The National Environmental Policy Act – A Need for Change

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February 2022





Introduction

Several legislative measures of the 1960s and early '70s marked a turning point in the U.S. approach to environmental protection, with none more significant than the National Environmental Policy Act (NEPA).¹ This measure set forth specific requirements for consideration of potential environmental impacts of any proposed action, including proposed legislative action, and interpretation and administration of laws and regulations of the United States. It was this law which provided the framework for Environmental Impact Assessments (EIA) and Impact Statements (EIS).

NEPA was signed into law the same year as the first Earth Day, the latter an event built upon recognition that environmental protection is a global challenge which citizens can help to address. A half century ago, "Think globally – act locally", became a popular rallying cry within the environmental movement. This concept was recognized in one paragraph of NEPA, with the following provision:

"Recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment."

However, specific requirements of NEPA make no further mention of environmental impacts of proposed actions beyond the borders of the U.S., nor any requirement to consider them. In fact, provisions of NEPA and subsequent guidance documents strongly suggest that analyses need focus on only local and national concerns. Consequently, an unfortunate result of NEPA has been the ongoing transfer of environmental impacts of U.S. consumption to other nations. This report explores the framework of NEPA and suggests a pathway to improvement of the integrity of U.S. environmental law and practices, and to more effective cooperation in addressing environmental protection at the global scale.

NEPA and EIA/EIS

NEPA requires all agencies of the Federal Government to utilize a systematic assessment which integrates the natural and social sciences in project planning and decision-making that may impact the environment. Specifically required in "every recommendation or proposal for legislation and other major Federal actions *significantly* affecting the quality of the human environment" are detailed statements as to:

- i. the environmental impact of the proposed action,
- ii. any adverse environmental effects which cannot be avoided should the proposal be implemented,
- iii. alternatives to the proposed action,
- iv. the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity, and
- v. any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

This listing is preceded by a statement indicating that policy as outlined in the NEPA statute is

"... to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans."

¹U.S. Congress (1969) <u>https://www.govinfo.gov/content/pkg/STATUTE-83/pdf/STATUTE-83-Pg852.pdf</u>

This clarifies that the focus of NEPA is moderation of impacts on Americans. This is further underscored by interpretation within NEPA of the word "significantly." As explained in a 2007 guidance document from the President's Council on Environmental Quality (CEQ)²:

" 'Significantly' as used in NEPA requires considerations of both context and intensity: (a) Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant."

While this statement has been removed from the most recent (2021) CEQ guidance document, this latest guidance contains no replacement language to indicate consideration of impacts beyond national boundaries. It is, therefore, still generally understood that concerns and needs for analysis and deliberation as mandated by NEPA, and as subsequently interpreted, are limited to impacts within national boundaries.

That actions at a local level can and often do result in impacts beyond international boundaries is widely acknowledged.³ Relationships between sulfur dioxide and NOx emissions and acid rain, and subsequent impairment of surface waters and forests; emissions of chlorofluorocarbons and atmospheric ozone depletion; greenhouse gas emissions and climate impacts, are now widely recognized, and with this, recognition of the need to think and plan beyond the constraints of geopolitical borders. However, other than the singular reference in NEPA to international cooperation in anticipating and preventing decline of the global environment, there is no specific requirement to consider global impacts in evaluation of a proposed action. This omission is evident in all EIAs being conducted and EISs produced under the existing NEPA framework. It is a critical omission in regulations intended to *"create and maintain conditions under which man and nature can exist in productive harmony".*⁴

State Environmental Laws and EIA/EIS

Sixteen states – California, Connecticut, Georgia, Hawaii, Indiana, Maryland, Massachusetts, Minnesota, Montana, New Jersey, New York, North Carolina, South Dakota, Washington, Virginia, and Wisconsin – have enacted environmental policy acts that closely parallel NEPA.⁵ Some of the state environmental laws based on NEPA have expanded requirements for EIA/EIS assessments for non-federal and private projects. Just as with NEPA, none of these state laws currently require consideration of environmental or social impacts beyond those in close proximity to a proposed project.

²CEQ (2007)

³Environmental impacts linked to extraction of industrial raw materials are also widely acknowledged, though global impacts of offshoring raw materials procurement are not.

⁴Almost three decades ago, Washington Senators Murray and Hatfield recognized the problem inherent in allowing proposed domestic resource procurement to be challenged on environmental grounds without requirements for consideration of likely environmental impacts beyond a particular area of focus, and resulting shifts of impacts to other nations, referring to the result as "environmental imperialism".

⁵So too have the District of Columbia, and several regional governmental units.

The Problem

Large and Growing Net Import Dependence

Of 94 metals, metalloids, and non-fuel minerals reported by the U.S. Geological Survey (USGS), the U.S. in 2020 was a net importer (i.e. imports exceeded exports) of 83 of them, including 33 of 35 minerals deemed critical to U.S. national security.⁶ For almost one-half of minerals for which the U.S. was a net importer, imports were 50% or more of domestic consumption. In the mid-1950s the U.S. was a net exporter of minerals; since that time the number of non-fuel minerals on the net import list has grown steadily as has the degree to which the U.S. relies on net imports.⁷ Percentages of net raw material imports have been steadily trending upward in recent decades; the number of mineral commodities for which the United States is at least 25 percent net import reliant has increased from 21 mineral commodities in 1954 to 61 mineral commodities in 2020.^{8,9} The U.S. is a net importer of raw materials, and on a massive scale, with an increasing trend toward importation.

But why net imports? The United States is a net importer of basic raw materials on a grand scale, in part, because some of those resources don't occur within the boundaries of the U.S., or because they can be obtained at less cost from a financial standpoint than domestically. For the most part, however, domestic occurrence is not an issue. In this regard the U.S. Geological Survey observed in 2017 that:

"A common misconception is that the United States must import mineral commodities because no domestic resources exist. In general, the United States does not lack mineral resources. For example, it [the U.S.] has resources of 43 mineral commodities with high NIR [net import reliance]."¹⁰

Similarly, while the U.S. is blessed with abundant forests, it is also a net importer of construction timber. About one-third of America's softwood lumber comes from other countries, with most from Canada.

On the whole, the U.S. is not resource poor and is not necessarily a more expensive place in which to procure basic materials.

Transfer of Environmental Impacts

There are myriad examples of the larger scale and global effects of actions to protect local environments, including specific examples associated with fuel and non-fuel mineral extraction and timber resources. Among the more comprehensive are those provided by Pulitzer Prize winning investigative journalist Tom Knudson who spotlighted the large and growing international environmental impact of U.S. consumption in the series *California – the State of Denial*.¹¹ Knudson chronicled shifting of impacts linked to outsourcing procurement of timber, petroleum, sand and gravel, and fish. Although California was the subject of Knudson's investigation, a similar situation regarding consumption and net imports characterizes virtually every state. In short, similar findings regarding wood and wood products, fuel and non-fuel minerals, or a number of other types of resources could have come from almost anywhere in the U.S. (see textbox).

¹⁰Lederer and McCullough (2018)

¹¹Knudson (2003)

⁶The net import numbers take into consideration trade flows of basic minerals, mineral ores, and resources contained within parts and semi-finished products, but do not take into account raw materials contained and involved in production of finished products. Were these counted, net imports of most materials would be even greater than indicated by USGS figures. ⁷USGS (2021)

⁸Fortier et al. (2015), Nassar et al. (2020)

^oThe National Academy of Sciences studied imports and exports of several nations, including the United States, focusing on raw material equivalents (RME) of traded goods, including finished products. A central finding was that RMEs of finished goods tend to be several times greater than the volume of raw materials actually traded, and that for economically advanced economies the raw RMEs of imports is substantially greater than for exports. For the United States, the RME of finished product imports was determined to be about 3 times greater than that of exports. The study also found that in absolute values, the United States is by far the largest importer of primary resources embodied in trade. See: Wiedmann et al. (2015)

Case Study: Systematic Transfer of Impacts for Timber and Forests

One segment of the series *California – the State of Denial* examined the impacts beyond California's borders of actions intended to protect forests within the state.

Investigative journalist Tom Knudson observed that in the mid-1950s California was self-sufficient in wood, but that by early in the 21st century, driven by aggressive efforts to protect its environment, the state pivoted to importation of 80 percent of what it used. At that point, forest harvest levels within the state were less than 30 percent of what they had been a half-century earlier, despite the reality that consumption of wood in California was rising steadily and the fact that annual growth in California's forests was more than double the annual rate of removals and mortality. By 2013, California's timber harvest levels remained about the same as in 2002, while net annual growth was estimated to be 4.5 times greater than annual removals.

Knudson noted that the dramatic shift, from self-sufficient to massive net importer, the result of environmental lawsuits, public opinion, and increasingly strict regulations, had the effect of simply shifting the environmental impacts to Canada. In fact, logging to supply wood for California consumption not only shifted to Canada, but also to other regions. Foreign imports of wood (primarily from Canada) increased by over 40 percent from the mid-1990s through 2008, while imports from other U.S. states increased by 90 percent during that period.11

A similar result followed U.S. actions to protect the northern spotted owl in the early 1990s. The prescribed solution required sharp reductions in timber harvesting in Washington, Oregon, and northern California. As harvests in the U.S. declined, the flow of logs and timbers from the U.S. Pacific Northwest (PNW) to Japan and other points in the Far East slowed. Conversely, the flow of softwood lumber from Canada to the U.S. increased. As Canadian shipments of wood to the U.S. grew, the Canadians were able to ship less to Japan, Korea, and Taiwan. These Asian countries, in turn, began to seek a more reliable trading partner and new sources of softwood supply, looking to Russia, and in particular the Russian Far East for softwood logs and lumber. The forests of the Russian Far East, it turns out, are far less productive than those of the Pacific Northwest, requiring the harvest of 1.6-1.9 times greater forest area to produce the same volume of wood per annum as in the PNW.¹ Soon thereafter the cover of Time magazine carried the title "The Rape of Siberia" and articles within expressed concerns about growing interest on the part of Japan, Korea, and the U.S. in the rich forests there and about the effects of rising forest harvest activity on the long-term environmental health of what was described as a pristine and fragile region, and impacts on endangered cranes.

¹²Berlik et al. (2002)

A Harvard University research team¹² summarized the situation this way:

"The United States and other affluent countries consume vast quantities of global natural resources, but contribute proportionately less to the extraction of many raw materials. This imbalance is due, in part, to domestic attitudes and policies intended to protect the environment. Ironically, developed nations are often better equipped to extract resources in an environmentally prudent manner than the major suppliers. Thus, although citizens of affluent countries may imagine that preservationist domestic policies are conserving resources and protecting nature, heavy consumption rates necessitate resource extraction elsewhere and oftentimes under weak environmental oversight. A major consequence of this "illusion of natural resource preservation" is greater global environmental degradation than would arise if consumption was reduced and a larger portion of production was shared by affluent countries. Clearly, environmental policy needs to consider the global distribution and consequences of natural resource extraction."

Broadening the Scope of NEPA

While no single change in policy would eliminate the shifting of environmental impacts or the potential for magnifying impacts in the process, a few simple changes in the NEPA framework and guidance would go a long way to ensure that such things are considered as part of environmental decision-making. Within NEPA, a bit of clarification regarding required elements of project proposals and associated environmental impact statements would serve to bring broader consideration into environmental decision-making to include impacts beyond the immediate area of concern and at the same time increase the integrity of U.S. environmental law and practices.

Proposed Legislation or Other Federal Action

Returning to the listing of requirements within NEPA (section 102 C) regarding statements which must be included as part of every recommendation or report on proposals for legislation and other major Federal action, note again omission of any specific reference to impacts beyond those in the immediate geographic area of concern:

- (i) the environmental impact of the proposed action,
- (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (iii) alternatives to the proposed action,
- (iv) the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity, and
- (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

To correct this problem, inclusion of the following statement, as an addendum to the above listing of NEPA requirements¹³, is suggested:

"Regarding (i) and (ii) above, any proposed action that would have the effect of significantly reducing or effectively eliminating potential domestic mineral, energy, timber or other critical resource development must be accompanied by a statement regarding likely environmental impacts of the proposed action beyond the geographic area of focus, including outside U.S. borders."

¹³It is likewise proposed that environmental policy requirements of the various states that have enacted legislation modelled after NEPA be similarly modified.

Project Specific EIA/EIS

In the case of location-specific proposals focused on environmental protection there is, as previously noted, no requirement for analysis or consideration of potential impacts and risks beyond national boundaries. Consequently, modification of NEPA guidance documents is also needed. For instance, current guidance within the environmental consequences section of the 2021 CEQ Citizens guidance document¹⁴ says the following:

"In addition to the environmental impacts of the proposed action and alternatives, the environmental consequences section will discuss:

- Any potential unavoidable adverse environmental effects;
- The relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity;
- Any potential irreversible or irretrievable commitments of resources;
- Possible conflicts with land use plans, policies, and controls for the area;
- Energy and natural or depletable resource requirements and conservation potential of alternatives and mitigation measures;
- Urban quality, historic and cultural resources, and the design of the built environment, including the reuse and conservation potential of various alternatives and mitigation measures;
- Mitigation of adverse environmental impacts; and
- Applicable economic and technical considerations, including the economic benefits of the proposed action."

Further consideration of global environmental consequences might examine the following:

- Would adoption of the proposal be likely to shift raw materials extraction and environmental impacts elsewhere? If so, where?
- Is there evidence that environmental impacts and risks to such amenities as scenic beauty, sensitive watersheds and ecosystems, ground and surface water, air quality, indigenous flora and fauna, populations of rare and endangered species, existence of historic artifacts, and landscapes viewed as sacred would be lower in locations to which extractive activity is likely to shift than if resource extraction activity were to occur in the location defined as the focus of this proposal?
- How would adoption of the proposal impact net imports for fuel and non-fuel minerals, wood and wood products, and other materials?
- If a proposal will result in reduced production or extraction of a particular raw material which is on the U.S. net import list, is there an accompanying initiative to reduce consumption or increase post-consumer recovery of that material through greater efficiency in use, recycling, or substitution?

¹⁴CEQ (2021)

These are proposed solutions and approaches that illustrate how simple changes to include considerations of global impacts within the NEPA framework could greatly enhance the opportunity to maximize international cooperation in addressing environmental protections at the necessary global scale. Further exploration by a team of experts could result in a comprehensive policy proposal to be implemented at the federal and state levels.

Within NEPA, a bit of clarification regarding required elements of project proposals and associated environmental impact statements would serve to bring broader consideration into environmental decision-making to include impacts beyond the immediate area of concern and at the same time increase the integrity of U.S. environmental law and practices.

The Question of Complexity

Might a requirement for evaluation of probable impacts in distant locations make assessment extremely difficult to impossible? That might have been the case just a few years ago, but recent technology developments and recently established databanks have markedly changed the picture.

The U.S. Geological Survey has long monitored global mining activity, kept track of sources of minerals for U.S. consumption, and monitored global mineral demand/supply trends. The global mining industry itself maintains data regarding current and proposed mining activity.¹⁵ And, a new tool which makes use of satellite imagery, serves to pinpoint the location of global mining activity.¹⁶ Similarly, the same kinds of information can be obtained for timber resources, although information tends to be less site-specific than for mining. Trade flows and volumes are tracked both by the private sector, as well as governments around the world. Satellite imagery is also readily accessible for sites worldwide through Global Forest Watch. Using this information it is possible to utilize search engines to gain information about environmental concerns, issues, and impacts in and around active and proposed mining sites. Though not readily available for all countries, such information is obtainable for most. In short, it is realistically possible to obtain considerable information about current and potential import sources of non-fuel minerals, about the specific location of associated mining sites, and about local environmental impacts, issues, and concerns.

Summary

The National Environmental Policy Act of 1970, while successful in protecting natural and scenic assets of the United States, has resulted in the systematic transfer of the environmental impacts of raw material procurement and related actions to other nations, often magnifying impacts in the process. In view of the fact that environmental protection is important not just locally, but globally, alignment of environmental legislation with that reality is imperative.

Only minor modification of NEPA requirements and EIS guidance, and of state legislation patterned after NEPA, is needed to bring greater integrity to environmental protection efforts in the United States and globally, as the U.S. serves to support global citizenship and stewardship.

¹⁵S&P Global Market Intelligence (2022)

¹⁴CEQ (2021)

¹⁶Maus et al. (2020)

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