

Tech for a Greener Future

Leveraging Innovation to Achieve NEPA's Environmental Goals



ENVIRONMENTAL POLICY
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Part of the Series:

Cracking the Code: Federal technology innovation to heal our natural environment

Published: **September 21, 2023**

Why This Matters

- Recent amendments to the National Environmental Policy Act (NEPA), alongside related Biden Administration initiatives, strive to enhance federal permitting efficiency for development and restoration projects while maintaining environmental safeguards.
- NEPA's fragmented approach to technology makes agencies less equipped to address the prevailing challenges encountered by conservation and restoration initiatives—ranging from bureaucratic delays to disparate IT systems.
- To achieve NEPA's objectives, federal agencies need a new, unified approach to technology capable of modernizing federal permitting and related processes—and the White House Council on Environmental Quality (CEQ) is in a unique position to spearhead that work.

What To Do

- Fund a continually updated, user-friendly public NEPA database.
- Initiate interagency pilot programs to coordinate permitting decisions using the same data.
- Leverage human centered design (HCD) processes focused on the federal agencies and public access to information.
- Develop new decision support tools to focus on the most crucial decisions and their effectiveness.
- Prioritize digital applications with easy-to-use forms.

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Why This Matters

Recent amendments to NEPA have brought significant changes to federal permitting processes and environmental regulations. For years, the NEPA process has been plagued by excessive paperwork and bureaucratic procedures between siloed agencies, leading to lengthy permitting timelines and project delays. In addition, the lack of unified technology approaches across agencies hinders transparency, data collection, and effective public engagement. The effects of that scenario make conducting thorough environmental reviews more challenging—since critical information is often unavailable (or inaccessible) to agency staff and the public. The recent NEPA amendments aim to enhance efficiency across those areas without compromising environmental safeguards.

By expediting permitting for infrastructure and development projects, for instance, the NEPA amendments seek to accelerate environmental restoration and conservation efforts—which often sustain inordinately long delays when considering the environmentally-beneficial nature of these projects. Such prolonged timelines pose a significant bureaucratic challenge to environmentalists actively working to restore ecosystems. Adopting a unified technology approach to addressing those barriers would have the dual benefit of helping agencies fulfill their environmental review responsibilities—improving transparency and public participation—while expediting restoration efforts on the ground. And though some critics worry that changes to NEPA could lead to weaker standards or limited public input, we believe that modernizing NEPA processes—and integrating them across federal agencies via effective technology solutions—will enhance transparency and accountability, and improve decision-making throughout the permitting process.

While efforts like these may appear to everyday Americans as the concerns of distant federal policy makers and bureaucrats, key changes to NEPA's processes—especially where innovative technology is concerned—can have outsized, meaningful impacts on how the government accelerates or hinders projects that directly affect communities across the country.

What To Do

The NEPA modernization and tech integration journey present exciting opportunities for improved efficiency, transparency, and public engagement. To keep the momentum going, here are some key recommendations to consider:

Fund a continually updated, user-friendly public NEPA database

Federal agencies have often struggled to provide comprehensive and easily accessible information to the public about their projects and the NEPA process. This lack of transparency has led to a disconnect between agencies, the projects they oversee, and affected communities. Continuation and refinement of a user-friendly, searchable database like [NEPAAccess](#) is crucial for addressing these long-standing issues around information scarcity and data accessibility across agencies. By centralizing historical NEPA documents and related agency actions, the public gains the ability to understand the environmental assessments, analyses, and decisions that shape projects in their localities. Linking public funding to the agencies that will leverage such a database (e.g., DOT, EPA, FWS) will also support long-term development and maintenance of this tool and keep the focus on key users—i.e, the communities affected by NEPA decisions. This initiative also has the added potential to bridge gaps between federal agencies and the public by promoting informed engagement, enhancing accountability, and ultimately fostering a more collaborative and environmentally conscious decision-making process.

Initiate interagency pilot programs to coordinate permitting decisions using the same data

At present, NEPA-related decisions across different projects with similar environmental impacts are not coordinated using the same data. Initiating pilot programs with federal agencies to better perform analyses based on shared data—such as the National Wetlands Inventory or species distribution maps—can ensure that decisions about similar impacts are more accurate and informed. For instance, if multiple projects affecting wetlands were considered concurrently—in terms of their potential impacts on the habitats of the same migratory bird species—performing the NEPA analysis with integrated data could help balance trade-offs more effectively. The pilot programs could also provide funding to identify where these overlapping analyses might occur, and to test ideas for integrating efforts. Pilots could also be used to compare outcomes when relying on broader programmatic NEPA analysis for aspects of NEPA determinations tied to a specific project.

Leverage human centered design (HCD) processes focused on the federal agencies and public access to information

The current scarcity of accessible, project-related information often leaves the public uninformed—and agencies struggling to disseminate—crucial NEPA-related details. Undertaking a human centered design (HCD) approach to NEPA processes has significant potential to identify and alleviate the barriers faced by both federal agencies and the public—especially when it comes to closing information gaps around federal projects and the NEPA process. A key focus of this effort should be how HCD can better enable and promote proactive engagement throughout the NEPA process, i.e., *before* significant resources have been expended on a given project or analysis. For instance, collating and making letters of intent easily searchable by users could streamline the process in the early stage—where needed information has historically been the least available—by encouraging stakeholder input, engagement, and user needs when it's most useful. One instructive model for leveraging HCD to those ends is a recent Digital Impact Assessment tool built by the UK Government as part of an environmental scoping report. Information relevant to stakeholders is organized in an accessible, interactive way, and the tool allows for multiple viewing and search options. Similar HCD approaches to NEPA processes and forms could enhance public engagement, bridge the information divide, and empower agencies to provide transparent and accessible data linked to NEPA projects.

Develop new decision support tools to focus on the most crucial decisions and their effectiveness

Federal agency staff need better decision support tools to focus the NEPA process on the subset of decisions that will have the greatest impact—and to ensure that decisions are supported by the latest, synthesized evidence available and continual feedback on their effectiveness. Specifically, the NEPA process would benefit from tools designed to help agencies decide whether an Environmental Assessment (EA) or Environmental Impact Statement (EIS) is necessary given the profile of the project under consideration. Better triage procedures built into these tools, for example, could effectively eliminate the need for some of the tens of thousands of EAs conducted each year—freeing up agency staff to focus more resources on the analyses that will be most impactful. For the decisions that require the most careful consideration, more information on the results of earlier decisions should also be made available. Currently, the information collected when a project is expanded, or an action is taken (e.g., monitoring for the presence of an endangered species), is rarely collated and shared in a format useful for future decision makers. Developing a process and decision support tools for this typical use case would help ensure that NEPA determinations are closely aligned with actual outcomes.

Prioritize digital applications with easy-to-use forms

The development of digital NEPA applications by each agency, featuring an intuitive and comprehensive form, has the potential to promote consistency and data sharing across agencies while capturing all necessary information and avoiding manual data entry. Application systems may look different from agency to agency depending on their specific needs, but all should embrace similar HCD principles that simplify the user experience—such as entering data once, utilizing user-friendly templates, and auto populating as much information as possible in any form. Eventually, more advanced features (AI-generated suggestions for improving applications, for instance) could be incorporated into such forms. But by offering an easy-to-use platform that captures all necessary information intuitively, applications could streamline historically complex and duplicative permitting procedures, expedite project assessments, and enhance accountability—ultimately empowering agencies to better aggregate key information from separate NEPA actions.