



A Progressive Take on Permitting Reform: Principles and Policies to Unleash a Faster, More Equitable Green Transition

*A Climate and Community Project &
Roosevelt Institute Collaboration*

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Executive Summary

The climate crisis is hitting communities across the United States with increasing force—wildfire seasons become more extreme each year, hurricanes hit the Gulf Coast with more ferocity, and droughts are increasingly hurting farmers in the Midwest. To combat the climate crisis, the United States desperately needs to unleash a transition to renewable energy. Though the US continues to add more renewable energy capacity to the grid each year, climate advocates rightfully feel the transition is still far too slow. In July 2022, the Inflation Reduction Act (IRA) provided a generous suite of financial incentives for building out renewable energy capacity, but advocates worry that projects will get stymied in implementation due to the environmental review process required to gain the necessary permits to start building. Advocates aiming to change environmental review argue that it is time-consuming, burdensome, and slows down the build-out of renewable energy.

Enter permitting reform. A number of climate advocates have called for “cutting red tape” and “streamlining” the environmental review required for permitting processes in the name of speedier climate action. However, this substantially oversimplifies a complex dynamic of factors that have slowed renewable energy and transmission build-out. Unrelated issues such as interconnection to the electricity grid and local zoning are often confused with “permitting reform” in discussions about how to accelerate climate action.

As a result, environmental review for permits—specifically the National Environmental Policy Act (NEPA), the federal law requiring federal agencies like the Bureau of Land Management or Forest Service to consider environmental impacts in decision-making and planning—has become the focus of reforms, instead of the much-needed focus on other areas critical to rapid decarbonization.

Permitting reform focused solely on environmental review threatens to undermine key laws that protect drinking water and prevent air pollution, and may commit the US to fossil fuel production that will emit unsafe levels of greenhouse gases. In fact, much of the push for permitting reform has come from the oil and gas industry looking to weaken environmental laws to push through fossil fuel projects in the name of “energy security.”

After a long and drawn-out political contest over these reforms, President Biden signed the Fiscal Responsibility Act into law in June 2023. The law includes a suite of problematic reforms to NEPA, such as creating arbitrary review deadlines and weakening procedural safeguards in an attempt to accelerate the issuance of permits. Even worse, the law also includes a mandate to build the Mountain Valley Pipeline, which would emit tens of millions of tons of greenhouse gas emissions over the lifetime of the project.

We need policy reforms that equitably accelerate build-out of renewable energy—not fossil fuels. In this report, we outline a progressive alternative to permitting reform, one that focuses on increasing public capacity for planning, assessment, and community engagement to ignite the transition. Our proposals are informed by the factors actually slowing down energy transition implementation—which include continued fossil fuel build-out and lock-in and poor planning by project developers, which can result in low community acceptance of renewable energy and transmission infrastructure. A progressive agenda should also be reparative—supporting communities that have been and continue to be most harmed by our extractive, fossil-fueled system. Below, we outline key strategies to equitably hasten the transition:

Enable More Coordination and Planning

- **Utilize long-range land-use planning:** Land managers and planners should employ comprehensive land-use planning, including the identification of lands and corridors where renewable and transmission infrastructure projects can be built rapidly, equitably, and without controversy.
- **Increase transparency and accountability of processes for interconnecting renewable energy to the electricity grid:** Ensure electricity grid operators' decision-making is transparent and accountable, and that it feeds into larger planning processes (including interregional ones).
- **Increase capacity of permitting agencies:** Provide agencies in charge of permitting review with more staff, more effective training, and more power to move processes forward, to allow them to more efficiently and effectively review and assess projects.
- **Build public renewables and transmission:** Empower the federal government to deploy renewable energy and transmission infrastructure. The federal government has strong regional and interregional mandates, long-term planning horizons, and an ability to absorb financial risks, making it better able to build the regional and interregional projects needed for the transition.
- **Increase material and energy efficiency:** Handle the challenge of building renewable energy infrastructure fast by increasing efficiency and lowering material use to limit need for build-out.
- **Support distributed energy resources:** Avoid some large-scale build-out for infrastructure, such as for transmission, by deploying distributed energy resources like rooftop solar, batteries, and microgrids.
- **Update the 1872 General Mining Act:** Amend oversight of mining of critical metals and minerals, a crucial part of the energy transition, to include environmental protections and effective royalties, reduce mining waste, and ensure community consent.

Enhance Community Participation and Consent

- **Strengthen the National Environmental Policy Act (NEPA):** Strengthen community participation early in the permitting process to make it more likely that projects will move forward faster, without as much community opposition.
- **Respect tribal sovereignty:** Engage federally recognized and unrecognized Indigenous communities in consultations regarding cultural resource and land stewardship and build trust in nation-to-nation negotiations on new energy infrastructure early on.
- **Apply cumulative impact analysis:** Evaluate the total burden on health, well-being, and quality of life that comes from an additional project in a community.
- **Provide community benefit:** Provide community benefits from energy projects, like jobs, discounted energy, local infrastructure investments, and even direct ownership to receive a portion of the profits.

Empower a Just Transition

- **Stop all new fossil fuel permits:** Stop issuing permits for new fossil fuel infrastructure that is incompatible with climate action goals.

- **Protect communities from fossil fuel pollution:** Increase setback limits for oil and gas wells and retire fossil-fueled peaker plants near communities, shutting down the energy infrastructure that’s most harmful to the environment and public health first.
- **Set emissions reduction targets to phase out fossil fuels:** States and the federal government can and should set ambitious and legally binding emissions reduction targets to hasten renewable energy deployment.

Introduction

A just and sustainable energy transition that keeps us in line with climate targets will require extensive build-out of energy infrastructure. Decades of delay in addressing the climate crisis mean that the United States must move at an even faster clip to deliver the renewable energy infrastructures needed to ensure a livable future. This is an enormous undertaking that will have implications for communities, landscapes, and environments across the US. The energy transition has started to proliferate throughout the country, but often still moves far too slowly to achieve climate targets. While the passage of the Inflation Reduction Act (IRA) in 2022 has provided a new influx of funding to build renewable energy infrastructure, climate advocates are now navigating how to use that funding quickly and equitably.

Some advocates believe that the fastest way to unleash the renewable energy build-out is to “cut red tape” and “reduce bureaucracy”—largely focusing on the process of reviewing and permitting projects. For example, according to Xan Fishman from Bipartisan Policy Center, “The only thing standing between us and our affordable, clean energy future is a completely broken permitting process” ([Fishman 2023](#)).

What’s more, cutting what is perceived as “red tape” for the transition may mean harming the same communities that experience the burden of the existing fossil energy system. When projects—even clean energy projects—do not go through robust environmental review, they risk having negative impacts such as air or water pollution, economic burden, or biodiversity loss.

However, this claim is not reflective of the realities renewable energy infrastructure developers face. In some cases, advocates of permitting reform as a means to speed up climate mitigation conflate issues of permitting—such as reforming the National Environmental Policy Act (NEPA)—with other issues holding back the renewable energy transition. For example, many project delays stem from challenges with transmission planning or the interconnection process, which is privately managed by electric utility system operators. What’s more, cutting what is perceived as “red tape” for the transition may mean harming the same communities that experience the burden of the existing fossil energy system. When projects—even clean energy projects—do not go through robust environmental review, they risk having negative impacts such as air or water pollution, economic burden, or biodiversity loss.

Furthermore, the oil and gas industry has leveraged the permitting discussion as “a decoy for ramping up gas” ([Harris and Rock 2022](#)). The industry has been one of the main political powers behind the push for permitting reform, using it to dismantle the US’s few safeguards against fossil fuel pollution

instead of addressing the key forces that slow a transition to renewables. Much of the permitting reform proposed in Congress over the past few years disproportionately supports fossil fuel projects, and extractive industries have been primary proponents of the changes because of their increasing trouble obtaining environmental permits and approval.

Permitting reform hit the national stage in the wake of the IRA. Senator Joe Manchin (D-WV) held up the major investment package for almost a year, finally striking a deal in July 2022 with Senator Chuck Schumer (D-NY), who agreed to lower the investment package's ambition and pass a permitting reform bill that also fast-tracked the Mountain Valley Pipeline ([Snell 2022](#)). Environmental justice advocates fought vehemently against the permitting bill, calling it “Manchin’s Dirty Deal” and criticizing it for gutting bedrock environmental laws and providing massive giveaways to the fossil fuel industry.

The environmental justice community was able to kill the “Dirty Deal” three times, but ultimately, in June 2023, a significant portion of its permitting reforms passed as part of debt ceiling negotiations. The resulting law, the Fiscal Responsibility Act of 2023, amends NEPA and limits the types of projects over which it has oversight, creating arbitrary deadlines for environmental reviews with no corresponding agency investment and increasing the ability for project developers to sue agencies. The law also fast-tracks Senator Manchin’s Mountain Valley Pipeline—a project that could not get Clean Water Act permits legally, extends the lifetime of fossil fuels and hurts the US’s ability to meet climate targets. The law’s permitting reforms will not support a dramatic or equitable ramp-up of renewable energy, and instead will weaken environmental and procedural safeguards.

The Fiscal Responsibility Act’s permitting reforms will not support a dramatic or equitable ramp-up of renewable energy, and instead will weaken bedrock environmental and procedural safeguards.

In this report, we explain what the United States must do to effectively and equitably drive the era of renewable energy. First, we define permitting and categorize the different types of permitting and review necessary for building energy-related infrastructure. Second, we articulate why focusing on permitting reform obfuscates some of the real causes of slow renewable deployment, and describe the forces we believe slow the build-out of energy infrastructure. Third, we outline principles that should underpin a just, green transition at the scale and speed needed to address the climate crisis. And finally, we offer a suite of policy recommendations that could accelerate the transition without undermining bedrock environmental laws.

What Is Permitting Reform?

Debates about permitting reform have been muddled, owing both to the complexity of the permitting process and mischaracterization as to what permitting constitutes. This lack of consistency in what permitting refers to and why reform is needed has resulted in an unfocused conversation about “cutting red tape” instead of one about how to ensure that public policy enables a transition from fossil fuels to renewable energy development in a time frame and manner consistent with both the urgency of climate

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action and the need for robust public input. More importantly, it risks undermining the key laws and regulations that have brought the United States cleaner air and water since the passage of NEPA.

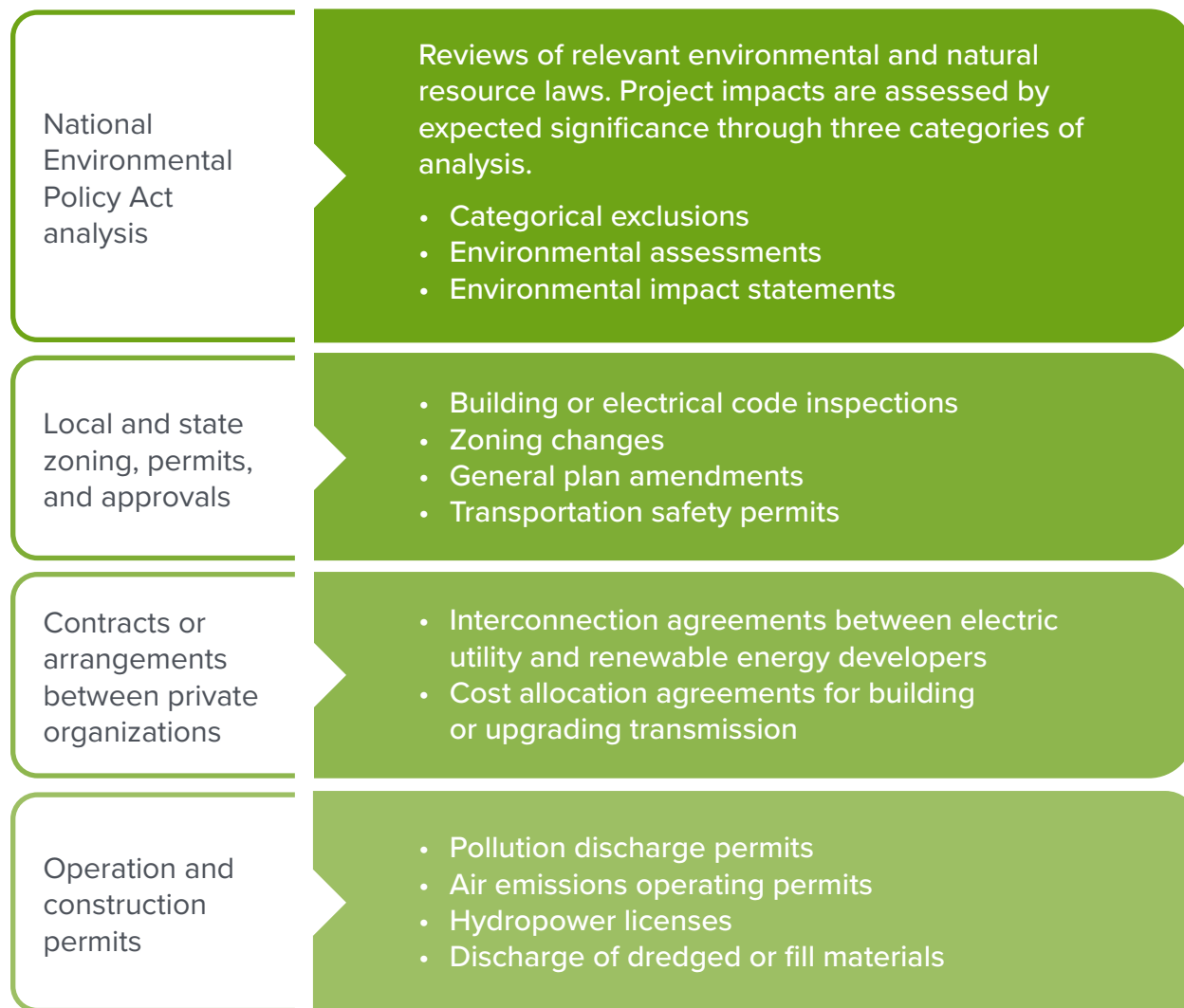
Taking a project from idea to implementation often involves acquiring multiple permits, sometimes also characterized as approvals or compliance reviews. Different types of projects—renewable energy, transmission and distribution, fossil fuels and carbon pollution, and extraction of transition minerals like lithium—often require different types of permits. Largely, permitting refers to reviews required for environmental compliance under protective laws like the Clean Water Act, Clean Air Act, Endangered Species Act, or the National Historic Preservation Act. In particular, NEPA and its state equivalents, such as the California Environmental Quality Act (CEQA), require projects to disclose their environmental impacts, engage the public, and consider alternatives (if relevant). State and regional authorities also may have additional permitting responsibilities for their jurisdiction.

The disclosure requirements imposed by NEPA are tailored to the intensity of a project’s impacts. Projects that are determined to pose significant impacts require federal agencies to prepare a detailed environmental impact statement (EIS). If a project’s impact is unlikely to be significant, an agency can prepare a much shorter environmental assessment that confirms there will be no significant impacts. An agency may also identify categories of projects that normally have insignificant impacts, or that have been reviewed previously, forgoing environmental review altogether for those projects with a categorical exclusion (in NEPA) or categorical exemption (in CEQA). Importantly, federal agencies can set the stage for more streamlined project-level action, whether through simplified environmental assessments or categorical exclusions and exemptions, or by preparing programmatic EISs. These programmatic reviews can evaluate management risks and opportunities across broad geographic areas (e.g., federally managed lands) or issues (e.g., transmission development), which can streamline review and make land use decisions more predictable for project developers and communities.

These different intensities of environmental review correspond to different timelines. An EIS can take several years to complete, whereas an environmental assessment is typically completed in less than one year. Categorical exclusions are typically authorized on the order of months. The permitting reform discussion has focused on shortening the EIS process, but the vast majority of NEPA projects analyzed are categorical exclusions. In one study of NEPA use in decision-making by the US Forest Service, only 1.9 percent of over 33,000 projects studied were processed as an EIS, and most agency decisions were categorical exclusions ([Fleischman et al. 2020](#)). This demonstrates that NEPA review does not pose the burden purported by permitting reform advocates. Another study that looked at 40,000 NEPA decisions from the US Forest Service found causes of delays to be from “lack of experienced staff, budgetary instability, delays receiving information from permit applicants, and compliance with other laws,” finding also that less rigorous reviews did not result in faster project construction ([Ruple, Pleune, and Heiny 2022](#)).

Figure 1.

Layers of permits, approvals, and agreements often discussed in permitting reform debates.



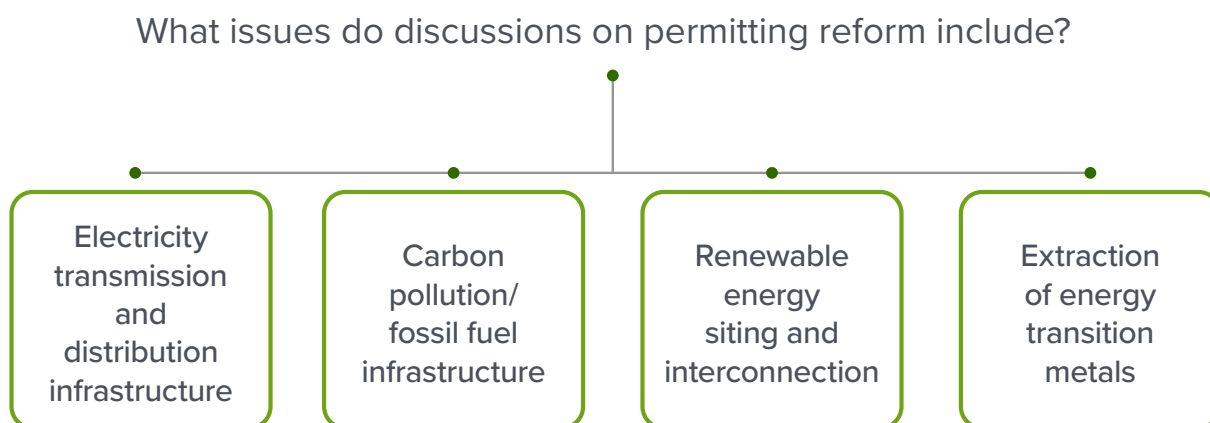
There are also environmental permits that relate to how to operate energy infrastructures. For example, projects require EPA operating permits if they are major stationary sources of air or water pollution, like power plants and factories. The operation and construction of facilities such as pipelines and hydropower plants also require permits from energy regulators, like the Federal Energy Regulatory Commission (FERC), that also evaluate and make decisions about energy projects that cross state lines. Operating permits can be necessary when developers of an existing infrastructure project want to change what they produce—for example, expanding an oil refinery to make hydrogen or biofuels.

In addition, there are state and local permits and zoning rules that can be required for land use and safety, outside of what we consider NEPA analysis. For example, projects like pipelines can require permits from state or local transportation agencies to cross local roads and waterways. Even rooftop solar requires inspections to meet electrical standards (this is a type of permitting process, but is not environmental permitting).

Finally, advocates sometimes refer to agreements between private organizations as “permitting reform.” For example, transmission infrastructure development requires interconnection studies and agreements, ensuring there is a plan for market participation from energy generators to necessitate the transmission development. While this is indeed a step in developing some energy projects, the interconnection itself is not permitting or environmental review of any kind.

Figure 2.

Permitting reform has become synonymous with many topics related to energy and climate, making debate about it difficult to understand.



What Did the Fiscal Responsibility Act of 2023 Do?

The Fiscal Responsibility Act (FRA) passed in June 2023 with permitting reform provisions attached, including changes to the National Environmental Policy Act (NEPA). While there are a couple of promising reforms in the FRA, overall, the changes will do little to fix the problems that slow down the energy transition and reflect a misunderstanding of those problems and their solutions. Even more problematic, the FRA also mandates the rubber-stamping of a gas pipeline.

Below, we describe some of the FRA’s provisions and their likely impacts. The law:

Increases federal projects that bypass NEPA reviews: Changes in language may limit the types of projects that fall under NEPA review. The new law cuts out projects that receive certain types of federal funding like loan guarantees deemed to have little control over the ultimate project, that do not have “substantial” federal control and responsibility, and that are located outside the United States. It also increases the use of categorical exclusions (CEs), which are created through a public rulemaking process and are reserved for those activities an agency determines will not have any significant environmental impact. With the FRA’s reforms, an agency can now employ a CE from another agency—with a different purview and without the public’s input.

Creates arbitrary deadlines and page limits for review: The law requires that environmental assessments stay under 75 pages and be completed in under a year, and that environmental impact statements remain below 300 pages and be completed in under two years. It also allows a project developer to sue the agency if it misses the deadline. This could limit necessary nuance for project

evaluation, does not provide corresponding administrative capacity to meet the new deadlines, and could affect projects' meaningful engagement with redesign or coordination with state or local permitting processes.

Gives project developers more power: In a textbook example of the “fox guarding the henhouse,” the FRA allows project developers to write their own environmental reviews. This is a clear conflict of interest, since a project developer has money on the line to get the project in the ground for as little financial cost as possible. A developer-prepared environmental review undercuts confidence in agency decision-making and oversight to account for and respect community and environmental concerns.

Mandates the expedited completion of the Mountain Valley Pipeline (MVP): The law demands the expedited completion of the MVP, designating it a “national interest.” The pipeline is slated to go through the Appalachian region, carrying natural gas 300 miles from the northern part of West Virginia to southern Virginia and crossing 1,146 streams, creeks, rivers, and wetlands. The pipeline would be a climate and environmental disaster, helping to funnel more gas along a larger route from New Jersey to Texas—gas that people and the climate cannot afford to burn.

Requires public comment and hearings and encourages system modernization: One positive development is that the law requires agencies to request public comment at the “notice of intent” point in a project. This has the potential to bring communities into project development earlier, meaning they would be informed earlier and that projects could be adapted at an earlier stage. This reform also has the potential to modernize engagement by directing the Council on Environmental Quality to explore creation of an online platform that will help agencies, the public, and developers gain access to information more quickly.

Requires a study of transmission regions: The law offers one small requirement for interregional transmission planning but limits the investment to a study due in 18 months that investigates how to increase transmission reliability. Many see this as a missed opportunity to push for real action on transmission policy and hold concern that focusing on a study could delay congressional action on more comprehensive transmission planning until the results of the study become available and is redundant with the Department of Energy's recent transmission study that has already shown the benefits of greater grid interconnection.

Forces That Slow Build-Out of Energy Infrastructures

The United States must build terawatts of renewable energy infrastructure to replace fossil fuel pollution, but delays, backlogs, and other hurdles are making this transition too slow. While permitting reform advocates claim that environmental compliance processes such as NEPA are largely to blame, we argue that there is a far wider range of causes for delay, such as a lack of investment in regional transmission, low administrative capacity at permitting agencies and transmission operators, or disinterest by electric utilities in connecting systems for anticompetitive reasons. In this section, we explore some of the reasons that building out energy infrastructures has been slowed down in the US.

Electricity transmission and distribution infrastructure development delays are not because of NEPA reviews.

To reach 100 percent clean electricity by 2035, the US will need significantly more transmission paths and capacity to move electricity from renewable sources to use. Electricity grid distribution infrastructure will also need significant upgrades for the shift to electrify everything—such as service upgrades, new transformers, and fire safety measures. It is widely documented that it takes a long time to build regional electricity transmission lines. A variety of sources hold up this new transmission and distribution infrastructure— ranging from private agreements to state laws that allow utilities to restrict competition.

Some delays in interregional transmission development are caused by the future managers of those lines. Independent System Operators' (ISOs) and Regional Transmission Operators' (RTOs) processes for interconnection and setting tariffs along transmission lines are a known source of delay of transmission project approval. Disputes between transmission operators and renewable energy developers might be about tariffs for subscribers (power generators looking to use the transmission line) or the cost allocated across different buyers.

Utilities, as local monopolies, are usually eager to build transmission within their service territory, especially if they can make a profit off ratepayers. But building interregional lines opens utilities up to competition. Some utilities have supported state “right of first refusal” laws that aim to stifle competition between utilities in neighboring states. This means that a developer of a multistate transmission line hoping to build into or across some states can be blocked or may require special permissions from the state protecting its own energy utilities. Twelve states, mostly across the Midwest and Gulf Coast, currently have these restrictions: Alabama, Iowa, Indiana, Michigan, Mississippi, Montana, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas ([Gearino 2023](#)). These monopolistic and noncompetitive tendencies will be a major force of resistance to interregional transmission and point to publicly owned or cooperative models of ownership for achieving these objectives.

The deregulation of electricity markets in places where electricity grids have separated responsibilities for power generation from transmission and distribution, as opposed to vertically integrated utilities, also poses a challenge to transmission planning and investment. Electricity transmission and distribution utilities in these arrangements have little control over the planning processes of where generators will be, making it more difficult to align power generation versus transmission and distribution needs. Furthermore, this arrangement often puts shareholders into conflict with ratepayers and customers, as utilities do not always put new transmission in places to help ratepayers, but instead where they can find the most profitable projects to rate base. A lack of investment in new transmission by investor-owned utilities (IOUs) is also a result of poorly managed electrical grid infrastructures. California investor-owned utility PG&E, for example, must pay \$18 billion for wildfire mitigation to prevent future fires in response to the role its mismanaged equipment played in starting some of the largest wildfires that the state has on record, in addition to direct liability payouts to wildfire victims. Not only did the disinvested transmission infrastructure put thousands of people in danger from wildfires, PG&E's subsequent 2018 bankruptcy from the ordeal put existing renewable energy contracts at risk. This example demonstrates how as the climate crisis hits underprepared or mismanaged utilities, bankruptcy and failing infrastructures, rather than permitting, may delay renewable build-out.

Transmission is further slowed by a lack of comprehensive planning, especially when lines must cross both federal and private lands. In 2005, the federal government initiated the West-wide Energy Corridors program to build transmission across federal lands. Most of the transmission projects

identified as West-wide energy corridors have been permitted, built, or are under development, including Ten West Link, SunZia, TransWest, and several others ([Bureau of Land Management 2008](#)). Similar planning efforts are still needed across much of the United States so that transmission lines can bring renewable energy to where it is needed.

Case Study:

Permitting Transmission Lines on Faster Timetables

Ten West Link is a 125-mile, 500-kilovolt, high-voltage transmission line along an interstate highway that was approved in July 2022 to connect Tonopah, Arizona to Blythe, California. This path was previously identified and approved in the Bureau of Land Management's 2009 West-wide Corridor Programmatic Environmental Impact Statement (PEIS), which identified corridors through which to move energy with low environmental impacts. However, the initial project applicant proposal in 2016 deviated from the route identified in the PEIS and instead cut through the Kofa National Wildlife Refuge and tribal lands to shorten the distance, leading to early development delays. But once the transmission line developer settled on the agency-preferred West-wide Corridor, the project was approved in 16 months. Because the developer switched to a route with less environmental impact, the project was selected to have its environmental review phase further guided by the Federal Permitting Improvement Steering Council, developed under Title 41 of the 2015 Fixing America's Surface Transportation Act (FAST-41). The Permitting Council helps coordinate environmental reviews, is able to hold agencies accountable to timetables viewable on a public dashboard, and resolves any disputes that may arise during the review phase. This gives developers more certainty of expedient environmental review.

Takeaway: Transmission can be approved faster with early planning, allowing developers to leverage existing right-of-ways to collocate infrastructure and avoid high-conflict zones like wildlife refuges and tribal resources. Policies like FAST-41 are already helping coordinate major renewable energy infrastructure projects through the NEPA review process.

Renewable energy siting is slowed by opaque interconnection processes rather than by NEPA review.

To reach 2030 electricity decarbonization targets, the US will need almost a terawatt of new wind and solar power on the electricity grid, and two terawatts by 2035 ([Denholm et al. 2022](#)). However, utilities, fossil fuel companies, and other energy actors have slow-walked regulation that would allow for decarbonization mandates like Renewable Portfolio Standards at either the state or federal level ([Shallenberger 2018](#)). Consistently, enforceable decarbonization mandates have been met with aggressive corporate lobbying and political contributions either to eliminate the regulation altogether or to limit ambition ([Gearino 2021](#)).

Despite this opposition, campaigns across the US have still won policy commitments to climate action. For example, in 2019, New York committed to carbon-free electricity by 2040 and net-zero emissions for all energy by 2050 with the Climate Leadership and Community Protection Act—one of the most ambitious decarbonization commitments in the country ([New York State 2023](#)). In places with such commitments to renewable energy, one of the biggest hurdles for developers is coming to agreements with grid operators or electric utilities. Developers must begin the process of connecting a renewable energy or storage project to the grid by submitting an application to connect to one of these entities, which manage power flows to balance electricity demand and supply and plan for future demand. This interconnection application allows grid operators and electric utilities to understand how new power sources affect heat and voltage on the grid, and whether any upgrades are needed to handle flows from the new source.

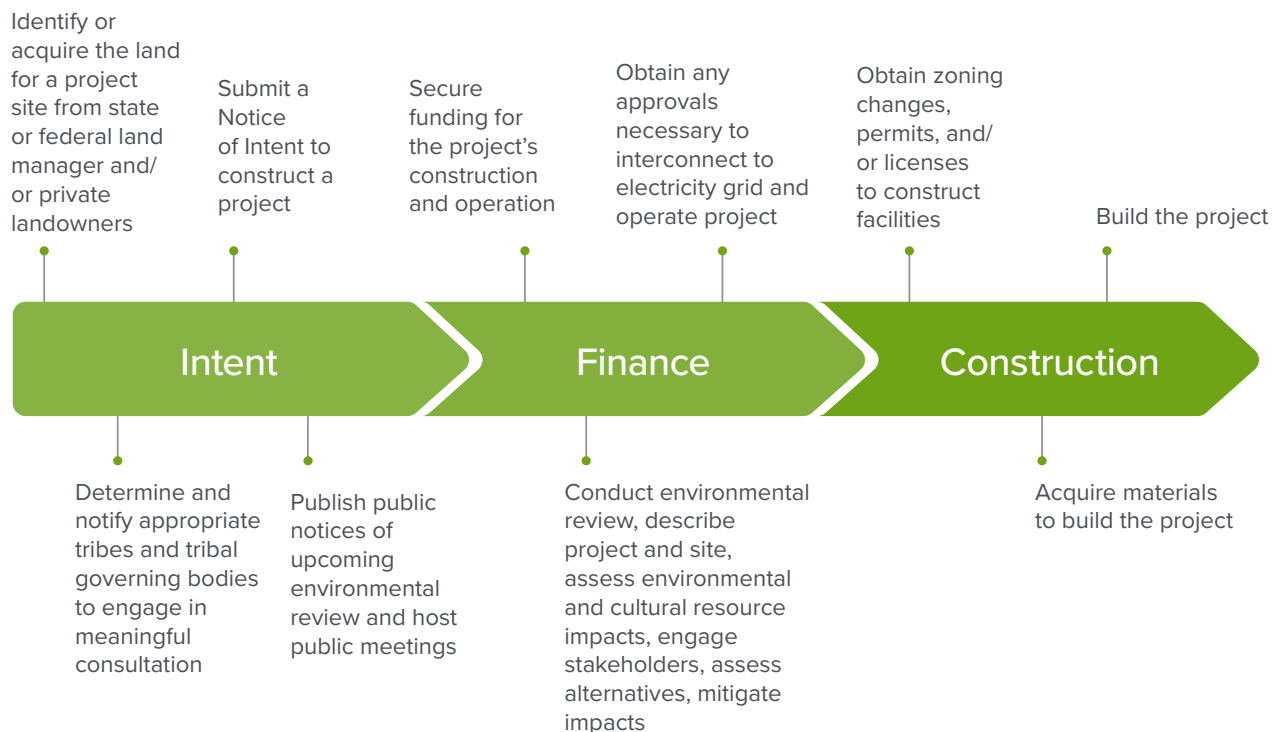
As some states commit to new power capacity, applications to connect utility-scale renewable energy projects to transmission systems throughout the US are soaring—so much so that in 2022, two major grid operators (PJM and CAISO) requested a pause on new applications while they clear the backlog. In fact, there are more renewable energy projects awaiting interconnection studies (around two terawatts) than the generation capacity of the entire electricity system in the US today (which is close to 1.4 terawatts) ([Rand et al. 2023](#)).

The speculative and opaque nature of the planning and operation of our power system often leads to overloaded interconnection queues. Grid operators evaluate interconnection requests project by project, studying the cost of interconnection for each applicant. In response, applicants submit speculative projects because they are unsure of the cost of interconnection until the studies are complete. Because developers submit more projects than they intend to build or are unsure about feasibility, as they do not know interconnection costs when applying, most applications for interconnection are withdrawn.

In addition to delays stemming from interconnection queues and the application process, siting new projects can also be a challenge due to conflicts over competing land uses. Renewable energy infrastructure will require siting new utility-scale solar, geothermal, or wind projects across a range of landscapes. These new patterns of land use for renewable energy may impact agriculture, rural areas, wildlife habitat, and places of cultural importance. Communities that interact with these landscapes may have concerns, including those about environmental harm, property values, or cultural resources—all land-use conflicts that have stopped or delayed renewable energy projects in the past ([Susskind et al. 2022](#)). Furthermore, intergovernmental jurisdictions including zoning or other local regulation may come into conflict with state siting laws, creating complex dynamics between government entities and slowing down projects. In many of these cases, especially on nonpublic land, most of the approvals that slow down renewable energy projects are at the state and local level where zoning or land use ordinances block proposed development.

Figure 3.

This figure shows a typical process of developing and constructing energy infrastructure in the United States, from intent to develop a project through environmental and cultural resource review, other zoning and permitting requirements, and project construction. Environmental review is often blamed as a cause of delay in infrastructure development, but long interconnection queues to connect to the electricity grid are the main cause for delay with renewable energy projects (adapted from [Susskind et al. 2022](#)).



Distributed energy resources (DERs)—such as residential rooftop solar, batteries, demand-responsive devices, smart grids, and virtual power plants—face numerous additional obstacles to deployment in realms that are outside of environmental permitting. Even modestly sized solar and microgrid projects receive categorical exclusions under NEPA/CEQA, and smaller projects like rooftop solar and battery DERs do not require environmental review at all. However, deployment of distributed energy resources still faces significant obstacles for implementation, like slow interconnection, inspection, and obtaining of local electrical and building code permits, which vary by local jurisdiction and utility ([O’Shaughnessy et al. 2022](#)). Some groups—often presenting themselves as “grassroots” organizations, but really “astroturf” front groups funded by private companies or industry associations—are even passing or advocating antisolar zoning ordinances to stop the deployment of rooftop solar that cuts into their bottom line ([Anderson 2017](#)). Furthermore, many parts of the electricity grid do not have the capacity to host these more distributed energy assets, and there is often not effective policy to make the financials work for homeowners—especially for Black-identifying and disadvantaged households ([Brockway, Conde, and Callaway 2021](#)).

Case Study:

Balancing Renewable Energy Siting and Conservation

In 2008, after expanding its renewable portfolio standard, California initiated the Desert Renewable Conservation Plan (DRECP)—a collaboration between state and federal agencies—to identify areas appropriate for renewable energy development. The DRECP covers 22.5 million acres of the Mojave and Colorado/Sonoran Desert regions in California and has two primary goals:

- Goal 1: Provide a streamlined process to develop renewable energy projects by prescreening for issues that might come up around conservation or cultural resources, identifying compatible development focus areas, and streamlining mitigations at the landscape level.
- Goal 2: Enhance the conservation of special-status species, desert landscapes, and cultural resources by adding protections to important landscapes for conservation that are not compatible with development.

With the California desert region prescreened, renewable energy developers can typically forgo the need to prepare an EIS and can instead rely on simplified environmental assessment such that projects can be approved in less than 10 months. The DRECP designates 388,000 acres of preferred sites for renewable energy, and over 800,000 acres of lands compatible with renewable energy development—more than enough to meet the state’s goals. The DRECP has seen zero litigation while permitting several gigawatts in over the decade it has operated—speaking volumes to its success. While still imperfect, the DRECP model demonstrates the power of conducting regional planning to discern how land should be allocated to value environmental protection, the energy transition, and other factors like agriculture, cultural significance, and more.

Takeaway: Early planning and community engagement can result in a streamlined approval process with minimal land use conflicts and beneficial conservation outcomes.

Energy transition metal and mineral development delays are not from NEPA review.

The transition to renewable energy, electric heating, and mobility will also require the development of new metal and mineral sources, and there are proposals all over the US to develop new mines. In debates about hardrock mine permitting reform, delays in domestic project development are often attributed to lengthy environmental review. But as with other areas of the energy transition where NEPA is blamed for delays, this is demonstrably untrue. Other factors, including commodity price fluctuations, changes in project plans or ownership, and incomplete or untimely information provided to agencies have more of an influence on mine development timelines.

Most public lands mining is governed by the antiquated and problematic General Mining Act of 1872. Unlike fossil fuel extraction, hardrock miners do not ask for permission by requesting a lease. Instead, they self-initiate mining rights merely by staking a claim to public lands, filing paperwork, and paying a fee. This allows miners statutory rights to access their claim and conduct mineral exploration.

Where mineral exploration occurs on fewer than five acres of public lands, the project is sometimes categorically excluded from NEPA, with no notice provided to impacted communities and little regard to environmental protection. According to data that mining companies submit annually to the Fraser Institute, this claim-staking practice allows 86 percent of domestic hardrock mine exploration projects to receive all necessary authorizations within 11 to 14 months ([Fraser Institute 2023](#)).

It is only if the miner discovers valuable minerals during exploration that a proposal for a fully operating hardrock mine will undergo review under NEPA. The US Government Accountability Office (GAO) looked at the time required to process environmental reviews for mining proposals by the Bureau of Land Management and Forest Service, and found wide variations, from one month to eleven years (with an average of two years) for the 68 projects it reviewed ([GAO 2016](#)). However, where delays occurred, they were attributed to poorly thought-out designs or insufficient or untimely information provided by mining companies. GAO interviews with agency staff found the two largest factors contributing to delays were changes to mine plans and the lack of detail in mine plans, which on the tail end could delay projects up to six or seven years, respectively. Operator delay requests were the third most lengthy type of delay. A lack of staff, staff expertise, and funding was found to delay projects up to a year. These studies all suggest that NEPA reviews are not obstacles or causes of delays for metals or minerals development. Ultimately, meaningful reforms to mining and mineral extraction projects for 21st-century energy transitions require addressing the outdated 19th-century mining law.

Case Study:

Sharing Benefits and Engaging Environmental Justice Concerns

The Salton Sea and Imperial Valley region of California is a Known Geothermal Resource Area—rich in geothermal and lithium resources—and for the past decade has had several geothermal plants in operation near the town of Brawley, CA. But the area is also one of the poorest parts of the state, with high rates of unemployment and low-wage jobs, and is regularly one of the most polluted. Expecting future development of mineral resources in geothermal brines, in 2020, the California legislature created the Lithium Valley Commission and put a sales tax on lithium extraction. The Commission also initiated a Programmatic EIS, currently underway, that will help identify and avoid impacts to environmental justice communities, as well as advise where proceeds from lithium, copper, and zinc extraction should be invested to reduce environmental inequality in the region. These projects come with impacts as well—the process brings up heavy metals like lead and arsenic that can be detrimental to local groundwater. The review process seeks to review and mitigate these impacts, ensuring fence-line communities are not burdened by geothermal or lithium development.

Takeaways: The Lithium Valley Commission is a first step in limiting the environmental harm of the extraction of new transition minerals and ensuring that environmental justice and tribal communities' visions and concerns are heard in the planning process and benefit from the resources created by these projects.

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It is too easy to obtain NEPA review and permits for carbon pollution and fossil fuel infrastructure.

The US continues to approve permits for new pipelines, drilling, compressor stations, liquified natural gas (LNG) facilities, biorefineries, fossil hydrogen, and power plants ([EIA 2022](#)). The Willow Project to develop oil and gas on Alaska’s North Slope and the Alaska LNG Project to move natural gas 800 miles from the Alaska North Slope to south-central Alaska for liquefaction and export are just two of the latest examples of tens of billions of dollars committed to fossil fuel infrastructure that will live on for decades. While the US has continued to build pipelines, some high-profile pipeline projects have been met with challenges getting Clean Water Act permits from the Army Corps of Engineers. The Clean Water Act requires that the Army Corps evaluate impacts from projects that could result in discharge of dredged or fill material, and issue permits with conditions such as what can be discharged and where. The Keystone XL and Dakota Access lines are two prominent examples of projects that encountered difficulties obtaining a permit from the Army Corps, largely due to the threats posed to community water sources by the pipeline route.

The permitting process for pipelines is more or less complex depending on where projects are built and how many jurisdictions they cross. Crossing state lines is more complicated because it can involve multiple layers of approvals, which is why a single agency, FERC, coordinates interstate approvals. Permitting for intrastate pipelines can also vary with different state requirements. For example, the GAO found that six states do not even require advance approval of the route and location while all other states require that very basic information ([GAO 2013](#)). International crossings into Canada or Mexico can further complicate matters, as such projects require the State Department’s involvement.

Figure 4.

The permits and approvals required for various types of energy infrastructures and projects.

Examples of types of analyses for compliance review, inspections and permits, and private contracts required for different types of energy infrastructures	Approvals for Carbon Pollution				Approvals for Renewables and Electrification						
	Mainline pipelines	Liquified natural gas (LNG) facilities	Natural gas power plants	Refineries, biofuels, hydrogen	Regional transmission lines	Utility scale solar & storage	Onshore wind	Offshore wind	Hydropower	Distributed energy resources (DERs)	
National Environmental Policy Act (NEPA) analysis	NEPA analysis required	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	NEPA categorical exclusion/CEQA categorical exemptions					✓					✓
	NEPA environmental impact statement (EIS)/CEQA environmental impact report (EIR) required	✓	✓	✓		✓		✓	✓	✓	
	Clean Water Act	✓	✓	✓	✓	✓	✓	✓	✓	✓	

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	Examples of types of analyses for compliance review, inspections and permits, and private contracts required for different types of energy infrastructures	Approvals for Carbon Pollution				Approvals for Renewables and Electrification					
		Mainline pipelines	Liquefied natural gas (LNG) facilities	Natural gas power plants	Refineries, biofuels, hydrogen	Regional transmission lines	Utility scale solar & storage	Onshore wind	Offshore wind	Hydropower	Distributed energy resources (DERs)
National Environmental Policy Act (NEPA) analysis	Clean Air Act/US Environmental Protection Agency	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	National Historic Preservation Act	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Endangered Species Act	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Native American Graves Protection and Repatriation Act	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Local and state zoning, permits, and approvals	Conditional use permit	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Zoning ordinances	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Utility or service commission approvals	✓		✓						✓	
	Department of Transportation	✓	✓	✓	✓	✓					
	Building & electrical codes	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Private arrangements and contracts	Utility/ISO/RTO interconnection study	✓	✓	✓		✓	✓	✓	✓	✓	
	Utility/ISO/RTO interconnection agreements	✓	✓	✓		✓	✓	✓	✓	✓	
	Buyer/offtaker agreement	✓	✓	✓		✓	✓	✓	✓	✓	
Operation and construction permits	Federal Energy Regulatory Commission	✓	✓			✓				✓	
	Clean Water Act/US Army Corps	✓	✓	✓	✓	✓	✓			✓	
	US Environmental Protection Agency	✓	✓							✓	

Despite calls for permitting reform from the oil and gas industry and pipeline developers, the extensive network of pipelines, refineries, and processing sites moving petroleum, tar sands, natural gas, hazardous materials, and even CO₂ across the US continues to attract investment. These projects are still being built despite policy commitments to reduce emissions for climate action elsewhere. The US permits far too much fossil fuel infrastructure, despite the public health, environmental, and climate impacts. Continued commitments to fossil fuel infrastructure perpetuate greenhouse gas pollution, further slowing down decarbonization.

Case Study:

Permitting Infrastructures Incompatible with a 1.5°C Future

The 2023 approval of ConocoPhillips' Willow Project to develop oil and gas in Alaska's western Arctic commits the US to increased fossil fuel development and production from public lands, makes a long-term commitment to fossil fuel infrastructure that is incompatible with climate targets, and further burdens environmental justice and frontline communities with pollution. Unfortunately, NEPA's environmental review process includes little consideration of the greenhouse gas impacts of a project.

In 2016, the Council for Environmental Quality (CEQ)—the agency tasked with overseeing NEPA implementation—developed guidance under NEPA for evaluating greenhouse gas impacts from projects, to better contextualize and understand climate change implications from federal actions. Under President Biden, CEQ updated this guidance in 2023. The CEQ guidance aims to estimate greenhouse gas emissions from a federal action, and encourage agencies to consider project alternatives that would mitigate those emissions. However, policymakers have not observed this guidance in decisions such as approving new fossil fuel infrastructure that is incompatible with domestic greenhouse gas emissions reductions goals and commitments to international climate agreements.

Takeaway: Greenlighting projects like ConocoPhillips' Willow Project undermines national climate action goals and shows that CEQ guidance on greenhouse gas impacts under NEPA is not being effectively put into practice to limit fossil fuel expansion.

Principles for a Just Transition

The latest permitting reforms in the Fiscal Responsibility Act of 2023 will not achieve the necessary changes to expand renewable energy. The law also permits construction of a new natural gas pipeline that otherwise could not be built without violating the Clean Water Act, reinforcing the misalignment between climate action targets and energy infrastructure development.

In this section, we put forward three critical principles guiding all of the recommendations in this paper, principles necessary to achieve a just green transition at the scale and speed needed to address the climate crisis:

Align action with 1.5°C targets: In the Paris Climate Accord, countries agreed to strive to keep warming below 1.5°C to stave off some of the worst impacts of the climate crisis. In 2023, the Intergovernmental Panel on Climate Change (IPCC) reported that the world has already warmed by 1.1°C, and we are seeing the impacts. Advocates' calls for permitting reform would require the US to take the bad with the good—

We also have the opportunity to make the energy transition reparative: Developing an energy future that centers those most harmed by the fossil fuel energy system—largely Black, brown, Indigenous, and poor communities—is a way to apply a constructive form of reparations.

though advocates hope these reforms could accelerate build-out of renewable sources, they would definitely accelerate build-out of fossil fuel energy. This is in direct contradiction to staying within 1.5°C of warming. Instead, any permitting or other reforms should align with the Paris climate goals.

Make environmental laws stronger: Transitioning from fossil fuels to an electrified, renewable energy system is key to protecting water and air and conserving land and coastal waters. But shifting to renewable energy will also require new materials and land use, and is not without its own impact on the environment. Meeting future electrification goals will require increased production of batteries for transportation electrification and grid storage. These batteries are made of critical metals and minerals like lithium, manganese, graphite, nickel, and cobalt. While much of this development will remain global, North America and Europe are seeking to reshore battery supply chains ([Riofrancos 2022](#)). Mining causes some of the most significant environmental impacts of all human activities, including land-use change, mining waste or tailings production, soil and water

contamination, and water use. Lithium production from brines or saline aquifers, for example, can be groundwater intensive, making strong environmental laws crucial, especially since more than half of global lithium production occurs in areas of high water stress, a condition that will only intensify with the climate crisis ([IEA 2021](#)). Renewable energy systems will also take up more space than the previous system—wind and solar can require 10 times as much land as fossil fuel plants, leading to important considerations around land-use planning ([Gross 2020](#); [Clemmer 2023](#); [NREL 2023](#)). To protect against harmful impacts to land, air, and water of renewable energy build-out, policy proposals must strengthen bedrock environmental laws.

Design with communities in mind: Frontline communities—disproportionately Black, Indigenous, or brown—have been exposed to the brunt of the fossil-fueled system. While renewable energy systems inherently pollute less, pollution is not the only impact an energy source can have on a community. There are also issues of land, jobs, economic vitality, access, and more. Any policy proposal needs to ensure that communities receive fair treatment and meaningful involvement in the build-out of new infrastructure and that benefits flow to local communities, especially those marginalized by the fossil-fueled system. We also have the opportunity to make the energy transition reparative: Developing an energy future that centers those most harmed by the fossil fuel energy system—largely Black, brown, Indigenous, and poor communities—is a way to apply a constructive form of reparations ([Táiwò 2022](#); [Salazar 2023](#)).

Policies to Initiate the Energy Transition

Based on our assessment of the biggest problems hamstringing the build-out of renewable energy in the United States, we propose the following policies to accelerate the renewable energy transition. We ground these proposals in the three principles laid out in the previous section; and outline three key, and interconnected, categories of policy intervention—those that: (1) enable more coordinated planning; (2) enhance community participation and consent; and (3) empower the transition.

Enable More Coordination and Planning

Increase land-use coordination and planning: Effective, comprehensive land-use planning—including the identification of land and routes that can be developed for renewable energy and transmission infrastructure with low environmental impact—can significantly hasten and coordinate the transition. For instance, regional planning based on future electricity generation mix and land-use needs could contribute to a transmission and utility-scale energy build-out roadmap that results in well-placed, lower-impact deployment of infrastructure. According to a recent study by the Nature Conservancy, the US could limit land-use change by 70 percent through strategies like colocating wind and solar, employing agrivoltaics (integrating solar on agricultural land), and using solar tracking technology to increase the capacity of panels ([The Nature Conservancy 2023](#)). There are also other planning tools, such as the Programmatic Environmental Impact Statement (see earlier case studies of the West-wide Energy Corridors, DRECP, or Western Solar Plan), that can help identify impacts early on and offer opportunities to meaningfully engage with tribes and environmental justice communities. Another example is the Competitive Renewable Energy Zone (CREZ) process in Texas, in which the legislature directed the public utilities commission to plan for where new generation and transmission would be located and routed ([Lasher 2008](#)).

Increase transparency and review capacity in transmission development and renewable energy interconnection processes: Transmission development is largely guarded by private utilities or opaque ISOs and RTOs that manage power systems across distinct service territories. The incentive to isolate those service territories from competition makes it hard to build interregional transmission infrastructure. RTOs and ISOs are private, nonprofit agencies that manage a public good—energy—and their decision-making should be transparent and accountable and should feed into larger, even interregional, planning processes. Furthermore, cost allocation strategies should be developed to make adding new or expanded electricity transmission more straightforward and to avoid drawn out fights over who pays for what ([Lieberman 2021](#)). Interconnecting to the electricity grid is similarly nontransparent to renewable energy developers. Interconnection queues are overloaded with applications in part because developers are submitting multiple simultaneously, but not intending to build them all. With more visibility into the technical feasibility and costs of interconnection, renewable

energy developers will submit fewer speculative projects, and instead focus on the projects they aim to build. Ensuring that ISOs and RTOs are adequately staffed and focused on reviewing projects that are likely to be developed is critical to expediting interconnection.

Increase permitting agencies' capacity: While Senator Manchin and President Biden have been actively pushing for permitting reform, they also have undermined agencies' permitting capacity. For example, Biden slow-walked appointing a new FERC commissioner, while Manchin refused to have a hearing to renominate the FERC commission chair, letting the position expire and shifting the political makeup into deadlock. The Biden administration should prioritize filling the FERC commissioner vacancies to ensure energy projects and agency reforms for a climate-safe energy future are not stalled. Agencies involved in NEPA reviews, including the Bureau of Land Management, the Environmental Protection Agency, US Fish and Wildlife, the Army Corps of Engineers, the US Forest Service, the Bureau of Ocean Energy Management, and others require more staff to review, inform, and assess different infrastructure projects. A lack of experienced staff, unpredictable staff availability, and inadequate and/or inconsistent funding were major reasons for delay in permitting reviews ([Pleune 2022](#)). With the large influx of projects, staffing up, stabilizing, and training agencies will be crucial to quicker turnaround and keen evaluation of projects' merits and drawbacks. Furthermore, there should be explicit capacity brought to coordination across agencies with relevant jurisdictions on a project to manage potential interagency variance and timelines ([Ruple, Pleune, and Heiny 2022](#)).

Build public renewable energy and transmission: When the nation needed similarly strategic national transportation infrastructure fast in the 1950s, the federal government built interstate highways through direct federal funding at an ambitious scale, interregional coordination, and devolved structures of regional ownership and planning power. The large-scale integration of renewables and grid transformation for resilience are similarly central to future national prosperity and require similar ambition, and the federal government is well-situated to become a public developer of renewable energy and transmission, where it is needed. In a recent Climate and Community Project report, we argue for building public renewables and transmission as a way to better coordinate and accelerate renewable energy deployment ([Bozuwa et al. 2023](#)). As a public entity with a strong regional and interregional mandate, long-term planning horizons, and an ability to absorb the financial risks, the federal government would be better able to build the regional and interregional projects needed than either incumbent IOUs and ISOs/RTOs or nonutility private players. Furthermore, with a focus on the public interest and without need for profits, public renewables and transmission could be cheaper, provide for better-coordinated community planning and co-benefit, and even reinvest any revenues into grid maintenance or community support where projects are located.

Increase material and energy efficiency: One of the best ways to handle the challenge of building renewable energy infrastructure fast is to limit the need for build-out altogether by increasing energy efficiency and producing less waste. This can be done in a range of ways. For instance, investing in energy efficiency of buildings will lower the demand for new energy build-outs, as well as ensure that people have the energy they need during peak energy demand during heat waves or cold snaps ([IEA 2019](#)). Increasing US building efficiency could lower electricity use as much as 26 percent in 2030 ([Langevin et al. 2021](#)). On transportation, a recent study from the Climate and Community Project found that the United States could limit its need to extract lithium, a key transition mineral, by 90 percent and still achieve decarbonization goals by investing in smaller electric vehicles, public and active transportation, and augmented battery recycling practices ([Riofrancos et al. 2023](#)). These projects

are not just strategies to handle issues of permitting or rapid renewable build-out; they also have major affordability benefits—providing lower energy rates to households and creating more accessible forms of transit.

Support resilient distributed energy resources: Another way to avoid some large-scale build-out for infrastructure like transmission is to deploy so-called “distributed energy resources,” or DERs—including technologies like rooftop solar, batteries, and microgrids. These types of technologies are more localized to the point of use, which has multiple benefits. As the Center for Biological Diversity describes in a recent report, DERs can increase the efficiency of delivering energy to users because they have fewer line losses from point of production to use than transmission lines; they reduce the need for land because they can be deployed on rooftops or parking lots; they reduce the need for new transmission lines or substations; they can help provide local energy resilience during climate crises like wildfires or storms; and they can create more local jobs ([Center for Biological Diversity et al. 2023](#)). Aiming to address some of the concerns about local permitting requirements that are slowing DER deployments down, the government could require faster rooftop solar interconnections, better distributed renewable policies that allow for widespread adoption, and investment in rooftop solar programs for low-income households—building off the Inflation Reduction Act. The Sacramento Municipal Utility District has also worked with the National Renewable Energy Labs to automate rooftop solar interconnection assessment and processes as deployment accelerates, an approach that could be a model for the rest of the country ([Walton 2022](#)).

Update the 1872 General Mining Act: Any discussion of permitting reform for the energy transition must also contend with the 1872 General Mining Act, which has gone relatively unchanged for 150 years. The law contains no environmental provisions and the land-use prioritization or regulations are outdated. The law gives highest priority to hardrock mining above all other land uses, and unlike for other extractive activities, the law allows developers to mine valuable metals and minerals without compensating the taxpayers who own them with royalties. The provisions of the 1872 General Mining Act are out of step with the scale and impacts of contemporary large-scale mining, and ill-suited as a framework for responsible extraction of metals and minerals for energy transitions. The Mining Act must be reformed to recognize Free, Prior, and Informed Consent of Indigenous peoples as laid out in the International Labor Organization’s Convention 169 ([International Labor Organization 1989](#)), and the United Nations Declaration on the Rights of Indigenous Peoples. It also must be amended to include environmental protections, including safeguards against water contamination and water overconsumption, and to require that companies fund the environmental remediation of abandoned mines and reduce mining waste (as well as ensure that remaining waste is safely stored). Proposals to convert mine development on lands managed by the Bureau of Land Management and US Forest Service from a location to a leasing system for hardrock minerals—similar to the one that oil and gas companies use today—would help provide certainty to the permitting process, give agencies more discretion on land-use terms and duration, and result in mining companies paying royalties.

Enhance Community Participation and Consent

Strengthen NEPA and permitting processes with community consent: The United States has a long history of steamrolling communities, especially Black, brown, and Indigenous communities, in the pursuit of infrastructure development—from landfills to oil refineries. Advancing a new energy system holds major potential to repair this legacy and build better projects in the process, but could also

perpetuate the status quo. Right now, energy development and permitting follows a process of “decide, announce, defend,” wherein community members are put on their heels with little room to influence new infrastructure developments that affect their land, water, and livelihoods ([Beierle 1999](#)). Getting projects right from the start often means working early and meaningfully with local communities to build trust, including listening to and considering how best to address their concerns.

Strengthening community participation early in the process will likely move projects forward faster, without as much community opposition. Early engagement allows a community to influence a project in the design phase, when meaningful avoidance, reduction, or mitigation of adverse impacts is still possible. The US needs to strengthen NEPA and other permitting laws to reverse historic power dynamics so that communities have the right to reject projects that would actively harm them, and needs to increase the requirements for community participation. The proposed Environmental Justice for All Act outlines some key ways that NEPA could be strengthened, such as by requiring federal agencies to provide opportunities for early and meaningful community involvement for proposed projects, particularly in frontline and fenceline communities ([Office of Congressman Grijalva 2023](#)).

Respect for tribal sovereignty: A just energy system recognizes tribal sovereignty and seeks consent on projects with implications for treaties and cultural resources. The US has a long track record of marginalizing tribal communities and breaking treaties, and energy development from fossil fuels and uranium mining have left a legacy of pollution near tribal communities. In the US, 79 percent of all known lithium deposits sit within 35 miles of tribal reservations ([Block 2021](#)). Tribal scholars and legal practitioners have noted that the US continues to fail tribal governments, pointing specifically to problems with fast-track processes that do not provide meaningful consultation for tribes to weigh in in a way that respects tribal sovereignty and cultural resources ([Bathke 2014](#)). The US should endorse the United Nations Declaration on the Rights of Indigenous Peoples, include state-recognized and unrecognized US Indigenous communities in negotiations regarding land stewardship, and cede land territories to them with the intent of ecological and human stewardship—allowing for nation-to-nation negotiations on new energy infrastructure.

Apply cumulative impact analysis: Politically marginalized communities—often marginalized because of their race and class—typically suffer a disproportionate burden from polluting infrastructure. For instance, the majority-Black neighborhood of South Baltimore Peninsula is home to multiple harmful industries, including industrial factories, chemical plants, and waste disposal, that contribute to much higher rates of cancer, cardiovascular disease, and premature death ([Fabricant 2022](#)). Decision-makers should not further overburden communities in redesigning how the US determines the impacts of infrastructure and where it should go. Increasingly, states and the federal government are employing regulations to require cumulative impacts analysis, wherein research is conducted to understand the total burden from an additional project in a neighborhood on health, well-being, and quality of life ([US EPA 2023](#)). New Jersey has one of the most robust cumulative impact laws, requiring the state’s Department of Environmental Protection to deny permit requests if the infrastructure would create a disproportionately high cumulative burden on the community ([Kane 2022](#)). Integrating a cumulative impacts analysis in determining where and how new infrastructure can be deployed can alleviate the increasing pressure on marginalized communities and ensure that infrastructure projects don’t further perpetuate harm. Furthermore, it could also be used as a proactive tool to prioritize public investments in jobs and training and bring positive impacts to the area.

Provide community benefit: In addition to ensuring that community members—particularly those from frontline and fenceline communities—get a say in project development, providing explicit community benefit associated with the project can be crucial to community consent. In many botched transmission

projects, rural communities bear the burden of transmission infrastructure with little benefit to their community. For instance, in Maine, the private utility Central Maine Power (CMP) tried to build a transmission line from Quebec to Massachusetts to transfer hydropower and support Massachusetts's clean energy goals. However, Mainers fought against and stopped the project because it brought few jobs to the state but affected the ecology of Maine forests and allowed CMP (a notoriously terrible private utility) to turn extra profits ([Spector 2023](#)). In contrast, engaging the community in project design to limit harm and colocate benefits; providing community benefit through support like jobs, discounted energy, and investments in local infrastructure; and even providing direct ownership to receive a portion of the profits can flip the script and help deploy important pieces of energy infrastructure.

One of the clearest examples of building in shared community benefit and ownership has been in Denmark's wind revolution, which began in the 1990s. The government subsidized wind energy through a combination of subsidies and mandates for renewables for the regional public utilities, and incentivized a portion of the project to be owned by local municipalities. This helped speed projects along, especially because they were designed to enhance community benefit—and therefore—consent. Public opinion of wind turbines is much higher in Denmark than in other countries, and this may be because people hold a vested interest in the infrastructure ([Cumbers 2013](#)). In one specific wind farm, for example, the project developers also brought in landscape design professionals and engaged the community in an intentional design process to create a positive landscape experience ([Szumilas-Kowalczyk and Pevzner 2019](#)).

There are similar examples in the US. The Oceti Sakowin Power Authority in the Great Plains region was formed between the Cheyenne River, Flandreau Santee, Oglala, Rosebud, Standing Rock, and Yankton tribal communities to enhance tribal energy sovereignty and self-determination. This partnership will bring more than just jobs and tax revenues; it will also generate revenues from shared ownership of 1 gigawatt of wind power projects across several sites ([Cedar 2021](#)).

Empower a Just Transition

Stop all new fossil fuel permits: US policymakers still permit new fossil fuel infrastructure despite scientific consensus that continued development of new fossil fuels is incompatible with limiting temperature rise to 1.5°C. Oil and gas companies are using “permitting reform” to undermine environmental laws amid a climate crisis when instead we should be strengthening environmental regulations to reduce fossil fuel pollution. The US is a net exporter of fossil fuels, and one of the biggest historic emitters in the world, making it one of the most important countries in which to decrease fossil fuel extraction levels. On the campaign trail, Biden committed to ending all new fossil fuel permits. He has since gone back on this commitment and green-lighted fossil fuel projects, such as the Willow Project and Alaska LNG, at a faster rate than the Trump administration; allowed and actively leased thousands of acres of public lands to oil and gas; voiced support for moving forward the Mountain Valley Pipeline; and did not intervene to end the permitting of Line 3 oil pipeline in Minnesota. The Biden administration can and should stop all new fossil fuel permits, and any change in permitting should include an express ban on new fossil fuel permits, in alignment with climate targets.

Protect communities from fossil fuel pollution: States like California have implemented effective strategies to limit the harm of pollution, including strengthening environmental laws through mechanisms like setback limits for oil and gas wells. These rules prevent oil and gas companies from drilling too close to communities and can limit pollution exposure, especially in environmental justice communities. Implementing setbacks can be a component of a fossil fuel phasedown, permanently

retiring the infrastructure that causes the most environmental and public health harm first.

Set emissions reduction targets to phase out fossil fuels: Another way to accelerate the energy transition is to set clear, legally binding emissions reduction targets to force investments in clean energy generation and infrastructure. As we have described above, it is often not permitting that slows down the transition to renewables but a lack of strong regulation to mandate the transition and force businesses, utilities, governments, and power producers to build renewable energy infrastructure. Twenty-three states currently have clean or renewable energy standards, with varying ° of ambition and follow-through ([NCSL 2021](#)). New York State has one of the most ambitious energy standards in the US: The state’s Climate Leadership and Community Protection Act requires that 70 percent of energy to be generated with zero emissions by 2030, and 100 percent by 2050. In the federal negotiations for Build Back Better, a clean energy standard was one of the key climate provisions—but it was ultimately cut in the Inflation Reduction Act ([Harper et al. 2023](#)). Individual states can set ambitious and legally binding emission reduction targets, but the US should ultimately employ a nationally coordinated emission reduction target.

Conclusion

The climate crisis requires the United States to catalyze the energy transition and deploy renewable energy with new ambition. Over the past few years, politicians, advocates, and industry actors have pointed to the US’s energy permitting system as a key structure stifling the transition. Climate advocates are rightly frustrated with the clip at which renewable energy has been deployed—far too slowly, for far too long. However, too much of the debate around rapid deployment has hinged on permitting, when the transition is mired elsewhere in the development process. In fact, much of the advocacy around permitting reform has come from the fossil fuel industry looking to streamline permitting processes for its polluting infrastructures.

Furthermore, the transition from fossil fuels to renewable energy is about more than just switching out one energy type for another. It is also an opportunity to repair historic harms for pollution, marginalization, and exploitation wrought by the fossil-fueled system, and to build a far more just and equitable energy system for the future. However, “cutting red tape” in the name of the climate crisis via permitting reform risks reinforcing these historic harms.

The Fiscal Responsibility Act of 2023 passed permitting reforms that made changes to NEPA, but it will do little to address the problems this report identifies as playing the largest role in delaying the clean energy transition, and could even make things worse. The US must still advance a package of reforms that will effectively unleash renewable energy while building community wealth and power.

The transition from fossil fuels to renewable energy is about more than just switching out one energy type for another. It is also an opportunity to repair historic harms for pollution, marginalization, and exploitation wrought by the fossil-fueled system, and to build a far more just and equitable energy system for the future.

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