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Unleashing America's Energy Abundance

Permitting Reform Is Vital for Affordable Clean Energy

By Mario Loyola*

As a side deal to the Inflation Reduction Act of August 2022, Sens. Joe Manchin (D-WV) and Chuck Schumer (D-NY) agreed to streamline infrastructure permitting. Of the pending permitting reform bills, the only one with any realistic chance of passage in the current Congress is Sen. Manchin's proposal. That language would be attached to a continuing resolution that must pass by September 30 to continue funding for the federal government into the new fiscal year. Unfortunately, the Manchin bill only tinkers at the margins of a major national problem, and falls far short of what would be required for a clean energy transition by 2035.

The stakes could hardly be more dire. The United States is endowed with an abundance of energy resources, yet it is now facing energy scarcity. How did this happen?

Several factors have combined to create a perfect storm, including Russia's invasion of Ukraine and the boom-and-bust cycles of the fossil-fuel industry, which are artificially exacerbated by regulation and other factors.¹ The main reason for America's looming energy scarcity, however, is needlessly burdensome regulations. Those regulations fall into two main categories.

The first consists of policies designed to constrict the supply of fossil fuels in order to make renewable energy comparatively more attractive. This superficially appealing approach is based on the flawed premise that renewable energy will be available at a reasonable price after fossil energy has been retired. That ignores the fact that intermittent sources such as solar and wind depend upon dispatchable baseload generation such as coal, natural gas, or nuclear to maintain overall grid reliability. There is a limit to how much baseload can be switched to intermittent sources without risking catastrophic power outages such as the Texas ice storm and the more recent California blackout warnings.² Beyond that, any new renewable energy capacity must be backed up by additional dispatchable energy capacity, which in the short term means coal or natural gas. Ironically, the war on fossil fuels is one of the reasons that the broader goal of decarbonization remains as elusive as ever despite years of concerted effort.

The second is federal permitting red tape, which slows the permitting process for energy infrastructure projects—including renewable energy infrastructure—to a crawl. The United

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States has the world's most costly, time-consuming, and unpredictable system for authorizing major infrastructure projects. It puts America at a grave competitive disadvantage compared with other major economies, including China. It deprives Americans of affordable energy in a land brimming with energy resources, which hits poor communities and working families particularly hard. And if the climate crisis is “code red for humanity,” as President Biden has said,³ the goal of a clean energy transition is almost certainly beyond reach until the whole permitting system is reformed, including significant amendments to the National Environmental Policy Act (NEPA).

Congress has appropriated nearly \$2 trillion for “green” infrastructure.⁴ But money is not the limiting factor in America's ability to deploy major infrastructure projects. The crucial limiting factor today—and the main obstacle to a clean energy transition going forward—is the massive amount of federal agency resources consumed by the struggle to comply with NEPA in a context of excessive litigation risk.

Consider the staggering amount of infrastructure that would be required to meet the administration's goal of a zero-carbon electricity grid by 2035: scores of new nuclear plants, hundreds or thousands of new utility-scale solar plants, tens of thousands of windmills, and hundreds of thousands of miles of transmission lines.

Under current law and given agency workforce constraints, securing permits for all those projects in time to finish construction before 2035 is a fantasy. Even 2050 may be bridge too far, particularly for projects with longer permitting processes, such as nuclear and electricity transmission lines. There is a deep well of private capital for those energy projects if the financial projections could count on a reasonably predictable permitting process. But under the current system, no amount of capital investment, public or private, will make it possible to deploy new infrastructure on the scale required for a clean energy transition.

This report makes the case for a national policy of energy abundance. It argues that the war on fossil fuels is counterproductive to the goal of clean energy, and that Americans should unite in seeking energy abundance across the board.

The most urgent task is to enact comprehensive reforms of the federal system for permitting energy infrastructure. Under the current system, the staggering amount of clean energy infrastructure that would be required for a clean energy transition simply cannot be permitted quickly enough to make a difference to the goal of decarbonization. In the meantime, American communities and households will face needless privations as energy grows scarce in a land of energy abundance. Proponents of clean energy and affordable energy must unite in calling on Congress to enact a comprehensive set of reforms. This report concludes with key recommendations.

A Clean Energy Transition Requires Energy Abundance. Proponents of “climate action” see affordable fossil fuels as a major obstacle to a clean energy transition. As long as fossil fuels are comparatively cheaper, the thinking goes, people will avoid switching to renewable energy. This may seem intuitive, but it takes no account of Abraham Maslow's

hierarchy of needs—whereby humans fulfill needs in order of priority, beginning with the most basic—or the role it plays in public choice.⁵

People may be willing to entertain climate policies that could make gasoline more expensive when gasoline is \$2 per gallon, but when it is \$5 per gallon, they have more pressing concerns. According to a July 2022 *New York Times* poll, only about 1 percent of Americans, and 3 percent of Democrats, view climate change as the most pressing problem facing the country. Voters are overwhelmingly worried about the economy and inflation.⁶

France’s “yellow vest” protests were a clear warning that there are limits to how much people will tolerate high energy prices—and hence a limit to the price people are willing to pay to reduce carbon emissions.⁷ In order to comply with France’s emissions reductions commitments under the Paris Agreement on Climate Change, President Emmanuel Macron proposed a roughly \$0.50 tax per gallon on gasoline, which at the time already cost around \$7 per gallon in France.⁸ The country was roiled by protests that lasted more than a year and paralyzed the national economy. Eventually, President Macron was forced to withdraw the proposal.

In the United States, raising gasoline taxes as a climate measure, whether directly or as part of a general carbon tax, has become a new third rail of politics. Even with the White House and Congress controlled by Democrats committed to climate action, President Biden promised by the summer of 2021, when gasoline prices were just starting to rise, that he would never enact a tax on gasoline.⁹ Just a few months later, when gasoline hit \$4 per gallon, he started calling for a suspension in the existing gas tax.¹⁰

With the country’s politicians unwilling to push for gasoline taxes in the transport sector, America’s effort to “wean” the economy off of fossil energy has focused disproportionately on the electricity sector, where the emphasis has been on forcing a transition from cheap, abundant sources of dispatchable energy, such as coal and natural gas, to intermittent sources like wind and solar. The chief result has been to make America’s electricity increasingly unaffordable and its electricity grid dangerously unstable. With the late summer 2022 heat wave, California Governor Gavin Newsom was forced to declare a state of emergency.¹¹ He called on residents to avoid charging their electric vehicles at night and keep their thermostats at 78 degrees or higher and avoid turning on lights or using electrical appliances between 4:00 pm and 9:00 pm. Ironically, just a few days earlier, California had voted to ban the sale of new gasoline powered cars by 2035.¹²

Europe is now showing the world what a fossil-fuel constricted world would look like. The constriction of natural gas supply from Russia has created an energy crisis in Europe. Switzerland is considering severe limits on residential electricity use, including forbidding setting thermostats higher than 66 degrees Fahrenheit and similar limits on water heaters, with violations to be treated as felonies.¹³ A constricted fossil-fuel energy supply affects more than thermostats. Electricity is the major variable cost in fertilizer production. With fertilizer companies drastically cutting back on production to avoid operating losses, Europe is facing a severe fertilizer shortage that could have dire impacts on the current harvest.¹⁴ The industrial association Eurometaux recently warned the European Commission that with

electricity prices 10 times higher than at the same time last year, Europe is facing catastrophic deindustrialization—no less than the shuttering of virtually all its industries.¹⁵

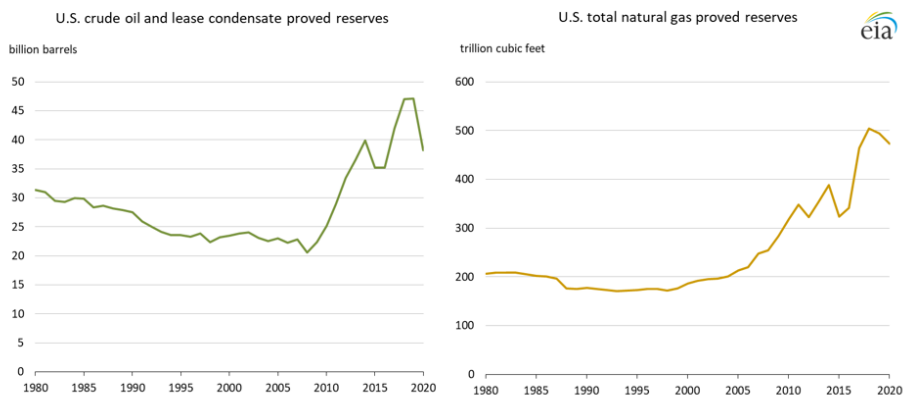
Such impacts could soon arrive in America, and they would pose an enormous setback to any hopes for a clean energy transition—among other things. Proponents of clean energy should see fossil fuels—and energy abundance generally—not as an obstacle to clean energy but as an indispensable requirement in any clean energy transition.

Fossil fuels have powered every technological advance since the days of subsistence agriculture. This technological transition will be no different. In fact, China, the world’s leading producer of solar panels, is currently in the process of building out more coal energy capacity than the total coal generation capacity of the U.S.¹⁶

Four decades ago, President Jimmy Carter argued that America’s fossil fuel supplies were rapidly being depleted and that emergency conservation measures were needed to stave off an energy crisis.¹⁷ That was refuted just a few years later when Saudi Arabia doubled oil production to seize market share from newly emerging non-OPEC producers, leading to a glut of cheap oil that lasted more than 20 years.¹⁸ Now the evidence is clear: America has among the world’s most abundant reserves of fossil energy.

And because of the nature of exploration and production, the reserves are self-generating. According to the U.S. Energy Information Administration, the U.S. has nearly 400 billion barrels of technically recoverable reserves of oil. That is enough to satisfy current U.S. demand of about seven billion barrels per year, for perhaps 50 years.¹⁹ But while the total amount of fossil fuels stored in the planet’s crust is finite, extractable fossil fuels reserves constantly grow as a function of exploration and development. So, for example, as the following chart shows, in the period between 1980 and 2010, while U.S. production of oil and gas was slowly dwindling, U.S. proved reserves also declined, but only by about five billion barrels every decade. That means that reserves were growing at a pace nearly fast enough to keep pace with consumption. Even more remarkable, natural gas reserves remained steady at about 200 trillion cubic feet during the period from 1980 to about 2005.

Figure 1. U.S. proved reserves, 1980–2020



Sources: U.S. Energy Information Administration, Form EIA-23L, *Annual Report of Domestic Oil and Gas Reserves, 1980–2020*

Then came the shale boom, with the widespread use of directional drilling and hydraulic fracturing, and proven reserves of both oil and gas soared, more than doubling in about a decade. Largely because of the pandemic, estimates of both oil and gas reserves have dropped more recently, but the bottom line is clear: America is endowed with vast fossil energy abundance. That single factor, perhaps more than any other, is what makes a clean energy transition feasible. But as the Aspen Institute said in a recent report, “Achieving net-zero emissions by 2050 is ecologically essential, technologically feasible, economically achievable, but procedurally impossible.”²⁰

A Huge Amount of New Infrastructure Would Be Required for “Clean Energy Transition.” By any estimate, a transition to carbon-free, net-zero, or even substantially decarbonized electricity would require a staggering amount of new clean energy infrastructure. The U.S. currently has about 1.14 terawatts (TW) of electrical generating capacity.²¹ In 2021, about 60 percent of U.S. total electricity generation was from coal and natural gas, another 20 percent from nuclear, and the remainder from renewable sources: 20 percent from wind, 6 percent from hydropower, and 3 percent from solar.²²

Moreover, a clean energy transition would require not just replacing the 60 percent of fossil fuel generating capacity with renewable sources, but also accommodating future demand growth entirely through renewables, including enormous additional capacity to accommodate electrical vehicles.

There are many estimates of the power capacity additions that would be required for a net-zero energy sector, most of which are in the same general ballpark. For example, the Electric Power Research Institute (EPRI) estimates that to achieve a zero-carbon electrical system by 2035, the grid would need to add 900 gigawatts (GW) of new wind and solar, 80 GW of new nuclear capacity (doubling current nuclear capacity nationwide), and 200 GW of hydrogen-fueled turbines.²³

Many estimates do not even consider nuclear, largely because powerful environmental advocacy groups remain adamantly opposed to it. That may also explain why Democrats have put virtually no effort into advancing nuclear power. That is a major obstacle to the clean energy transition in itself, because most scenarios aim to replace the dispatchable baseload generation of coal and natural gas plants with intermittent wind and solar, creating significant challenges for reliability and capacity. Utility-scale batteries, smart grids, and similar technologies have come a long way, but the challenge of intermittency is why prominent international authorities call for a doubling and even tripling of nuclear power around the world for any chance of meeting the Paris Agreement’s goal of limiting warming to no more than 1.5 degrees Celsius.

America’s nuclear generating capacity is dwindling and there are no plans to build any new nuclear plants in the United States. But even if there were, they could not be part of the clean electricity mix in EPRI’s estimate. The permitting timeline for nuclear is the longest of any infrastructure sector. A pair of nuclear reactors due to open in Georgia in the near future started their odyssey through the federal permitting process in 2006, after many years

of project design and development.²⁴ Nuclear regulatory reform is urgently needed, but Congress has done virtually nothing about it.

One notably optimistic review of 11 studies of non-nuclear pathways to clean electricity by 2030 and 2035, by Energy Innovation LLC, shows a consistent estimate across studies of about one terawatt of solar and wind, plus 100 GW of battery storage. That review notes that this would require an average annual deployment of new renewable energy capacity at double or triple the record rate of 31 GW of wind and solar additions in 2020, “a challenging but feasible pace of development.”²⁵

The authors do not elaborate on why they think that would be “feasible,” perhaps because they have been spared the trials and tribulations of going through the NEPA process. But it is not remotely feasible. Since the early Obama administration, federal agencies have strained to streamline their permitting processes and increase throughput. They are virtually at the limit of the streamlining that current law will allow without leaving their permits and NEPA reviews vulnerable to court challenge.

Section 102(2)(C) of NEPA requires agencies to prepare an environmental impact statement for any “major federal actions significantly affecting the quality of the human environment.” Any federal permit required for a major infrastructure project usually triggers the requirement of an environmental impact statement (EIS).

According to a recent survey by the White House Council on Environmental Quality, which was created by NEPA to oversee its implementation, the preparation of a typical EIS takes on average 4.5 years, consumes tens of thousands of agency person-hours, and costs millions of dollars in taxpayer resources—on top of the tens of millions an EIS can cost project proponents.²⁶ So even with the most lavishly funded bureaucracy on Earth, the entire federal government produces at most 75 or 80 final EISs every year. That pace is woefully short of what is needed to reach the 2035 zero-carbon goal.

The fear of litigation risk is the main source of cost, delay, and uncertainty in the NEPA permitting process. It is also the crucial limiting factor in any effort towards a clean energy transition.

The statutory purpose of NEPA is to inform agency decision makers. Yet, litigation risk has the entire federal bureaucracy backed up against a wall, struggling to produce permits and EISs that are perfect in every last detail. The result is environmental studies that are vastly more detailed than necessary or helpful to inform agency decision makers. That means that without changes in the law, the only way to double or triple the pace of permitting at federal agencies is to double or triple the size of the federal workforce involved in project reviews.

A Frightfully Constricted Permitting Pipeline. The most significant increase in the federal permitting workforce in recent years was the Inflation Reduction Act’s provision of nearly \$1 billion to increase permitting staff over five years, including \$350 million for an Environmental Review Improvement Fund at the Federal Permitting Improvement Steering Council, which was created under the 2015 Fixing America’s Surface Transportation Act to

coordinate the permitting of major infrastructure projects. This massive boost in funding would add perhaps 500 to 600 full-time equivalents to that workforce, an increase of perhaps 5 percent, assuming agencies can find and train qualified personnel in this highly technical field quickly enough.

Doubling the federal permitting workforce would take far longer and cost far more than most analysts realize, but even if it could be done quickly, it would not be enough. The estimates that call for doubling or tripling the pace of permitting do not account for real-world permitting timelines, which entail several years of preapplication before the NEPA process, followed by several years of construction.

Between the bookends of preapplication and construction, the permitting process and NEPA review take perhaps 3.5 years for renewable energy projects. That means that to achieve net zero by 2030 is already impossible. Projects that begin preapplication in the coming year will not come online until 2030 at the earliest. And even for a clean electricity transition to occur by 2035, all the projects necessary for a roughly one terawatt addition of renewable electricity would have to finish preapplication and file permits by 2027 at the latest. Then all those permits would have to be processed and the environmental reviews completed within three or four years. Hence the effective permitting window for a clean energy transition by 2035 is 2025-2032, a period of just seven years, not 15 as in the Energy Innovation LLC's estimates.

So, the processing rate during that main wave of permit processing and environmental review would have to be at least four times the rate of the record year of 2020, and perhaps significantly faster than that. In other words, Congress would have to at least quadruple or quintuple the size of the federal permitting workforce.

Now consider the hurdles facing the actual projects. Taking solar as an example, most studies suggest that the United States would have to add on the order of 500 GW of utility solar capacity.²⁷ Suppose that each solar project in that total is very large, with a capacity of 500 MW. Adding 500 GW of solar capacity would require 1,000 such projects. Judging by the largest currently in operation, each such solar project would cover around 5,000 acres, for a total of 5 million acres—an area equivalent to the entire state of New Jersey.

Many of those solar projects will not require federal permits at all, particularly if they are not built on federal land. But where the sun shines for 365 days a year is in the deserts and high plains of the western states—where the federal government owns virtually all the land. And every solar project built on federal land requires its own permit and its own EIS.

The NEPA process is tailor-made for NIMBYism. Once an agency publishes a Notice of Intent to prepare an EIS and the environmental review process begins, “scoping” begins. Scoping is the process by which the agency develops the major resource issues and alternatives for the proposed action. It usually entails a series of public meetings and other opportunities for stakeholders to lodge comments and raise issues. The agency must track and eventually respond to all of the issues raised in scoping, all of which can later be litigated. The process entails few opportunities for agencies or anyone else to raise the

national policy priorities at stake and seems designed to highlight and amplify the impact of small pockets of local opposition.

Then those solar and wind projects need to be connected to the grid by a network of new transmission lines. Linear projects such as transmission towers and pipelines are among the most resource-intensive permits for agencies to process, because linear projects trigger permit requirements—and fierce local opposition—all along their routes. All of this slows the already slow permitting process to a crawl. To give one example, the Transwest Express Transmission Line, running for 700 miles and with a capacity of 3 GW, was designed to transmit wind power from Wyoming to Nevada and California. It took 15 years to get the permits required for construction to begin.²⁸

The clean energy transition will entail transmission lines on a scale that most Americans cannot even imagine. Wind and solar must be built where the wind blows and the sun shines, not where consumers are. Hence each megawatt of renewable capacity will require orders of magnitude more transmission line miles than each megawatt requires currently, and average length will grow exponentially as developers go looking ever further afield from their target markets for suitable sites. According to a National Academies report, the net-zero 2050 goals would require construction of one million miles of transmission lines by 2050.²⁹

Given the much longer lead times on transmission lines compared to renewable energy power plants, another looming problem is that solar plants sit idle in the middle of nowhere for years on end, waiting for transmission lines to arrive. This is already happening, as in the case of the Cardinal-Hickory Creek transmission project in Iowa and Wisconsin.³⁰

Sources of America’s Permitting Dysfunction. A series of interrelated structural problems have combined to create inordinate delays, costs, and uncertainties for infrastructure projects. Of those impacts, the worst by far is uncertainty, the major source of risk to capital formation and hence a principal source of the significant social losses caused by the NEPA process.

Unfortunately, that uncertainty has many sources, most important of which is litigation risk, which maximizes the amount of time and resources that agencies devote to processing permit applications out of all proportion to the environmental costs and benefits at stake.

The uncertainty begins with the inordinate litigation risk that hangs like a cloud over every EIS from the start. The problem has been years in the making. It started in the 1970s, with the development of “hard look” review as the standard of review for agency actions, a standard embraced by the Supreme Court in the 1983 *State Farm* case.³¹ Section 706 of the Administrative Procedure Act provides that federal courts may set aside agency actions that are “arbitrary and capricious,” a standard of review that is highly deferential to executive branch policy priorities and agencies’ expertise in technical matters.³² But *State Farm* turned that straightforward logic on its head, instructing courts to set aside agency actions as “arbitrary and capricious” if the agency failed to consider even one factor or issue the court would have preferred that the agency discuss.

As a result of “hard look” review, there is no doctrine of substantial performance or materiality in the NEPA process. Agencies have to think of literally everything, because the omission of one paragraph in a 1,000-page document could be “arbitrary and capricious.” An agency may get an EIS 99.9 percent perfect, but if it forgot to study the habitat needs of the butterfly that one person casually mentioned in a town hall meeting during scoping, the permit could be vacated, stopping a billion-dollar project dead in its tracks.

Again, the purpose of NEPA is to inform agency decision makers. That clearly implies a standard of materiality for every impact and alternative under agency consideration, and courts should enforce NEPA accordingly. But federal courts instead have combined with the CEQ “Implementing Regulations” of NEPA to require agencies to study impacts well upstream and downstream of the project—even if those impacts are not reasonably foreseeable or are entirely in the control of other levels of government—in much greater detail than is remotely relevant to the permitting decision.³³

Section 102(2) of the NEPA statute requires that agencies study alternatives to the proposed *action*, not to the proposed *project*. But Section 1502.13 of the CEQ Regulation requires an EIS to state “the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action,” an unfortunately loose phrasing that appears to conflate the purpose of the action with the purpose for the project. As a result, agencies spend hundreds of pages in every EIS studying alternatives to the proposed *project* when what the statute requires is consideration of alternatives to the proposed *agency action*, which in the case of an infrastructure project is just the up-or-down permitting decision. The resulting waste of time and taxpayer resources spent studying alternatives that developers are entitled to reject for business reasons and agencies are entitled to reject for policy reasons is one of the most needlessly damaging aspects of the NEPA process.

From start to finish, the NEPA process has turned into warrant for a general defenestration of agency policy priorities. Many judges appear to be operating on an unstated and perhaps unconscious premise that environmental advocacy groups represent the public interest, but agencies do not. This manifests in a damaging relaxation of procedural protections that defendants normally enjoy.

Courts have bent over backwards to confer standing on virtually anyone who wants to oppose a project. NEPA creates no right of action, so courts had to find one in the stopgap enforcement provision of the Administrative Procedure Act. That requires “legal harm” for standing, but courts look past that for environmental advocacy groups, by resort to the “zone of interest” theory of “procedural standing,” piling one ancillary stopgap on another.³⁴ So, if you go boating on a lake you have standing to sue the Federal Energy Regulatory Commission (FERC) over a transmission line that will be partly visible from the lake, even if the transmission line is urgently needed to connect a small city to a renewable power source that is sitting idle after hundreds of millions in investment.

Once in court, the red carpet treatment continues. When asking for a preliminary injunction, a plaintiff must normally post a bond to protect the defendant against losses resulting from the injunction should the plaintiff ultimately lose. Courts waive that for

environmental litigants, because of the “public interest.” And when it comes time to balance the equities in granting the injunction, courts give short shrift to the public interest in effective agency action, or ignore it entirely. In fact, in the Ninth Circuit, stopping a project is considered to cause no harm to the agency because ipso facto stopping a project will not harm the environment—as if environmental losses are the only losses we need to worry about when deciding to stop an infrastructure project of national importance in which developers have invested tens or hundreds of millions of dollars.

Another major problem is the CEQ Regulations of NEPA, which dramatically increase the litigation target area of every project review. It has somehow escaped the notice of the federal courts that CEQ has no rulemaking authority. The Regulations are arguably nothing more than an executive order, like E.O. 12866, which establishes the Office of Management and Budget rulemaking process for federal agencies.

Teleporting the “legal harm” and “procedural standing” doctrines into a document that creates no private rights or obligations, courts have transformed the CEQ regulation into a compendium of legally enforceable requirements. Hundreds of federal permits have been vacated by courts because of agencies’ failure to comply with supposed NEPA requirements that are not in the statute and that were invented by CEQ out of thin air. But without foundation in delegated rulemaking authority, the regulation of NEPA is just a set of directives to agency heads.

Presidential directives such as executive orders have never been considered enforceable *de jure* and draw the entirety of their compelling force from the president’s power to remove agency heads, which does not extend to independent agencies like FERC. In the key NEPA case of *Public Citizen v. Department of Transportation*, Justice Clarence Thomas wrote that “CEQ was established by NEPA with authority to issue regulations interpreting it.”³⁵ Yet, the statute does not say that anywhere, and it is simply not true.

Even if courts were to defer to the council’s statutory interpretations, it is another thing entirely for CEQ to use purely presidential directive authority to instruct an agency to, e.g., discuss “cumulative impacts,” a concept found nowhere in the statute, and then have courts treat that directive as if it were legally enforceable in a lawsuit brought by a private party.

Another major problem with the permitting process is the hydra-headed nature of agency permitting authorities. The permitting processes of federal agencies are almost completely disconnected—despite manifold interdependencies. Efforts by multiple administrations to establish a coordinated process quickly run up against the reality of statutory structure, a problem that only Congress can fix. The CEQ Regulations’ provisions on a “lead agency” to prepare a single NEPA document in coordination with “cooperating agencies” does not relieve the project developer of having to create an interagency coordination process from scratch for each permit application.

A related problem is that agencies take it on themselves to prepare environmental documents that the developer could prepare instead, much faster and just as well, subject to agency verification and approval. That is one of the most important changes in the 2020

Trump revisions to NEPA, which were partly pulled back by the Biden administration to placate environmental advocacy groups, despite the fact that renewable energy companies were the disproportionate beneficiaries of the Trump-era reform.

Toward a Future of Energy Abundance. To address the problems of cost, delay, and uncertainty in the permitting process, Congress should at a minimum:

- **Make the timing predictable.** Agency officials drag their feet every step of the way, leaving developers in limbo and driving up projects' costs. If developers had more control over project timetables, it would save enormous amounts of capital and time. Instead of allowing only officials to assemble environmental documents, developers should be allowed to prepare the materials for agency certification. If agencies take too long issuing a permit or denial, developers should be given provisional permits to start construction subject to monitoring and mitigation.
- **Create a unified process.** Every major infrastructure project requires permits from a half dozen federal agencies all using different, uncoordinated processes. There should be a uniform, centralized process that gives priority to projects of national importance.
- **Reduce litigation risk.** Important projects are held up by lawsuits over minor omissions in environmental studies. Tightening the statute of limitations is not enough. Agencies should be held to a substantial-compliance standard, so that if reports are mostly right, a project can still go forward. Congress should tighten the rules on standing so that activists cannot hold up safe infrastructure over minor issues.
- **Establish programmatic and general permits.** Major categories of infrastructure projects with similar environmental profiles should be subject to expedited programmatic or general permits, with mitigation and monitoring requirements.

Senator Manchin's Permitting Reform Proposal. On September 21, 2022, pursuant to the deal reached with Sen. Schumer, Sen. Manchin published proposed legislative text that would enact a number of significant reforms to the federal permitting system.³⁶

The bill would authorize the president to designate 25 or more high-priority energy and mining infrastructure projects for expedited permitting. These must fall into a variety of specific project types, mostly clean energy-related, including renewables, hydrogen, carbon capture, transmission lines, and grid improvements.

However, designation as a high-priority appears to have little significant consequence. The president would be required to issue executive orders directing agencies to expedite such projects, consistent with applicable law, which the president already has authority to do.

Similarly, the bill would impose an "average" two-year time limit on agency environmental reviews, which would codify President Trump's "One Federal Decision" policy. That soft deadline was the most Trump could do because a presidential directive must give way to statutory requirements. But it makes little sense in legislation, which defines the statutory

requirement. Moreover, agencies have full control over when the two-year clock starts ticking, because only they decide when a permit application is complete.

The bill would further expand the purview of the Federal Permitting Improvement Steering Council, which maintains a centralized “dashboard” of major infrastructure projects and will soon be able to surge permitting staff to overwhelmed agencies under a \$350 million appropriation in the Inflation Reduction Act. It would also create a statute of limitations on challenges to agency permit decisions and require courts to put remands on a short timetable. Reducing the inordinate litigation risk in the permitting process requires far more sweeping changes.

The Manchin bill would address one area of notable abuse in the permitting of linear projects such as pipelines and transmission lines, namely state certifications under the Clean Water Act. States like New York have misused state certification authority to block natural gas pipelines from crossing their territory on spurious grounds. The Manchin bill would limit the scope of state certification authority. The fix will come too late to save New England from skyrocketing heat and electricity prices this winter, but should significantly alleviate a major source of cost, delay, and uncertainty for some of the nation’s most important projects.

The Manchin bill also contains some problematic provisions. One example is a provision that would authorize the unaccountable Federal Energy Regulatory Commission, or FERC, to socialize the costs of transmission lines and condemn all the land necessary to build transmission projects that the Secretary of Energy designates as nationally important.

The Manchin proposals would make significant improvements, but fall far short of the comprehensive reforms that would be required to significantly reduce the costs, delays, and uncertainties of the federal permitting process.

Conclusion: Any Clean Energy Transition Requires Energy Abundance. Proponents of climate action need to acknowledge what has been obvious for a long time: Without permitting reform that makes energy abundance possible, the clean energy transition will remain beyond reach. But permitting reform has become even more urgent than just climate action. A new era of energy scarcity is looming without reform of America’s energy infrastructure permitting process. Streamlining and modernization of the federal system for permitting energy infrastructure now can help ensure a future of affordable and clean energy.

Notes

¹ Mario Loyola, “The Oil Industry Doesn’t Need Government Protection,” *The Atlantic*, April 24, 2020, <https://www.theatlantic.com/ideas/archive/2020/04/how-oil-markets-went-haywire/610621/>. These factors include (1) alternative-energy subsidies, which divert capital from capacity expansion during periods when prices are low, and (2) the fact that about 90 percent of world oil production is controlled by national oil companies, which lack the flexibility of private sector producers; the latter, which consists essentially of American oil production, must then bear a disproportionate share of marginal adjustments in world production.

² Michael Buschbacher and Taylor Myers, “FERC Gaslights America,” *The American Conservative*, September 6, 2022, <https://www.theamericanconservative.com/ferc-gaslights-america/>. Mario Loyola, “The Great Texas Power Crash,” *National Review*, February 25, 2021, <https://www.nationalreview.com/2021/02/the-great-texas-power-crash/>.

³ President Joseph Biden, “Remarks by President Biden on Actions to Tackle the Climate Crisis,” July 20, 2022, <https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/07/20/remarks-by-president-biden-on-actions-to-tackle-the-climate-crisis/>.

⁴ Congress has passed two major infrastructure bills, totaling on the order of \$2 trillion in spending for infrastructure: the Bipartisan Infrastructure Investment and Jobs Act of 2021 and the Inflation Reduction Act of 2022.

⁵ Abraham Maslow, *Encyclopaedia Britannica*, accessed September 21, 2022, <https://www.britannica.com/biography/Abraham-H-Maslow>.

⁶ New York Times, Sienna College Poll, July 5-7, 2022, <https://int.nyt.com/data/documenttools/us0722-crosstabs-nyt071122/33ffa85627ee4648/full.pdf>.

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