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## Permitting of Clean Energy Infrastructure: The Dual Challenges of Speed and Environmental Justice

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### Executive Summary

The clean energy transition calls for a monumental buildout of various forms of energy infrastructure nationwide to reach net-zero emissions. However, the permitting process for such infrastructure is often lengthy, involving a complex web of overlapping jurisdictions across state, local, and federal government. This jeopardizes the necessary speed of the energy transition to meet climate goals. At the same time, the permitting process often falls short in its aim of protecting communities of color from environmental injustices, such as pollution-driven health disparities. The nation now faces a critical dual challenge: streamlining the permitting process to build clean energy quickly, while also strengthening safeguards against environmental injustice. Potential solutions to this challenge should minimize redundancies in process and consolidate responsibility across the government for executing the process, as well as empower disadvantaged communities in actively determining the outcomes of project development.

### Understanding the dual challenge

Tackling the climate crisis is, in many ways, a matter of building infrastructure. Meeting the nation's goal of

net-zero greenhouse gas emissions by 2050 will require the timely construction of power transmission lines, clean electricity generation, clean energy manufacturing, transportation networks, and new industrial configurations. Currently, the U.S. is not on track to build this infrastructure quickly enough to achieve climate targets. For instance, a Princeton University analysis found that the U.S. must more than double its pace of electricity transmission buildout to keep climate goals in reach.<sup>1</sup>

One reason behind the slow pace of infrastructure buildout is the long lead times to obtain the necessary federal, state, and local permits for a proposed project. The permitting process can often be the longest part of developing an energy project, sometimes taking over a decade to complete. For example, the National Environmental Policy Act permitting review process, which is often one of several steps for a given project, takes an average of 3.3 years for transmission lines, 2.4 years for pipelines, and 2.3 years for renewable energy projects.<sup>2</sup>

Given these long timelines, an imperative for U.S. climate progress is to speed up clean energy permitting processes. However, environmental advocates stress that any efforts

to reform permitting processes must not undermine a critical function of these regulations—to safeguard against injustices to communities and ecosystems affected by infrastructure projects. The U.S. has a long history of environmental injustices, which continue even under current regulations.

A large body of evidence has demonstrated that Black, Hispanic, and Indigenous people across the U.S. are subject to air pollution, toxic waste, lead poisoning, water contamination, and climate change impacts at disproportionate rates.<sup>3</sup> A 2016 report found that people of color are nearly twice as likely as white people to live within a mile of polluting industrial facilities.<sup>4</sup> Emblematic of this issue is Cancer Alley, a region of Louisiana concentrated with over 150 petrochemical facilities whose air pollution has created a 53% higher risk of cancer for the region's predominantly non-white residents.<sup>5</sup> Even with a set of permitting procedures in place to consider the impacts of such projects, harmful petrochemical plants in Cancer Alley continue to be greenlit even today, including the YCI Methanol One plant that began operations in 2021.<sup>6</sup>

In addition, federal permits for certain types of infrastructure, notably natural

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gas pipelines, grant developers eminent domain. This power allows developers to take private land, often with inadequate compensation for the landowner, in order to build their project. Eminent domain for natural gas pipelines has led to environmental injustices by dispossessing residents of their land and locating projects in proximity to unwilling landowners.<sup>7</sup> Efforts to improve permitting processes must allow for speed of clean energy buildout, while maintaining strong safeguards for affected communities.

## **Overview of the permitting process**

To understand the contours of permitting reform, it is helpful to examine some of the key elements of the current permitting process. Any energy infrastructure project must obtain permits from all the local, state, and federal government entities whose geographical or thematic jurisdictions the projects falls under. Across the relevant jurisdictions, a project could require over a dozen separate permits, each with its own associated approval process.

At the local level, projects typically require a land-use permit in accordance with the zoning ordinances of the local government. For wind power projects, for instance, this could include regulations on wind turbines' distance from properties, noise level, and safety requirements.<sup>8</sup> Additionally, long-distance projects including transmission lines and pipelines must come to agreements with private landowners whose property lies on the planned route of the project.

At the state level, many states require

environmental permits to be issued by the state government following a review process to determine a project's environmental impacts.<sup>9</sup> In addition to environmental permits, states often also require permits issued by other government entities with relevant jurisdictions, such as a state department of transportation permit for projects that enter a highway right-of-way. States also generally have initial authority to approve the siting of power transmission line routes inside the state.

At the federal level, a wide range of potential permits may need to be issued for a project from as many different federal agencies. The included table illustrates many of the most important federal permits across thematic areas of wildlife protection, air and water protection, and land use. A large energy project could require any number of these permits based on the jurisdictions it spans. When multiple federal permits are needed, one agency is appointed the lead agency of the permitting process to coordinate across all involved agencies.

The environmental permitting requirements draw their authority from landmark environmental protection laws including the Clean Air Act, Clean Water Act, and Endangered Species Act. These laws require federal permits to be issued for projects that may cause pollution or harm to the relevant protected environmental attribute.

The National Environmental Policy Act (NEPA) functions differently from the other federal permitting laws. NEPA

is a procedural law that does not require its own permits, but lays out the process that agencies must follow to conduct environmental reviews before issuing the federal permits described in the table.<sup>11</sup> The NEPA process occurs separately, and could run concurrently, with state-level environmental reviews. Some projects are exempted from NEPA review if they fall under a 'categorical exclusion' classification of projects that have been determined to have a significant environmental impact. All other projects must first undergo an Environmental Assessment by the agency—a first-pass study of impacts. If the agency finds that the project could have a significant environmental impact, it must then prepare a more detailed Environmental Impact Statement (EIS). Importantly, the EIS process includes an opportunity for public participation, through which members of the public and organizations may provide comments on the proposed project.

NEPA reviews must consider alternatives to the proposed project and consider avenues to mitigate its impacts. These considerations may identify approaches that achieve the desired benefits with lower impacts on communities or the environment. However, as NEPA is purely a process-oriented law, there is no requirement to take up any of the considerations made in the review.

## **Shortcomings of the permitting process**

As it stands today, the permitting process is extensive and slow, delaying crucial clean energy progress, while also often falling short in protecting

## Key Federal Energy Infrastructure Permits

| Permit  | Description  |
|---|--|
| <b>Wildlife Protection</b>  | <b>Projects that may affect endangered species, fisheries, any natural body of water, marine mammals, migratory birds, or bald or golden eagles, require a consultation and/or permit.</b> |
| Endangered Species Act Consultation   | Consultation with the National Marine Fisheries Service (NMFS) or the U.S. Fish and Wildlife Service (FWS) if any endangered species are affected  |
| Magnuson-Stevens Fishery Conservation and Management Act, Section 305 Essential Fish Habitat (EFH) Consultation | Consultation with NMFS if any Essential Fish Habitat (EFH) is affected   |
| Fish and Wildlife Coordination Act Review   | Consultation with FWS or NMFS if any body of water is affected (typically as part of EFH consultation, above)  |
| Marine Mammal Protection Act, Incidental Take Authorization   | Permit from the NMFS if there may be incidental harassment or injury to any marine mammal  |
| Migratory Bird Treaty Act permits   | Permit from FWS if any migratory birds are affected  |
| Bald and Golden Eagle Protection Permit   | Permit from FWS if any bald or golden eagles are affected  |
| <b>Air and Water Protection</b>   | <b>Projects that may pollute the air or water require special permits</b>  |
| Section 404 of the Clean Water Act, Section 10 of the Rivers & Harbors Act                                      | Permit from the U.S. Army Corps of Engineers (ACE) for any project affecting waterways, wetlands, or harbors   |
| Clean Air Act, Outer Continental Shelf (OCS) Air Permit   | Permit from the Environmental Protection Agency (EPA) for projects that may cause offshore air pollution   |

| <b>Federal/Protected Land Usage</b>                                 | <b>If a project proposes the use of any federally owned or protected land, a permit is required from the relevant land administering agency.</b>                             |
|---|--|
| Business Resource Lease   | Approval from the Bureau of Indian Affairs (BIA) to lease Native American land for development   |
| Service Line Agreement  | Approval from the BIA to pass through or access Native American land   |
| Wind Energy Evaluation Lease - Indian Lands                         | Approval from the BIA to lease Native American land for wind energy  |
| National Park Service (NPS) Permit                                  | Permit for the use of NPS land   |
| Right-of-way Authorization  | Authorization required for any right-of-way passing through land owned by the Interior Department, whether the Bureau of Land Management (BLM), BIA, or FWS wildlife refuges |
| Special Use Permit (FS)   | Permit for the use of U.S. Forest Service land   |
| Outgrant Administrative Action                                      | Permit for the use of Department of Defense land   |
| Easement Administrative Action (USDA – NRCS)                        | Permit from the U.S. Department of Agriculture for projects on agricultural lands or wetlands with conservation easements  |
| Floodplain Assessment   | Permit and assessment from the Federal Emergency Management Agency (FEMA) or a local government, for construction on flood risk areas  |
| National Marine Sanctuaries Act permit                              | Consultation or permit (of multiple different types) for projects in a national marine sanctuary   |
| Construction and Operations Plan, Outer Continental Shelf Lands Act | Permit for offshore wind construction on the OCS from the Bureau of Ocean Energy Management  |

Source: The Brookings Institution<sup>10</sup>

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communities of color from injustice. The length of the process stems largely from the high number of different agencies at various levels that must approve a project before it can begin construction. The approval process can be redundant across local, state, and federal levels, and it can be difficult for the involved agencies to coordinate with each other to complete more of the process in parallel. Additionally, preparing environmental review documents can take many years, as previously cited. Since agencies' NEPA reviews are subject to being challenged in court, the increasing length of NEPA review documents is in part because agencies attempt to pre-empt litigation by covering all foreseeable challenges with thorough review documents.<sup>12</sup>

The permitting process has not sufficiently protected communities in part because of shortcomings in the public participation process. Public participation, in state environmental reviews or NEPA reviews, offers marginalized communities the opportunity to have a voice in decision-making that affects them. However, public input is often sourced in ways that exclude vulnerable communities. Public engagement meetings might be held at hours that are difficult for working-class residents to attend, or may not offer compensation for attendees' transportation or attendance. Written public comment periods skew towards big organizations and the more privileged, who have the means to submit long, legal arguments for or against a project. Because of the level of privilege required to participate in these public engagement forums, those who do find success in the process are often wealthy, white participants who oppose clean energy projects because

they fear they will be an eyesore. Even when disadvantaged communities are able to participate in public comments, NEPA cannot compel agencies to meaningfully incorporate this feedback into their permitting decisions.

In a similar vein, clean energy projects have also met resistance in the permitting process on wildlife protection grounds, demonstrating a conflict between climate and biodiversity interests. Small groups of vocal opponents of projects such as wind or solar farms have pointed to the potential impact of the project on a vulnerable species to prevent the project from obtaining the required wildlife permits.<sup>13</sup> Sometimes, these legal arguments for preserving wildlife are advanced surreptitiously by fossil fuel groups working to stall clean energy.<sup>14</sup>

## **Features of solutions**

Considering the shortcomings of the current permitting framework across the dual challenge, solutions should take on several key features. On the environmental justice side, solutions should improve access to the public engagement for disadvantaged communities and increase the power these communities have in determining how projects proceed. The permitting process could engage communities proactively, potentially even before specific projects are proposed in an area, to establish pre-approved infrastructure plans in a given community that developers could fit into. Solutions should also curtail the ability for the permitting process to be taken advantage of by industry groups working to arrest clean energy progress or by privileged communities hoping to prevent minor inconveniences caused by projects.

To improve the speed of permitting, solutions should minimize redundancies in process across different jurisdictions, as well as consolidate responsibility for executing the process to reduce the number of coordinating government entities. Solutions should also increase the resources available to government agencies to process permitting applications at a higher throughput.

## **Conclusion**

The energy permitting process is at the center of our nation's efforts to address the climate crisis and secure justice for all Americans. Its long timelines put the required speed of the energy transition in jeopardy, but efforts to quicken permitting must also improve the process' ability to recognize and avert environmental injustices. The multi-tiered nature of permitting can lead to long delays, while the dynamics of privilege in public participation can lead to perverse outcomes for disadvantaged communities and clean energy progress. Solutions to this complex challenge must champion the twin imperatives of climate progress and justice, and should look for shortcomings in the current system that can be reformed to improve both of these priorities together.

## **Endnotes**

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