



BUILDING CLEANER, FASTER

Final Report

The Aspen Institute, Energy & Environment Program
Spring 2021

On March 31, President Biden announced “The American Jobs Plan” as part of his Build Back Better agenda to accomplish two important missions: (1) decarbonizing the nation’s economy to address the challenges of climate change and the energy transition; and (2) growing jobs and the economy while simultaneously making the nation’s infrastructure more resilient. The White House announcement focused on fiscal, policy, and regulatory goals. This paper solves for the critical missing link: the need to address the challenges of delay, uncertainty, and cost of our current environmental review and permitting system that threatens the build out of decarbonization infrastructure. As described below, there is well established precedent for both Congress and the Executive Branch introducing regulatory tools for streamlining the approval process for environmental projects that will bring net benefits and otherwise comply with strict requirements.

Anticipating the Administration’s bold proposals for urgent economy-wide action on climate change, the Aspen Institute Energy & Environment Program convened a group of policymakers, experts, and practitioners to consider solutions to expedite climate action. Over a series of threeroundtable conversations in the winter months between 2020 and 2021, these professionals focused on the following problem:

Achieving net-zero emissions by 2050 is ecologically essential, technologically feasible, economically achievable, but procedurally impossible.

The discussions led to a unanimous conclusion: to truly succeed in decarbonizing the economy, we must take bold action to modernize and reform our environmental review and permitting processes to implement decarbonization projects with the scale, speed, and predictability that confronting the climate crisis requires. Strong funding and the best intentions to invest in infrastructure will otherwise be met with years of delay and uncertainty that will hinder progress and threaten the viability of projects needed to solve the problem.

The group endorsed four critical paths to success:

1. **Immediate approvals:** For categories of decarbonization projects where environmental impacts are well understood, either due to the nature or location of the project, Congress should establish approval criteria that enable project clearance without delay.
2. **Accelerated approvals:** For decarbonization projects that may cause unique or significant negative local environmental impacts, Congress should establish a bifurcated

process that documents the categories of climate-beneficial projects at the outset, and then focuses environmental review and permitting on any uniquely local conditions of a project on an accelerated timeline.

3. **Accelerated adjudications:** Once a project is approved, any adjudications for decarbonization projects must include a final decision timeline of well under one year to ensure that protracted litigation does not undermine project viability.
4. **State and local conformity:** Eligibility for any federal infrastructure or climate-related funding, tax incentives, or grants shall be conditioned on a state or locality conforming to the same framework and timeline for fast approval and adjudication of projects.

The ideas outlined below reflect our consensus that we must seize this moment of wide-spread support for decarbonization of infrastructure to accelerate project approval and adjudication to well under a year, while preserving good government principles of public participation through legislative and administrative processes. Such reforms should broadly encompass all sectors and technologies that can deliver emissions reductions at the gigatons of scale (either per project or with respect to a technology capable of being scaled) needed to confront the climate crisis and eliminate the inequitable public health burden of disproportionate environmental harms once and for all.

Opportunity Statement: The Benefits of Speed and Certainty

Realizing the President's goal of net zero emissions by 2050—and net zero for the energy sector by 2035—will need more than just fiscal and policy support to succeed. Even with significant resources and strong policy direction, speed and certainty of project approvals will be critical to success.

Speed is essential to realizing climate objectives given the still growing trajectory of emissions, the increasing severity of climate change, and the lack of action since the signing of the Paris Agreement. A ton of carbon reduced today delivers 30 tons more cumulative abatement benefit than a ton reduced in 2050. A ton of air pollution reduced today improves the health and prolongs the lives of more people than a ton reduced in 2050. Speed also lowers the costs of achieving the objective. A clean infrastructure project with certainty of deployment in less than a year incurs substantially lower financing costs and produces jobs, revenues, and taxes a lot sooner than a project that is hung up for 3 to 10 years. Finally, speed produces more projects sooner to meet the objective. Prompt permitting and adjudication reduces the number of projects that are otherwise abandoned due to delay.

Certainty is also critical to realizing climate objectives. Only with final and durable decisions can public and private investors make commitments to secure funding, hire workers, mobilize supply chains, and initiate the complex logistics to rapidly complete the large scale infrastructure projects and deploy the innovative support technologies needed for decarbonization plans.

Unfortunately, speed and certainty are not the hallmarks of our present environmental review and permitting system at the federal, state, and local level, even when the net environmental outcomes of a project are clearly favorable. The environmental review and permitting system

now takes years and, in many cases, more than a decade to approve and adjudicate hundreds of major infrastructure projects. Delay and uncertainty cause cancellation of countless others along the way.

For decarbonization infrastructure projects intended to have net environmental benefits, this situation is particularly counterproductive since, during every stage of construction, operations, and ultimate decommissioning, every project must fully comply at all times with the world's most stringent federal, state and local environmental protection, natural resource conservation, and health & safety regulations. All of these regulations were developed through extensive legislative and administrative processes embodying critically important concepts of good government and the rule of law including record-based decision making, public participation, transparency, and judicial review. Project sponsors and owners face harsh civil penalties and even criminal liability for any noncompliance.

Understood in this context, the permitting system provides an up-front assurance of regulatory compliance prior to project construction and operation. The environmental review process, in turn, ensures project sponsors consider environmental factors other than what is already subject to regulatory compliance to better inform project siting and design choices. For projects intended to advance environmental goals, these processes of compliance assurance should have improved substantially over time to handle current infrastructure approval workloads with greater agility and finality, particularly given advances in science and information technology. But unfortunately, the situation has worsened and environmentally beneficial projects that are already subject to heavy regulation face the same delays, risks, and uncertainty as other projects whose environmental impacts are less certain.

Decarbonization of the economy is projected to require trillions of dollars in new investment and tens of thousands of increasingly distributed and interconnected energy, transportation, industrial and agricultural infrastructure. The goal of these projects first and foremost is to improve the environment and promote a more sustainable planet. But federal, state, and local agencies do not currently have the workforce, resources, processes, or adjudication capacity to handle the forthcoming volume of necessary activity. Accordingly, even if we get everything else right on the road to net-zero in terms of fiscal support and strong policy, our current permitting system threatens to be an insurmountable barrier to success.

To succeed, we must bring the same bold thinking to the environmental review and permitting process as we are to fiscal investments and to infrastructure and climate policy. In other times and places, national leadership and nationwide determination combined to overcome such obstacles to achieving critical objectives. For example, in just 15 years, the US delivered rural electrification to 80% percent of farmers and not much longer than that to reach almost 100%. In just 15 years, France built an 80 percent independent and emissions free electricity system using nuclear and renewable energy, and not much longer than that to essentially achieve net zero electricity sector emissions by becoming a clean energy exporter. These efforts required national, regional, and local leadership, a dramatic acceleration of development and investment, and the removal of needless procedural barriers to construction and deployment.

Similarly, for projects that are intended to solve climate change and advance decarbonization

and the energy transition, we must commit to realizing the principles of record-based decision making, public participation, transparency, and adjudication within a reasonable time period and well under a year. The ideas below are intended to address the problems associated with both speed and uncertainty.

Importantly, in putting forth the ideas described here to fix our current system of progress-preventing processes and deliver fully reviewed and permitted clean infrastructure projects in one year or less, as noted above, we can be assured that all such projects will be as environmentally protective as our laws and regulations require. We recognize that some environmental impact analyses may need to extend beyond a year (for example, for local analyses of migratory patterns or seasonal water flows), but these should be the exception, not the rule. Similarly, community engagement and public participation are a must and time is needed fully to build partnership with neighbors of the proposed project (see more on this topic below). The thought here is that much of such analysis and engagement would occur before a project is proposed for permitting. It is the permit review process and time that we are addressing here. With appropriate upfront planning, engagement, and analysis we believe needed reviews can and should be completed in the timeframes described here.

Accordingly, a dramatically faster and certain process of clean infrastructure permitting can be established with full confidence that our highest levels of protection of public health and the environment will be assured, with full respect for and partnership with local communities and without having to put the project sponsor through years of having to preliminarily prove the sponsor will comply with the law. Federally legislated carbon emission reduction requirements could provide further confidence of a positive environmental outcome.

Step 1: Immediate Approvals for Critical Projects with Well Documented Net Environmental Benefits

Every president since Jimmy Carter has sought to improve the cumbersome and inefficient process for siting and reviewing major infrastructure projects, mainly through complex, ad hoc efforts to improve administrative management, consolidate decision-making, and coordinate more closely with state and local officials making most of the decisions. None of these efforts have resulted in lasting, large scale improvements. The imperative to quickly construct thousands of low carbon energy, industrial, transportation and agricultural systems and to address the risks posed by our nation's crumbling infrastructure demands a policy outcome proportionate to the imperative. That is why legislating automatic approval of certain qualifying projects and qualifying locations is the best and most consequential action that could be taken for categories of projects where the opportunity for greenhouse gas abatement is high, and the net beneficial impacts are well understood. Precedent exists for such action, such as legislated categorical exclusions under NEPA and state equivalents, national security waivers, and general permits. The international and domestic urgency of the climate crisis is equally or more compelling justification for adopting such measures.

Pre-Qualified Projects

Legislation should authorize all categories of projects where the opportunity for greenhouse gas abatement is the highest and other potential environmental impacts are well understood and documented. For example, projects to improve the resilience of the energy ecosystem and grid to accommodate more renewable energy and abate threats due to weather events, such as the recent Texas storms, are overdue and deploy technologies and methods that have well understood impacts that do not require repetitive, boilerplate re-analysis.

Another example are projects that, de facto, deliver substantial net climate and environment benefits by replacing existing infrastructure with new infrastructure which has less impact than what is already permitted. A good example is the conversion of coal-fired plants, either through repowering to natural gas, retrofit for CCUS, or repurposing the site for renewable energy, green data centers, and other projects that can take advantage of the existing electrical and mechanical infrastructure. Absent automatic permitting, these complex and heavily regulated locations may be among the last to see meaningful redevelopment, when they could and should be among the first in order to enable a meaningful and equitable transition.

Identification of such clean infrastructure project categories and particular projects that qualify for pre-approval should be embodied in legislation to the extent possible, which would enable both expedited approvals and avoid the potential for protracted judicial review where Congress has deemed such projects pre-qualified. Such categories can be linked to existing federal, state, and local processes of categorization of projects as clean infrastructure driving decarbonization. These could include projects that: 1) qualify for federal, state, or local tax credit, such as the ITC, PTC or 45Q; 2) recipient of a DOE loan guarantee, USDA grants/loans, or similar public funding programs established to reduce emissions; 3) subject to a Clean Energy Standard, Renewable Energy Standard, or equivalent mandatory legislation.

A further variation on the theme and additional approach would have Congress establish a non-discretionary presumption of project approval so long as a project satisfies certain predefined criteria. Congress could require an agency to review and approve or reject such an application within 90 days, and then allow public comment only as to whether the application meets the criteria specified by Congress, with judicial deference afforded to the agency's initial determination.

Pre-Qualified Locations

Identification of locations that qualify for pre-approval should be embodied in federal, state, and local legislation for the same reason as pre-qualified projects, and likewise could take advantage of already existing federal, state, and local processes of priority. Recent bipartisan Opportunity Zone legislation provides a particularly compelling example and alignment of constituent interests. Each state has already worked with local communities to prioritize specific economically disadvantaged areas for substantially tax incentivized private sector

redevelopment, including infrastructure. A very substantial portion of these areas are ideal for clean infrastructure investment, not only supporting good construction and operations jobs, but also local ownership of valuable new community infrastructure that can attract new business. This program is ripe for a second round of designations which could include specific attention to urban and rural areas particularly well suited to green infrastructure investment enabling (as noted above) conversion of Environmental Justice communities into Environmental Opportunity communities.

Both in this context and separately, other already established categories should be considered for pre-approval such as: 1) federal and state designated Brownfields that have been cleared for redevelopment; 2) former military bases; 3) local enterprise zones and their equivalent; 4) dam sites where hydro-power generation can be added; 5) pre-zoned BLM, Forest Service, and other public lands.

Step 2: Accelerated Approvals for Projects with Documented Impacts but Local Analysis

As part of the push toward clean energy infrastructure, some projects will have a high sense of urgency and need but less documented environmental impacts. For example, an automatic approval process may not be feasible for particularly complex or novel projects such as new advanced designed nuclear energy plants, hydrogen production and distribution facilities, or for “linear” infrastructure such as smart highways, natural gas pipelines, CO2 pipelines and repositories for CCUS, and certain intrastate and interstate transmission, and supporting digital infrastructure. In such cases, there is an opportunity to ensure permitting is still accountable for timelines and certainty and achieve thorough government and public review on the fastest rather than the most protracted timeline achievable. The way to accomplish this is to do as much of the work in advance as possible.

Here, a bifurcated approach could be used in which agencies would prepare environmental reviews and permit templates for certain types of complex and linear projects that analyze the pertinent impacts of such projects generally. The public would be provided three months of review and comment before finalizing the general framework. A specific permit application would then incorporate by reference that review and focus specifically on local or unique impacts of the project, with a period of no more than three months of public comment limited to the local and unique aspects under consideration. Modern communication and information technology makes possible such substantially more efficient processes, focused and transparent exchange and evaluation of such information. Precedent for this approach exists in the context of programmatic environmental impact statement under NEPA and in various general permit programs and permits-by-rule at the federal and state level.

This bifurcated approach enables the opportunity for record-based decision making, public participation, transparency, and adjudication while promoting timeliness and certainty for projects. The bulk of the impacts among a category of projects would be assessed in advance,

enabling the review of a specific project to be tailored to local and specific impacts. When combined with accelerated adjudication (Part III below) this would achieve the dual goals of public participation and project approval within a year of application for critical clean energy infrastructure projects.

Development and adoption of local ordinances to establish standards for siting and permitting various clean energy and infrastructure systems ahead of individual project permit applications could also be considered in order to expedite needed consultations and reviews. State efforts to adopt uniform siting and permitting standards with specified deadlines for action are already emerging, with examples in New York and Minnesota. Federal leadership will be necessary to accelerate nationwide adoption of responsible siting and permitting ordinances with fixed time limits for permitting decisions at the state and local level where permitting occurs. The tools range from development of model ordinances (similar to federal government development of model building efficiency codes) to funding, and could involve joint industry resources and personnel working with local officials to put ordinances in place.

To ensure success in these initiatives, we recommend considering coalescing or collocating into a single location on a regional basis, or even into a single federal agency, the policy, regulatory and permitting initiatives needed to quickly approve and build clean infrastructure to support a net-zero carbon emissions future. An excellent example of this is the National Interagency Fire Center in Idaho, which houses multiple federal, state, tribal and private agencies to coordinate fire response on lands under their respective management.

Step 3: Rapid Adjudication to Enable Review and Certainty for Critical Clean Energy Projects

Both immediate and faster approvals are of no value if there is not a correspondingly speedy and certain process of adjudicating disputes over permitting decision. In other contexts, Congress has established extremely fast adjudication processes where a prompt and definitive outcome was deemed to be among the highest national priorities. For example, in the area of federal procurement, Congress established a very aggressive 100-day time limit for administrative resolution of contract award disputes with the GAO, and similarly limited timelines for any appeal, limited to the jurisdiction and expertise of the Federal Court of Claims, with very limited grounds for review of the administrative decision. The rationale for such a process is straightforward: the government cannot function if the procurement of the technology, equipment, systems and services for defense and other vital government services is held up in years of litigation. In a related context, Congress broadened the scope of the interagency Committee on Foreign Investment in the United States (CFIUS) review of such investments to determine whether they undermine national security. Concerned about the significant economic consequences to US business from prolonged delay in clearing transactions through CFIUS, Congress expressly created a new streamlined process of only 30 days for CFIUS to provide clearance—a process available for all transactions. In rare situations, a more intensive review may be required, but even then Congress limited full investigation and final decision to no more

than 105 days. The urgency of the climate crisis warrants the same adjudicatory speed as that provided for government contracting and foreign investment in US companies.

For infrastructure projects identified as leading to decarbonization (described above), a process for review can be created that provides appropriate adjudicative review while avoiding the risk to important projects due to uncertainty and delays associated with conventional final agency action review in the federal courts. Many Executive Branch agencies—including those in the environmental and resource agencies—have an administrative review board comprised of subject matter expert administrative law judges and magistrates who review permitting decisions and other federal actions. A similar board should be created, or adapted from an existing board, with adequate resources to provide for timely reviews of appeals within 120 days. Within 30 days from a decision, a petitioner would carry the burden in their opening appeal to identify “clear error” and “arbitrary and capricious” decision making by either failing to assess a significant harmful impact or by misapplying a legal/regulatory standard in the review. This already is a common standard of review for such appeals. If no petition is filed, the decision shall be deemed complete and not subject to further review. In the case of a petition, the government and interested parties shall have 21 days to respond, with petitioners’ reply papers due 7 days later. The appeals board shall issue an opinion no later than 120 days from the date of the original decision. The scope of review shall be limited to the clear error and arbitrary and capricious standard above. To the extent the panel issues a remand under this standard, the permitting agency must respond to amend the record within 60 days.

Addressing Environmental Justice

Important work is underway to address the historic injustices suffered by disadvantaged communities—including communities of color, low income, children, and elderly—as it relates to hosting heavily polluting sources of energy. We strongly support the proposals in the President’s announcements to address environmental justice more broadly. In the context of accelerating decarbonization infrastructure and addressing environmental justice, we find two complementary approaches to be particularly compelling.

First, disadvantaged communities need a seat at the table in considering, helping to shape, and reaping economic opportunity from new, clean energy and infrastructure projects. We must both avoid the risk of new projects harming disadvantaged communities and ensure that we are creating opportunities to remedy past harms as the nation builds its decarbonization infrastructure. As described above, the process of designating a second round of Opportunity Zones to support clean infrastructure development near disadvantaged communities is one example of how this could be accomplished on a nationwide basis.

In the District of Columbia and elsewhere structured, time-bound processes are proposed that enable (1) inclusion; (2) equity ownership and (3) decision-making measured in months, not years or decades. Crucial elements of the approach include identification of a neutral arbitrator; selection of a group representative of the community by the arbitrator; creation of an equity

participation vehicle to ensure community financial benefit; access by the representative group to needed technical support resources; and a firm agreed timeline for decision-making. Resources for these activities would be provided by the project developer and these activities would be concluded before the project is submitted for the accelerated approval options discussed above.

Second, an additional way to promote environmental justice and benefit communities that continue to live in the shadow of harm could be to add a surcharge on all infrastructure projects qualifying for expedited consideration that would accelerate access to clean energy for disadvantaged communities—communities of color, low income, children, and the elderly. These communities are readily identifiable based on census tract information. An initiative of this kind would be similar to the surcharge on phone bills administered by the FCC to support the build out of internet infrastructure in disadvantaged communities. We know that fossil fuel infrastructure has historically been situated in or near low-income communities and communities of color. We also know that solar access is deeply skewed based on race. According to a recent study, majority black communities (normalized for income and home ownership) have over 61% less rooftop solar installed than those communities with no racial or ethnic minority. A surcharge could create funds needed to level the playing field and enable low income and communities of color to participate in and benefit from the many health, environmental and economic benefits of clean energy resources. The recent Biden Administration infrastructure proposal would substantially amplify this objective through a large appropriation and prioritization of funding directed into these communities.

Finally, it is important to make cost effectiveness for ratepayers a pillar of environmental justice platform for clean energy. Properly conceived, the clean energy transition will save people on fixed income a lot of money. If not properly conceived, ratepayers who are least well positioned to absorb cost impacts will bear a disproportionately high burden.

Aligning state and local processes

Acceleration only works if the federal, state, and local government are fully aligned on fast and certain permitting and adjudication. To this end, we propose that eligibility for any federal infrastructure or climate-related funding, tax incentives, or grants should be conditioned on a state or locality conforming to the same framework and timeline for fast approval and adjudication of projects. The best way to secure this alignment is for Congress to prohibit states from receiving federal clean infrastructure funds and incentives, unless they adopt permit acceleration measures equal to or better in speed and certainty than the federal standards.

Transmission siting and approval present particularly well-known challenges that significantly impede necessary speed and call for federal-state-local coordination to achieve decarbonization goals.

Assuming more rapid permitting can be established, a number of measures can further accelerate outcomes, including:

- Create a “supergrid authority” inside of DOE or elsewhere to purchase capacity on long haul transmission lines under certain criteria. Because generation gets built when transmission is built, there is little risk that the government will be able to sell off its transmission rights before the lines complete construction.
- Have the supergrid authority fund grid enhancing technologies to maximize the efficiency and capacity of existing grid at a cost in the low billions of dollars.
- Provide ITC to the billions of dollars of transmission projects that are ready for construction today for which there is no need for the government to purchase capacity.
- Provide a short-term fix to tax equity markets via full or almost 100% “direct pay” for tax credits from renewables.
- Require FERC to incorporate carbon emissions in all transmission planning processes.
- Require FERC to order NYISO, PJM, and ISO-NE to work together to come up with an offshore grid to handle offshore renewable resources in the Northeast.

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Disclaimer: This report seeks to capture the essence of participant conversations, but individual participants may not agree with every aspect of the report. Rather, in affixing their name as a signatory, a participant is signaling support for the overarching concept of the series and the broad outcomes discussed herein.