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No, NEPA Really Is a Problem for Clean Energy

Four reasons the arguments of NEPA defenders miss the mark

INFRASTRUCTURE

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Introduction

The United States is set to invest upwards of $540 billion in clean energy infrastructure over the next decade. But major infrastructure projects will be roadblocked by NEPA's environmental review, a process that takes 4.5 years and thousands of pages on average to clear.

NEPA's defenders dispute this. "Research doesn't substantiate the claim that NEPA's procedures cause significant delays in renewable projects," claims a recent policy brief from the Roosevelt Institute. They argue that NEPA slows down projects for good reason, and that slowdowns are a necessary side effect of the democratic process. They also worry that loosening NEPA will let oil and gas companies and other polluters run rampant. In their view, NEPA's delays are relatively minor, and real roadblocks for clean energy lie elsewhere: in limited agency staffing capacity, and the difficulty of building cross-state electrical transmission.

But NEPA's defenders are wrong: the law does block clean energy. While transmission and agency capacity are important, neither is sufficient to accelerate infrastructure projects. Simply put, we don't get enough value from NEPA reviews to justify their cost, and NEPA is overwhelmingly used by public interest groups to stop useful infrastructure from being built.

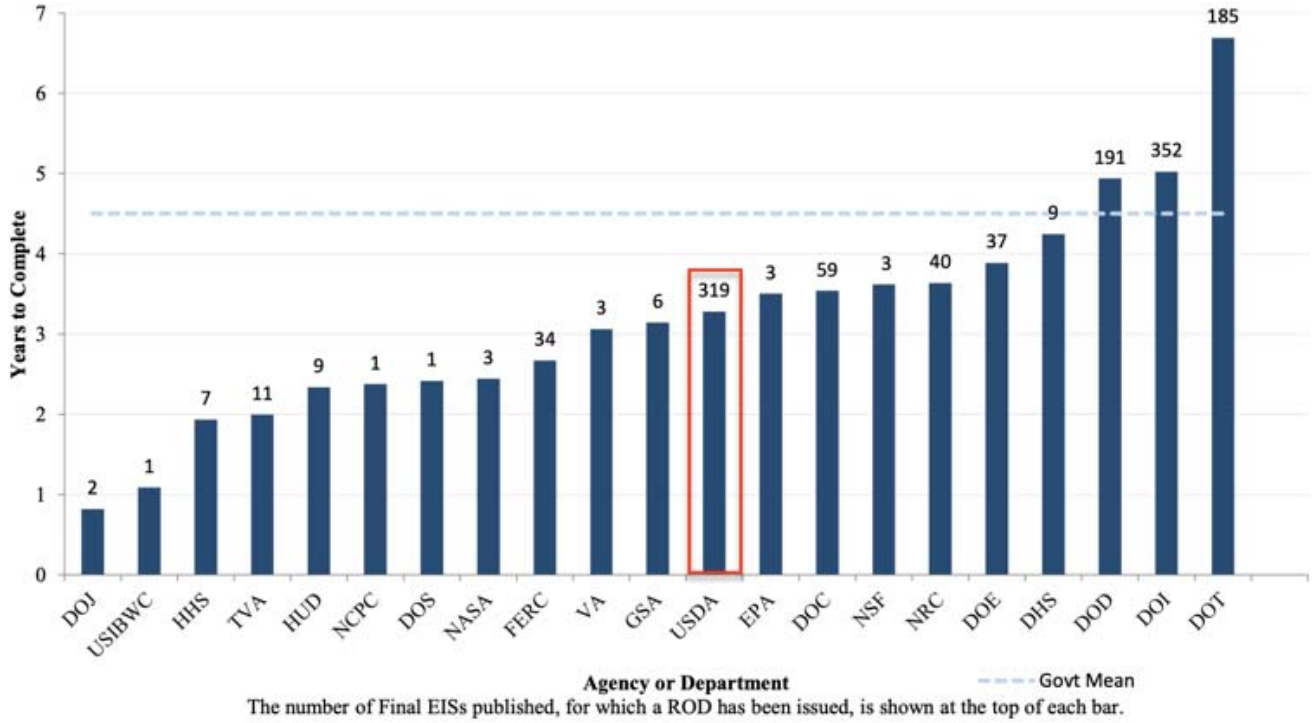
Defenders of NEPA have in many cases relied on non-representative data or specious claims. To some extent, it's understandable: It's difficult to obtain comprehensive data on the NEPA

process. No one maintains a centralized database of all NEPA reviews, and data reporting varies greatly across individual agencies. The debate over permitting reform has tended to center on specific topics for which modeling is easy and compelling, like electricity transmission. Accordingly, NEPA defenders tend to downplay its harms by glossing over harmful mechanisms. In particular, they tend to use datasets that don't capture the full scope of NEPA, ignore how litigation risks from NEPA slow down all projects, and fail to understand that NEPA will harm clean energy even more than traditional energy sources going forward.

But the data we do have tells a clear story. NEPA creates a major roadblock to building new energy infrastructure, and that infrastructure will be disproportionately clean. When NEPA's defenders dispute this, they're missing some key points about the law.

U.S. Forest Service data is not representative for clean energy

Defenders of NEPA argue that critics exaggerate review delays by relying on unrepresentative anecdotes, claiming that statistics show NEPA reviews to be far less burdensome. For example, in the Roosevelt Institute policy brief, Jamie Pleune claims to debunk the idea that "NEPA-mandated analysis is the primary source of permitting delays." She points out that the median time for the U.S. Forest Service to prepare an Environmental Impact Statement (EIS) — the most rigorous type of NEPA review — is only 2.8 years. Pleune says she chose to look at the Forest Service because it is "the only agency that collects comprehensive, reliable data regarding NEPA decision-making at all levels of review." While that may be true, it doesn't mean the Forest Service is representative of other agencies. The White House Council on Environmental Quality surveyed review times across federal agencies in 2020, and found they take an average of 4.5 years. And the Forest Service is not even the primary agency tasked with reviewing clean energy projects. In fact, out of the 90 clean energy projects that required an EIS over the last thirteen years, only two were completed by the Forest Service. When we look at the agencies responsible for reviewing most energy and infrastructure projects, we see a very different picture.



CEQ 2020 NEPA EIS survey, page 6.

The U.S. Forest Service is housed within USDA, which has a below-average EIS completion time of 3.31 years. Of the federal agencies most frequently tasked with reviewing clean energy infrastructure projects, only the Federal Energy Regulatory Commission has a lower average completion time than the Forest Service.

EIS Preparation time (NOI to ROD)

EIS preparation times (NOI to ROD) across agencies that most commonly complete NEPA reviews for infrastructure projects.

Data is for average EIS competition time (from the notice of intent to prepare an EIS to the record of decision). Survey data measured EISs that were completed between 2010 and 2017.

Chart: Created by Aidan Mackenzie • Source: CEQ survey • Get the data • Created with Datawrapper

The Department of Energy, along with the Bureau of Land Management at the Department of the Interior, conducts NEPA reviews for clean energy projects and takes far longer on average. Other departments tasked with reviewing important initiatives, such as congestion pricing (DOT) and nuclear energy (NRC), have some of the highest average review times.

But even in the case of the Forest Service, no one should be proud of taking three years to review projects. These years-long reviews have often led to disastrous results. For example, in 1999, delays in the NEPA process for the prescribed burning of the Six Rivers National Forest resulted in the wildfire that the prescribed burning was meant to prevent from occurring. That even routine reviews take multiple years is an indictment of NEPA, not a defense.

Categorical exclusions under NEPA can be misleading

Perversely, because the NEPA procedure has expanded over the last half-century to touch nearly every federal action, defenders of the status quo can claim that major reviews (EISs) make up only a tiny fraction of all NEPA reviews**.** For example, the Roosevelt Institute suggests that NEPA's impact is exaggerated because 95% of projects receive "categorical exclusions," or CEs, expedited reviews for projects that don't have a significant impact on the environment. This argument has also been made by U.S. Rep. Raúl Grijalva, ranking member on the House Committee on Natural Resources. Unfortunately, this statistic misrepresents reality. In response to the administrative burden imposed by NEPA (and case law interpreting it), the number of categorical exclusions for minor actions has exploded, inflating the denominator for what counts as a "project."

It is true that the vast majority of reviews under NEPA receive categorical exclusions and don't go through a substantive review process. However, this is largely due to the fact that a surprisingly large set of federal actions *must* undergo a NEPA review, including those that have no plausible environmental impact. Although the law was originally created to force agencies to assess the environmental impact of "major federal actions," "major" action was left undefined in the statute. In 1974, a court decision read the term "major" out of the law, effectively requiring the government to review virtually *every* federal action, including U.S. Treasury paying staff members, USDA conducting educational programs, or the DOE preparing internal administrative documents. Categorical exclusions have proliferated in response to this reality, vastly inflating the denominator for projects.

The vast majority of CEs are for minor actions and cannot be used for major projects except in rare cases where Congress has created legislative CEs. And CEs often require agencies to file paperwork justifying why small actions should avoid years-long reviews. Although completion times for CEs are shorter than the more rigorous Environmental Assessments (EAs) or EISs, they can still create delays of up to a year. While roughly 12,000 substantial environmental reviews occur each year, the roughly 230,000 categorical exclusions each year inflate the denominator.

Litigation risk slows down all infrastructure projects

NEPA reviews are ripe targets for litigation seeking a judicial injunction against a project. This procedural vulnerability makes suing agencies under NEPA an effective means of blocking all kinds of energy infrastructure.

Defenders of NEPA argue that litigation of NEPA decisions is relatively rare — for instance, the Roosevelt Institute points out that "only an estimated 0.22 percent of NEPA decisions are litigated." But this statistic doesn't capture how the *expectation* of potential litigation shapes decision-making by federal agencies and project sponsors. And the denominator is (again) inflated by trivial categorical exclusions that are almost never challenged in court.

It makes sense that the vast majority of NEPA decisions aren't litigated, since they're overwhelmingly administrative CEs for things like hiring staff. If we look instead at how many lawsuits there are for every important infrastructure project, the calculation changes dramatically: between a quarter and a third of Final EISs get challenged every year.

The ability to sue projects derives from the Administrative Procedures Act, which allows anyone to sue an agency on the basis that it did not take a sufficiently "hard look" at a project under NEPA review. However, what counts as a "hard look" at environmental impact is entirely a matter of case law and judicial interpretation. NEPA's mandate to "review environmental impacts" is unconstrained and undefined in statute. As a result, NEPA has been wielded as a cudgel: by NIMBYs protecting their property values, companies blocking potential competitors, and short-sighted conservationists blocking clean energy.

Successful litigation against a NEPA review puts pressure on agencies to perform longer reviews in the future. When lawsuits successfully kill a project, the rulings explicitly state that a NEPA document failed to account for some environmental impact, forcing future agency reviews to include that impact.

But just the threat of potential litigation is enough to incentivize agencies to expand their reviews. To avoid potential lawsuits, agencies try to produce litigation-proof reviews that go above and beyond existing case-law standards. A 2014 GAO survey found that these documents are often a waste of agency time:

"Although the number of NEPA lawsuits is relatively small when compared with the total number of NEPA analyses, one lawsuit can affect numerous federal decisions or actions in several states, having a far-reaching impact. In addition to CEQ regulations and an agency's own regulations, according to a 2011 CRS report, preparers of NEPA analyses and documentation may be mindful of previous judicial interpretation in an attempt to prepare a "litigation-proof" EIS. CEQ has observed that such an effort may lead to an increase in the cost and time needed to complete NEPA analyses but *not necessarily to an improvement in the quality of the documents ultimately produced*."

Litigation's effect on document preparation helps explain the massive expansion of NEPA documents from a handful of pages in the early 1970s to the current average of 1,626 pages.

Opponents of reform argue that NEPA is not the problem per se: instead, agencies are chronically underfunded and understaffed to perform NEPA reviews. But agencies are stretched too thin largely *because* the procedural requirements have ballooned. Increasing procedural requirements while holding staffing constant drives up wait times. To strengthen agency capacity, reformers need to ensure staff can use their time effectively, not spend years trying to avoid frivolous litigation.

NEPA will harm clean energy projects even more in the future

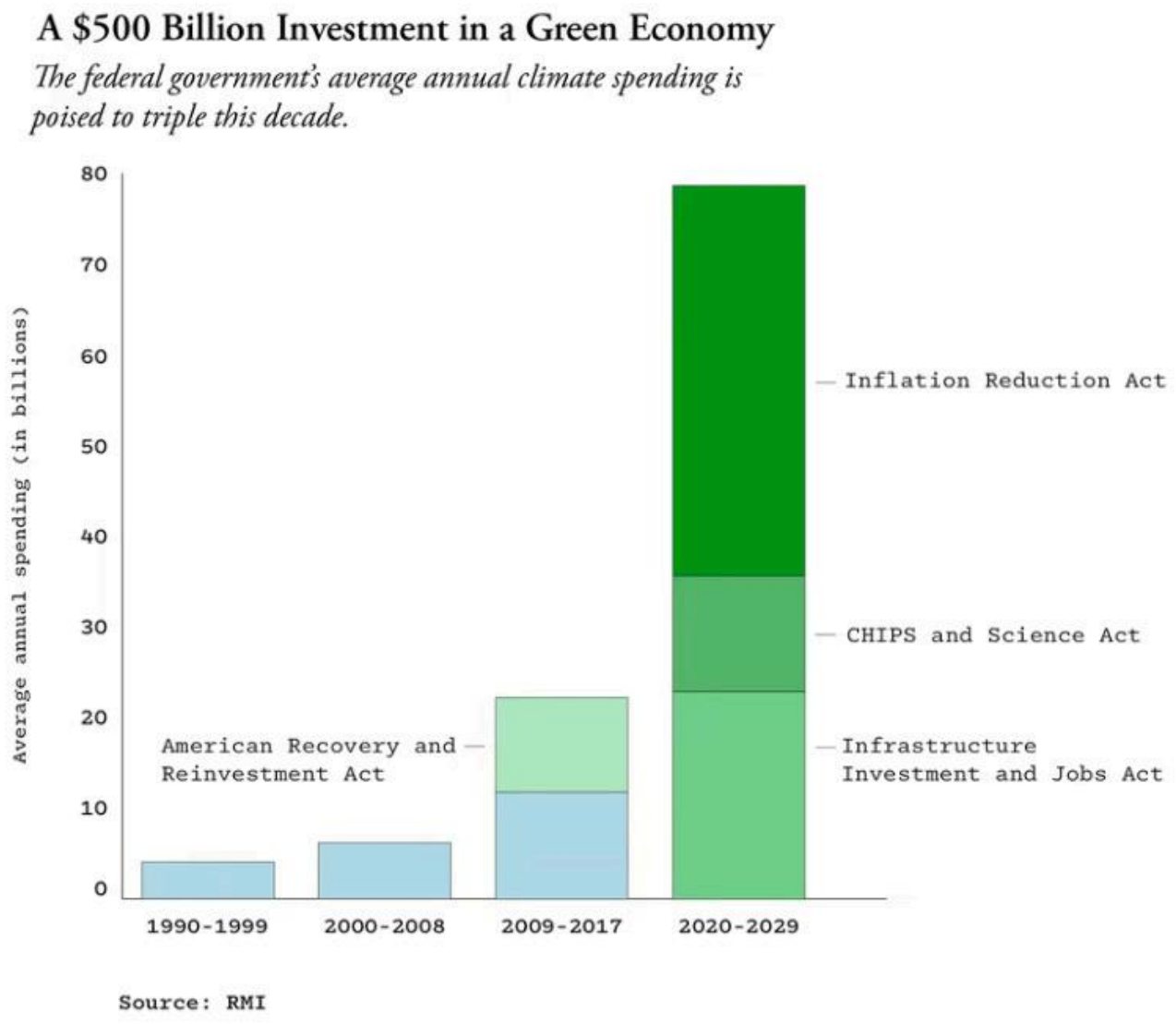
NEPA has been used to block clean energy time and time again. NEPA proceedings have held up onshore wind, congestion pricing, offshore wind farms, solar farms, geothermal power plants, transmission lines, and mining permits for lithium and copper, critical inputs for clean energy. As of 2021, data shows that 42% of DOE's active reviews (EAs and EISs) are for clean energy, while only 15% are for fossil fuels. A recent count of the EPA's EIS database shows that, between 2010 and 2023, 90 EISs have been finalized for clean energy projects. Large amounts of wind energy are also trapped in NEPA permitting at the Bureau of Ocean Energy Management: more than 20 times the existing and under-construction amount.

If we step back to ask how NEPA will slow the clean energy transition *going forward*, the macro trends are clear: NEPA will be a barrier for clean energy.

NEPA is a tax on building new things. Fossil fuels are a well established industry, and most of the infrastructure it requires already exists. Those existing projects have already paid the NEPA tax. Fossil fuels also receive softer incumbent benefits: for instance, oil and gas leases have a

dedicated office at BLM for processing NEPA reviews, while emerging industries like geothermal have their reviews processed by the most junior staff at the agency.

By contrast, the vast majority of infrastructure needed for a clean energy transition hasn't been built yet. In the next decade, the IRA, CHIPS, and the IIJA are set to massively skew federal spending towards clean energy infrastructure. Across the three bills, the federal government will spend roughly $540 billion by 2027, more than three times as much climate spending as the federal government invested from 2009-2017. Every project that receives these federal dollars will trigger another NEPA review.



RMI, via The Atlantic

It is hard to estimate exactly how many NEPA reviews that $540 billion will generate, but looking at infrastructure projects funded by the American Recovery and Reinvestment Act (ARRA) can inform an estimate. Passed in 2009, ARRA invested roughly $425B in 2023 dollars

towards infrastructure projects to speed economic recovery. However, because of NEPA, those dollars and jobs had to wait years before they could stimulate the economy. Out of 275,630 ARRA funded projects, 192,707 resulted in NEPA reviews (including CEs). Roughly 8,000 substantive NEPA reviews (7,133 EAs and 841 EISs) were required to get ARRA funds into the economy. If this pattern holds, we can expect roughly 10,000 substantive NEPA reviews, each potentially vulnerable to litigation.

It's true that reforming how we site and permit new transmission lines is complementary to NEPA reform. Siting interregional transmission lines bottlenecks connecting new clean energy to the grid — the full process takes 10 years, on average — and substantial clean energy is waiting to be connected. However, NEPA is still a roadblock to these projects. Clean energy generation facilities stuck in the transmission pipeline still require NEPA reviews. Moreover, transmission is urgent because the efficient use of clean energy requires the ability to transfer energy across regions. But if technologies like long-duration energy storage develop, then NEPA will again become the primary bottleneck to building clean energy generation facilities. Finally, NEPA review applies to a wide range of infrastructure projects, including mining and public transportation, which are key for building clean energy and reducing emissions but are not solved with transmission reform.

The invisible graveyard of clean energy infrastructure

During Covid-19, economist Alex Tabarrok described the "invisible graveyard" caused by the FDA's inaction. It's a useful image: we never directly observe harms caused by inaction. NEPA has its own invisible graveyard of clean energy projects that are never even begun.

Beyond blocking existing projects, NEPA delays discourage developers and investors from attempting energy projects in the first place. Since waiting multiple years for potential returns to investment is riskier than investing in established industries, investors and developers shy away from projects, or limit the scope of their own initiatives to avoid the most burdensome NEPA reviews. Investor uncertainty causes fewer innovative clean energy projects, which keeps cost curves high (in fact, solar and wind costs are up 30-60% from their pre-pandemic low). Clean energy will only outcompete fossil fuels in price and reliability if we see industry deployment at scale.

There are steps we could take today to reform NEPA: create a time limit on injunctive relief to cut off obstructionists, reform environmental assessments to limit unnecessary review, and define major federal action to avoid NEPA review altogether for minor projects.

We have no way of measuring the cost of not building — only the cost of slowing and killing projects that have already started. But an honest look at the data we have makes an overwhelming case for reforming NEPA. If we want to see a clean energy transition in our lifetimes, we'll need to let the infrastructure be built.

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