energy economy. The presence of such jobs creates a competitive labor market for private sector renewables firms. Why work at a low-waged, at-will solar installer when you could get a public power job with better benefits and likely a union? Since the federal program and RPAs can also set high standards for their procurement systems, this could increase the quality of work throughout the clean energy supply chain.¹⁰³

The Making of a Local, Multi-Racial Labor Force

Beyond creating good-paying, unionized jobs, this Program must confront the structural racism of the existing clean energy landscape. As of 2020, the clean energy sector was still predominantly white, with Black people making up only 8 percent.¹⁰⁴ This pattern makes

100. “Davis-Bacon and Related Acts,” United States Department of Labor, accessed January 19, 2022, <https://www.dol.gov/agencies/whd/government-contracts/construction>.

101. Carol Zabin, Roxane Auer, J. Mijin Cha, Robert Collier, Richard France, Jenifer MacGillvary, Holly Myers, Jesse Strecker, and Steve Viscelli, *Putting California on the High Road: A Jobs and Climate Action Plan for 2030*, California Workforce Development Board, June 2020, 53, <https://laborcenter.berkeley.edu/wp-content/uploads/2020/09/Putting-California-on-the-High-Road.pdf>.

102. Linda Delp and Katie Quan, *Homecare Worker Organizing in California: An Analysis of a Successful Strategy*, UC Berkeley Labor Center, September 2020, <https://laborcenter.berkeley.edu/wp-content/uploads/2020/09/DelpQuan.pdf>.

103. “Unions Help Reduce Disparities and Strengthen Our Democracy,” Economic Policy Institute (blog), April 23, 2021, <https://www.epi.org/publication/unions-help-reduce-disparities-and-strengthen-our-democracy/>.

BIPOC-centered workforce development, paired with clear roads to long-term jobs, crucial. It also means that BIPOC communities must be involved early in the project planning process to lower the structural barriers to achieving a truly multi-racial labor workforce.

The Economic and Policy Institute shows that Black and Hispanic workers receive a larger boost from unionization than their white counterparts, with increases of about 13 percent in comparison to non-union workers.¹⁰⁵ Thus, creating unionized renewable energy labor could in theory support a more racially just renewable energy sector overall. However, unionization's potential in this regard is not guaranteed, and racial justice should be engendered in the Program from the outset. The RPAs should ensure that half the projects they build employ workers who have lived in the project area for at least 10 years, and prioritize hiring frontline and BIPOC workers. This policy deepens the benefits of the project to the local community, especially in majority non-white areas, and may help mitigate against displacement pressures that would otherwise occur from a sudden influx of outside workers attracted by high-quality jobs in a project area. Beyond racial divides, this can also help to stimulate support for the projects.

There must also be robust tracking to discern how projects achieve their Justice40 investment commitments, as well as affirm the fulfillment of Community Benefits Agreements. In Los Angeles County, the Los Angeles Black Worker Center found that Black workers made up 9 percent of the population and 10 percent of union apprentices but only 4.9 percent of construction workers. To address this imbalance, they advocate for robust local hiring provisions, but also for extensive monitoring and enforcement to ensure compliance with anti-discrimination provisions.¹⁰⁶ Anyone in a position to oversee projects

must provide accurate and up-to-date information on wages, worker demographics, and community benefits to the Regional Workforce Committees. These Regional Workforce Committees must include environmental justice organizations and worker centers that serve BIPOC workers, and the RPAs must fund these entities to use this data to evaluate the extent to which project implementation is meeting standards for racial equity and justice.¹⁰⁷

Progressive Procurement

While this proposal focuses on insourcing renewable energy projects, thus building a large, public renewable energy workforce, there are still places where contracting or procurement makes sense. As described above, working with local, high-roads contractors that have close ties to the community can build deeper relationships on the ground, increase community interest in the Program, improve recruitment of workers and Program participants, and stimulate the local economy. When organizing for distributed renewables, working with or contracting trusted organizations in the community to enter local homes could be crucial to the Program's success. For instance, PUSH Buffalo in New York, a trusted working-class organizing group, has contracted with the city or state to offer efficiency upgrades.¹⁰⁸ There are similar projects across the United States that the RPAs could work with, while keeping a clear commitment to wage and training standards.

Another clear place for collaboration is workforce training infrastructure. The RPAs and utilities should work with high-quality programs that also serve marginalized populations. It will also be imperative to ensure workers are trained on the clock, not only on how to develop the renewable infrastructure but also on their rights as workers. These training entities should be funded

104. *Help Wanted: Diversity in Clean Energy*, E2, Alliance to Save Energy, American Association of Blacks in Energy, Energy Efficiency for All, Black Owners of Solar Services, BW Research Partnership, September 2021, <https://e2.org/wp-content/uploads/2021/09/E2-ASE-AABE-EEFA-BOSS-Diversity-Report-2021.pdf>.

105. "Unions Help Reduce Disparities and Strengthen Our Democracy," Economic Policy Institute (blog), April 23, 2021, <https://www.epi.org/publication/unions-help-reduce-disparities-and-strengthen-our-democracy/>.

106. "Equity, Transparency, and Accountability," Los Angeles Black Worker Center, accessed March 18, 2022, https://www.lablackworkercenter.org/equity_transparency.

107. This model is informed by organizations like the Coalition of Immokalee Workers (CIW) as well as the National Black Worker Center. CIW has been crucial to organizing undocumented workers in Florida, and was critical in the establishment of both the Fair Food Program, which improved wage, safety, and overall workplace standards for these workers, and the Fair Food Standards Council, which performs a similar watchdog function in the agricultural workplace and helps ensure that workers are informed of the Fair Food Program's standards. The National Black Worker Center supports a network of Black workers, helping coordinate campaigns and build solidarity between Black workers regardless of unionization status. "Resources," National Black Worker Center, accessed March 2022, <https://nationalblackworkercenters.org/resources/>.

108. "Push Green," PUSH Buffalo, accessed July 20, 2022, <https://www.pushbuffalo.org/push-green/>.

to participate in the Regional Workforce Committees, receive state and regional pre-apprenticeship certification, and support pathways to formal union apprenticeships.

Additionally, there are a whole range of services that may be outside the scope of the RPAs' core mission—e.g., food services, IT needs, or even the manufacturing of components of the solar, wind, or transmission lines. By implementing robust labor standards in its procurement policy, the RPA can have effects far beyond its own operations. The RPAs should ensure that the procurement processes are accessible, transparent, and regularly reviewed for effectiveness by democratic structures.

CONCLUSION

Imagine solar spanning the Sunbelt in the Southwest, wind farms whirring across the plains of Iowa, and expansive rooftop solar on Puerto Rican households—publicly owned and deployed at a far faster pace than the private sector has provided. This is the future that the Federal Public Power Program could help to bring to fruition. The energy transition is an opportunity to reorder the values embedded into one of the most crucial sectors of our economy—in fact, the sector that allows the rest of the economy to run. Injecting federal funding into new, durable public power institutions like the RPAs and reinvesting in our existing public, Tribal, and cooperative utilities could be a game-changing solution that allows us to mobilize renewable energy development at new speeds and with far more attention put toward environmental justice.