

ENVIRONMENT 2045:
Future Directions for Environmental Progress and EPA’s Role
A project of American University in partnership with the EPA Alumni Association

Focus Group 2:
The “Environmental Protection Enterprise”

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A New Narrative: Creating the “Environmental Protection Enterprise 3.0”

1. The first 50 years: from 1970 to now

The US “environmental protection enterprise”, -- the national framework for protection established through laws passed in the 1970s – reflected a general societal consensus and envisioned an evolving, unifying federal-state partnership as key to long term success. In contrast with the tremendous environmental achievements of the 20th century, progress on building a cohesive response to some of the 21st century’s most pressing environmental issues has stalled as political polarization has eroded the consensus on the value of this enterprise. We now face the challenge of how to redefine the protection narrative and facilitate a transition towards a widely supported 21st century environmental protection enterprise.

1.1. Environmental Protection Enterprise 1.0 (1970’s)

In response to the mounting tide of public awareness, concern, and activism over the alarming, pervasive scope of environmental degradation, Congress enacted in the 1970’s the fundamental statutory framework we have today. This framework placed principal responsibilities in the single agency for pollution and waste management that the Executive Branch had created: EPA. These statutes directed EPA to set standards to protect environmental and public health, and as the principal means to pursue those standards, to identify and enforce the best, economically practical pollution control technologies available.

More generally – but in practice, mostly aspirational – Congress also retained an overarching approach from the previous federal laws that aimed at actually meeting those standards in the ambient environment. While virtually all of the laws envisioned a crucial role for States (and later, for Tribes) in on-the-ground implementation, the limited legal and institutional capacity of most states in that period to perform such tasks meant that EPA, of necessity, took on a dominant initial role.

1.2. Environmental Protection Enterprise 2.0 (1980’s – present)

This period saw two decades of considerable environmental improvement and gains in public health protection through programmatic progress based in science, standard setting, reduction of conventional pollutants and delegation of programs to states as their capacity and legal structures matured. Tribal capacity also began to be built, but with limited resources. The gradual evolution of the EPA-state and EPA-tribal partnerships was marked by recurring innovation and tension and struggles within the Agency itself about desirable and appropriate roles and responsibilities.

Since the early years of the new century, clean up and pollution control under the established programs has largely been maintained, though the rate of gains has tapered off as the low hanging fruit has mostly been gathered. New science and understanding of environmental and public health problems emphatically demonstrated the need for important new programmatic steps (e.g., updating standards, confronting climate) – but EPA’s statutes focus on end-of-the-pipe regulation and enforcement, and may not generally offer a desirable breadth of authority to design the most effective, efficient, and flexible responses. Thus, progress has been stalled in confronting some of the most important environmental problems of the 21st century, as the practical and legal complexity of addressing them has been compounded by increasingly ideological and well-funded political opposition.

It also became clear that many actions beyond the reach of traditional environmental programs affect the environment – but this realization also coincided with increasing divisiveness and polarization in many aspects of national policy. Public opinion polls continue to show clear majority support for environmental protection, though reduced from levels shown prior to 2000 by partisan divisions that echo the charge, advanced by special interests but not backed by serious evidence, that strong protection harms economic wellbeing. However, the continuing higher levels of “worry about environmental problems” indicate that most people value protection but reflect the polarization and cynicism about government when asked how to go about it. (For more information on the discussion about public opinion here and below, please see Appendix 1: Background regarding Changing Public Views and Needed Messaging on the Environment.)

Most environmental statutes have not been reauthorized or even significantly updated literally for a generation – for the good reason that polarization means that efforts to modernize these statutes genuinely risks undermining the entire structure and endangering the great progress already made. So, US leadership on innovative and responsive environmental protection approaches has largely slipped away, and new challenges are not being confronted effectively.

The elements of a new Environmental Protection Enterprise 3.0 can already be identified, are based on well understood principles that could be widely accepted under less polarized conditions, and some individual elements have actually yielded promising results -- but they do not yet together form a coherent or recognized narrative. The imperative to build a new political cohesiveness around today's environmental issues, while maintaining strength on the gains made from the political cohesiveness of the previous century, states the central need for such a narrative to enable the nation to attain Environmental Protection Enterprise 3.0.

2. The next 25 years: Creating Environmental Protection Enterprise 3.0

The challenges that the Environmental Protection Enterprise might reasonably need to confront in the next 25 years are not the same mix as those that the Agency faced when it was formed.¹ While support for the environmental protection methods and gains of the past decades must be maintained and updated, the focus must shift to the paramount, existential threat of climate

change and the constituent imperative to identify paths toward mutual environmental and economic sustainability, as Focus Group 1 has described. This will require statutory structures that not only define different roles for EPA and its governmental partners, but also provide explicitly for the incorporation of new paths in science, sensing and information technologies, sharing protection responsibilities across the private sector, and deeper engagement with the public.

An Environmental Protection Enterprise 3.0 must be based on a strong, shared commitment to the mission of protecting human health and the environment. We believe that the continuing, wide public recognition of the need for this mission means that Environmental Protection Enterprise 3.0 can be realized if it defines a new narrative that can transcend the current polarized debate and reestablish a more broadly supported environmental protection enterprise. Environmental Enterprise 3.0 and the new narrative should:

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- Aim for resilience and sustainability; encourage innovation and environmental problem-solving; enable strategies that take a more holistic and integrated approach rather than a focus on end-of-the-pipe enforcement; and maximize utilization of advanced sensing and information technologies that facilitate a focus on ambient protection through outcome-oriented measures of progress. A regulatory backstop, setting and enforcing standards, will still be needed, but would not be the primary means of protection. The Enterprise should focus on highly desirable outcomes, especially public health, and include other important social goals such as energy security, a strong economy and social justice, and acknowledges necessary tradeoffs between these goals. (This summarizes the “what” of Environmental Protection Enterprise 3.0; that is, what substantive activities 3.0 should include.) These objectives, particularly the outcome orientation, would also enable positive messaging about 3.0, that creating a clean environment benefits everyone’s health and general welfare.
- Clearly direct the structural engagement of government partners and private participants in collaborating and allocating responsibilities to implement Environmental Protection Enterprise 3.0, according to the comparative advantage of each (the “who” of 3.0; that is, who has responsibilities to do the activities). The legislative process to define this structure

would develop a consensus on (a) the allocation of principal responsibilities among governmental partners, (b) a new role for regulated entities to participate in identifying their own solutions that achieve specific outcomes, and (c) empowerment of the public with greater transparency about outcomes. By broadening these parties' structural roles in governance, Environmental Protection Enterprise 3.0 would call upon the continuing social consensus that progress in public health and environmental protection are still needed, but as a collective responsibility of all participants, rather than misperceiving protection as, in effect, a vote for or against EPA.

3. Suggested characteristics for Environmental Protection Enterprise 3.0

3.1. *Resilience and sustainability through holistic, integrated approaches that generate clear public health and environmental benefits/outcomes*

- a. **Encourage resilience and sustainability.** The challenges of (1) climate change, including destructive, extreme weather, (2) sustainable management of energy, water and material resources, (3) biodiversity and (4) more frequent extreme natural and human-made events will require approaches that encourage resilience and sustainability.
- b. **Use holistic approaches.** Typically, sustainability can best be advanced by holistic approaches that utilize integrated environmental management systems, looking at multi-media impacts of full life cycles and chains of commerce, in addition to the classic management of certain chemical pollutants at single stages of production and product use. However, statutory revisions needed to advance this principle must also recognize that laws are media-specific because, as the polls show, the public continues to be concerned about concrete environmental problems.
- c. **Encourage technologically-driven innovation and incorporate evolving scientific understanding in environmental problem-solving.** Maximize effective use of advanced sensing and information technologies to enable a focus on ambient protection through outcome-oriented measures. The availability of cheap, accurate, potentially ubiquitous sensors and similarly inexpensive data storage and processing capabilities has at last made possible ambient, outcome-oriented protection approaches. These have the potential to become a broader and more flexible complement to the enforcement and control-technology-focused regimes that, out of practical necessity, largely drove 1.0 and 2.0. In turn, the shift away from technology-based regulation opens up a wide range of the integrated environmental management system, outcome-oriented approaches suggested above. Innovative potential could be further enhanced by creating and supporting a function to promote advanced environmental research projects to make pivotal investments in breakthrough technologies. Wide acceptance and durability of this function seems best secured by a shared governance approach as exemplified in E-Enterprise, which ensures strong interest in and mutual support for a jointly adopted agenda. Environmental Protection Enterprise 3.0 will also require a timely and refined understanding of how shifts in the environment, technology, and global political/economic patterns of behavior directly affect the health of people and ecosystems. Via recommendations of other Forum Groups, 3.0 must include a strong capacity to engage in and incorporate the findings of cutting-edge science, especially

in impact assessment, relevant technology, and modeling of complex ecosystem relationships.

- d. **Incorporate more market/price-based approaches**, economic incentives, and explicit price signals to boost the economic efficiency of protection and expand political support for the system. They could provide regulated entities more certainty and flexibility; state and local governments the potential for dedicated revenues to support their responsibilities; and the public with a clearer sense that polluters are paying. These approaches will reinforce a message that economic well-being and protection of public health and the environment are mutually beneficial, grounded in the reality that net employment and growth typically advance along with environmental investment. Given the limited role of these approaches in past statutes, more extensive adoption likely will take a concerted consensus-building effort among a wide range of stakeholders.
- e. **Firmly ground 3.0 in a clear, highly transparent “outcomes” framework**. More extensive, accessible, and localized environmental information under an outcomes-oriented approach should generate great political support and social value by expanding public understanding and support for the environmental and especially the public health benefits of stronger protection, (e.g., positive conditions for respiratory health, particularly by children and the elderly). By enabling clearer accountability for performance and effectiveness, health and public use-oriented outcomes can be much more compelling to a broad constituency than more abstract or negative notions such as reductions in emissions or enforcement actions. To some degree, outcomes linked to national security implications of climate change can be similarly persuasive.

3.2. *Structural engagement of government partners and private participants*

- f. **Frame the EPA/state/tribal relationship under a modernized model**, along the lines of “mutual task allocation and agenda-setting”, not defined by past roles and mindsets. Build on the shared governance reflected in E-Enterprise, streamlining implementation processes and leveraging technology, to develop mutually consistent, accessible, and trusted environmental information sources. Strong, common information bases are necessary for collaboration, public understanding, and more flexible, ambient-based approaches for the private sector.
- g. **Provide for more collaborative relationships and revise allocation of responsibilities among all governmental partners**, making best use of the key strengths of each, as a part of larger legislative efforts to modernize environmental statutes. Are there environmental problems of the past that do not warrant the same level of commitment that they once did or that should be left to states and localities to deal with, where people can see and understand environmental quality most directly and deal with tradeoffs? Are there other problems that warrant enhanced federal attention because they are clearly national or global in nature (e.g., climate) or involve tough scientific questions that warrant the kinds of research investment that only the federal government can muster (e.g., products of synthetic biology)?
- h. **Collaborate flexibly to advance global sustainability**. Facilitate efforts by state and local governments to apply a range of sustainability policies in the US that are informed by their global engagement in innovative venues (e.g., the Global Covenant of Mayors or California auctioning carbon credits with Quebec, the 100 Resilient Cities Initiative, German Marshall Fund’s Urban and Regional Policy Program).

Assess, transfer, and strategically apply policy and technical innovations at the national and sub-national levels (e.g. via mechanisms such as the US-German Bilateral – among others) from other nations with more advanced and modern environmental statutes that take a more holistic, integrated approach. Collaborate in the development, implementation, support, and monitoring of global accords on climate and sustainability. Assess and, as appropriate, transfer innovations in infrastructure and the built environment (water, transportation and energy, especially renewable). Evaluate EMS and ISO codes. Identify cultural and institutional factors to be considered and, as appropriate, addressed in potential application of any innovative approaches.

- i. **Structure 3.0 to provide more flexible and adaptable approaches with the private sector.** Capitalize on the opportunities offered by the ambient-based approach by enabling private entities to use documented EMS processes, multi-media sectoral approaches to achieve outcomes rather than end-of-pipe requirements. While a major aspect of EPA’s work has been and must continue to be setting and enforcing standards (that help level the playing field and prevent backsliding), the agency has gained experience with non-traditional approaches, and review of innovative global strategies can expand options. Within a government-supervised implementation framework, institutions/firms/nonprofits could enter into contracts with states to aggregate diverse sources of venture capital to secure public goods/environmental outcomes. Air shed and watershed-based compacts with outcome-based performance elements and government-supervised accountability features are worth exploring. EDF, The Nature Conservancy, and WRI have all done some work in this arena that illustrates its potential.
- j. **Promote integrity in decision-making.** Environmental Protection Enterprise 3.0 must be guided by approaches to governmental decision-making that justify public confidence. Clear safeguards for scientific integrity in decision-making will honor well-established principles for conducting responsible scientific research and risk assessment. Defined, structural policies must distinguish risk assessment from the separate responsibilities for risk management and risk communication. More broadly, the conduct of science and the process of decision-making in general should be pursued in an atmosphere of transparency, consistent with legal obligations and good practices (e.g., the EPA “fish bowl” policy). To make the Agency more effective and innovative, both staff and managers should be empowered to identify potential improvements and correct systemic weaknesses. Processes to implement this mode of operation should be developed jointly by all participants. In particular, staff and management jointly should develop a process for resolving scientific integrity issues.

4. Prioritization of Actions towards Environmental Protection Enterprise 3.0

Prioritizing these ideas should be placed in two tracks: (1) actions to improve within the existing structure of statutory authority, and (2) actions to modernize that statutory structure. “Prioritizing” actions/ideas to improve within the existing statutory structure does not mean these ideas are more important. Rather, it simply describes a distinction between the near-to-middle term and longer term, that can be useful for determining the timing, phasing, and an appropriate level of effort for each action.

4.1. Near- to Mid-Term Actions:

Recognizing that Environmental Protection Enterprise 3.0 cannot be achieved under the current, statutory structure without at least substantial modification, it is essential for a constructive and realistic agenda to include important near- to mid-term actions that could be taken without significant legislative revisions. It would neither be sensible nor worth the level of effort to explore dramatic changes in the relationships between EPA and other governmental partners, or between EPA and regulated entities, under the existing statutory structure.

While the current, extensive statutory definitions of and well-established practices in roles for EPA and the states and tribes certainly can allow for greater flexibility and creativity, it would be much more productive to channel consideration of more far-reaching changes into the longer-term track, to develop modernized statutes. Similarly, the primarily end-of-the-pipe focus of EPA's existing statutes necessarily makes the relationship with regulated industries a largely adversarial, legalistic, enforcement-oriented one, because that focus effectively limits EPA's discretion to facilitate holistic action by regulated industries, e.g., enabling them to emphasize anticipatory process compliance through environmental management systems.

In considering and prioritizing among potential near- to mid-term ideas/actions, both practicality and effectiveness call strongly for a focus on ideas that can build on innovative practices now in place or recently used that have been embraced by states and regulated industries. This embrace is crucial, because it gives those practices a strong constituency that any administration will need to recognize, as well as giving that constituency substantial leverage with the agency to at least continue the practice. Near- to mid-term ideas don't need to be limited to those in use but should at least be able to demonstrate a reasonable likelihood of being appealing to and adopted by such a constituency.

One current example that can be built on is E-Enterprise for the Environment, a chartered, jointly governed effort by states, tribes, and U.S. EPA as co-regulators to improve environmental outcomes and dramatically enhance service to the regulated community and the public by collaboratively streamlining shared implementation processes, increase transparency, and maximize the use of information technologies. Others could include ideas like reinvigorating the CEQ role and function and changing the public engagement paradigm on environmental protection issues. Individual components of 3.0 could be further developed and tested to increase the understanding, interest, and desire to invest in statutory revisions to provide for 3.0 at a favorable time. Perhaps a combination approach might be essayed, with the federal role being to determine standards (whether risk-based or technology-driven) and provide data (risk assessments and technology evaluations). Then, cooperation with co-regulators and an added element of public transparency through disclosure mechanisms like TRI could provide a wide and strong foundation for progress.

4.2. Longer-Term Actions (Federal Legislation):

In the longer term, legislative action will be needed to achieve Environmental Protection Enterprise 3.0, whether through enactment of a connecting tissue between existing laws or more extensive modernization of individual, media-specific statutes. An Organic Act to create a Cabinet-level Department of Environmental Protection might be a very long-term option but is not essential to achieve most aspects of Environmental Protection Enterprise 3.0.

Either will of necessity require a resetting of the overarching narrative about EPA and must recognize and grapple with the stern reality of the erosion in public support for environmental protection as part of the larger polarization of political debate.

Thus, the strongest argument is first to tackle modernizing statutes individually or based on some kind of common framework or connective tissue and including in these individual statute’s strong incentives or requirements for an integrated approach. This should gradually build constituencies both in states and among many in industry for a stronger commitment to these new approaches by establishing those constituencies’ comfort level – based on their experience in implementing those modernized statutes – that they can agree to invest in (it will require more than simple acceptance of) a newly envisioned and more extensively capable EPA. Realistically, this is a prerequisite for any constructive consideration by Congress of an EPA organic act.

To start with an organic act creates far too great a risk that a necessarily general (and from a public view, arcane) debate about how a new EPA can and should operate would inevitably devolve into conflict over all the destructive, polarized narratives that any EPA would be untrustworthy and unacceptable. This approach also recognizes that the continuing high level of public concern about environmental problems (in contrast with the polarization on the more general “protection vs. economics”) is most effectively tapped by addressing concrete environmental problems rather than beginning with a debate over a much more abstract “organic act” that will not helpfully engage public interest and commitment.

5. Appendix

5.1. Members of Focal Group 2

Name	Experience
Joe Cascio	HQ (assigned to CEQ). Environmental Management Systems and Private Governance
Walter DeRieux	EPA Headquarters 1980 to 2015: Held environmental engineering positions in Office of Water, Office of Solid Waste, Office of Waste Programs Enforcement and Office of Enforcement and Compliance Assurance working on drinking water, wastewater, storm water, solid and hazardous waste projects.
Barbara Elkus	At EPA from 1977 – 2001. Primarily, she held positions in the Office of Water and the Office of Solid Waste and Emergency Response. Key positions included Deputy Director, Effluent Guidelines Division, Deputy Director, Office of Ground Water and Drinking Water, and Deputy Director, Office of Underground Storage Tanks. Special assignments included the Hazardous Waste Enforcement Task Force, Coastal America and American Heritage Rivers.
Bonnie Gitlin	EPA employee from 1984 - 2017 (with 2-year break to work at Congressional Research Service). Brief list of positions, most recent first: Acting Chief of Staff, Office of Radiation and Indoor Air. Acting Deputy Director, Office of Federal Activities. Chief, Sustainable Management Branch, Office of Wastewater Management. Acting Deputy Director Municipal Support Division, Office of Wastewater Management. Acting Director, Municipal Support Division, Office of Wastewater Management. Senior Research Manager, Environmental Policy Congressional Research Service. Deputy Director USEPA, Radiation Protection Division. Acting Director Radiation Protection Division.
Mark Greenwood	HQ: Toxics; Also General Counsel.
Bill Hirzy	OPPTS; risk assessment; HQ Professionals Labor Union.

Dale Medearis	1987-2007 Served in the Office of International Affairs, primarily with the transfer urban sustainability policy and technology innovations (e.g. brownfields, smart growth, water/energy infrastructure, "green" buildings, "green" infrastructure) from OECD-member countries/cities to US metropolitan regions. Worked with UNEP, OECD, IUCN, and development assistance programs in Eastern Europe, and happily served for short periods in Region III and the Office of Comptroller.
Philip Metzger	Served at EPA 1994-2017. Chief Policy Counsel to the Assistant Administrator for Water, Senior Policy Counsel to Deputy Administrator, and Senior Policy Counsel to the Chief Financial Officer for E-Enterprise.
Bob Perciasepe (FG leader)	Currently President of the Center for Climate and Energy Solutions, he was Secretary of the Maryland Department of the Environment and Chief Operating Officer of the National Audubon Society. At EPA, he has served as Assistant Administrator for Water, Assistant Administrator for Air and Radiation, and as the longest-serving Deputy Administrator in the Agency's history.
Rob Wolcott	HQ: OPPE.
George Wyeth	Director, Integrated Environmental Strategies Division, National Center for Environmental Innovation (1998-2013); attorney, Office of General Counsel (1989-98) and Immediate Office of the Office of Enforcement and Compliance Assurance (2014-17).

5.2. *Background regarding Changing Public Views and Responsive Messaging on the Environment*

A significant topic of Group 2 discussion was the recognition that public support is an essential element to future success. Looking at a broad range of polls, one thing does seem clear; public support for environmental protection has been fluctuating, with the strong support through most of the 1980s and 1990s somewhat eroded now. Since 2000 the ramp up in rhetoric and the emergence of the environment as a partisan issue has to some degree reflected the larger polarization in the country. Looking at the Gallup tracking poll on Environment vs. Economy (Figure 1) gives a view of this, with a very recent uptick still well below the strong support throughout the late 20th century.

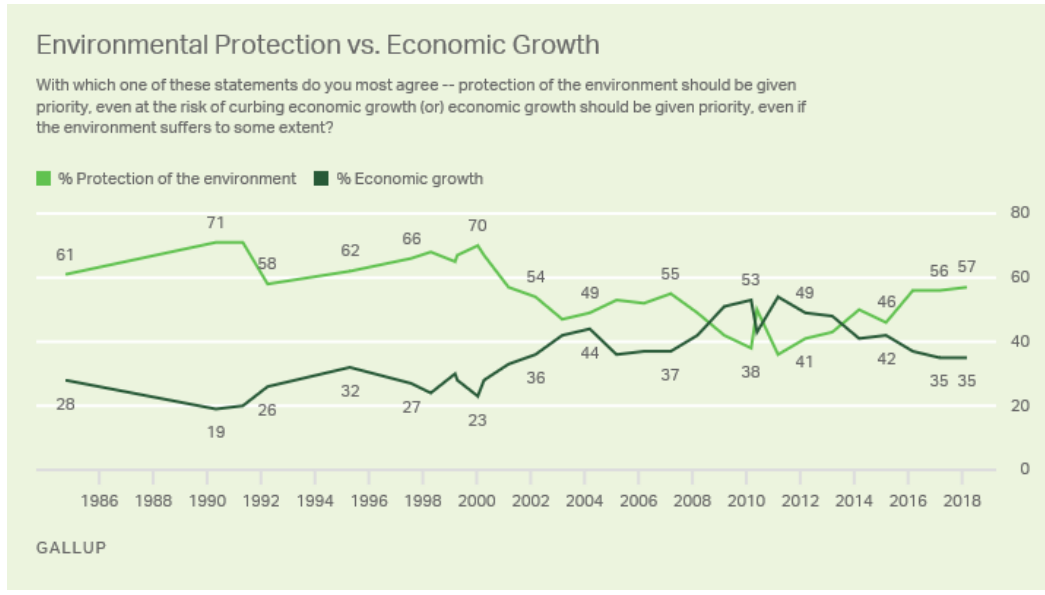


Figure 1

However, the public “worry” about environmental problems has remained more consistent during that period – mostly around 70%, when the worry “a great deal” and “a fair amount” are combined (Figure 2).

Next, I'm going to read a list of problems facing the country. For each one, please tell me if you personally worry about this problem a great deal, a fair amount, only a little or not at all? How much do you personally worry about the quality of the environment?

	Great deal	Fair amount	Only a little	Not at all	No opinion
	%	%	%	%	%
2018 Mar 1-8	42	30	20	8	*
2017 Mar 1-5	47	30	16	7	1
2016 Mar 2-6	42	31	19	7	*
2015 Mar 5-8	34	34	22	10	*
2014 Mar 6-9 ^	31	35	24	10	--
2013 Mar 7-10	36	33	23	8	*
2012 Mar 8-11	37	36	19	7	1
2011 Mar 3-6	34	34	24	7	*
2010 Mar 4-7	34	34	24	7	1
2008 Mar 6-9	40	34	19	7	1
2007 Mar 11-14	43	33	18	6	*
2006 Mar 13-16	40	37	18	5	*
2005 Mar 7-10	35	30	28	6	1

	Great deal	Fair amount	Only a little	Not at all	No opinion
	%	%	%	%	%
2004 Mar 8-11	35	27	31	7	*
2003 Mar 24-25	34	34	21	10	1
2002 Mar 4-7	35	31	27	6	1
2001 Mar 5-7	42	35	17	5	1

^ Asked of a half sample; * Less than 0.5%

GALLUP

Figure 2

Where we see the big difference is the growth of the partisan divide. These two charts from Pew (Figures 3 and 4) demonstrate that recent history.

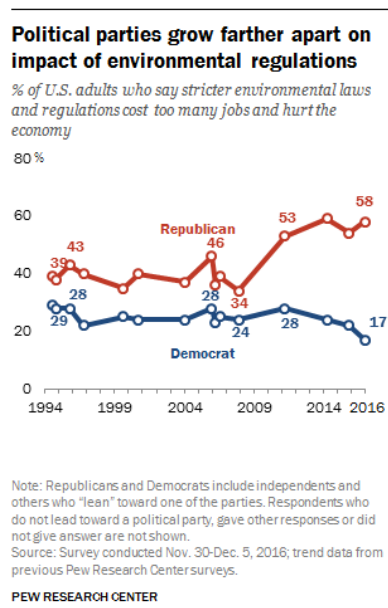


Figure 3

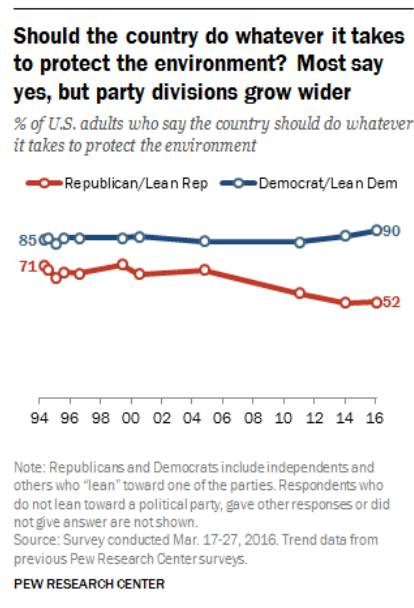


Figure 4

The national debate on environmental protection and what priority it should be given has shifted since the 1990s and grown more partisan.

There seems to be strong majority support for environmental protection, even if less than the 1980s and 1990s. However, there is greater partisan support for the ideological charge, not backed by substantial evidence, that strong environmental protection harms economic wellbeing.

This is exactly the charge opponents of environmental protection have been spending significant sums of money to create and exploit to widen the split in public opinion.

Among the many challenges to EPA is the increasing adoption and widespread use of rhetoric from the anti-environment/regulation campaign, which has the objective of increasing public opposition to “over-regulation” based on unfounded rhetoric that most regulations are wasteful, unnecessary, and undercut businesses’ initiative and efficiency, and national competitiveness and economic growth. The unfortunate adoption and repetition of this campaign’s largely unsupported rhetoric by many political leaders has compounded and reinforced these attacks.

Going forward, can we give evidence-based and constructive leaders an alternative narrative? Additionally, is it possible to mount a full-throated defense of environmental protection and EPA without some refocused narrative? These are important questions and, to a great extent strategic choices embedded in how we plan recovery from the current corrosion. What should that refocused narrative be? What can and should be the role and emphasis of factual rebuttals to this anti-environmental protection campaign?

To be sure, all regulations are not perfect, and all problems can’t be solved with more regulation. However, regulations need to be in many respects the detailed “implementation manuals” for the much more general laws Congress enacted. This is after all, the constitutional responsibility of the Executive Branch and EPA in particular.

Congress embraced very visionary goals in the environmental legislation of the 1970’s. Examples include: “Restore the chemical, physical and biological integrity of the nation’s waters”, “Elimination of water pollution”, set air quality standards “requisite to protect public health with a margin of safety”.

It is likely that the regulatory tools that are envisioned in most statutes may have limits – and at least, are not optimally adapted – in their ability, by themselves, to make these statutory goals a reality in a way that promotes the most effective and efficient means, now and in the future, to advance these goals.

Achieving these goals ultimately may take broad societal change and innovation. Is it possible that the environmental success we have had to date, which is clearly noted in polls as people believe the environment is getting better (and it has!), lead to a more complacent public? Place these trends together with the unrelenting attacks linking declining jobs to regulations and economic recession, and you have some of the storm enveloping the Agency. The public is no longer reacting as it has in the past to environmental danger messages. A positive and alternative theme is required.

¹ Focus Group 1 summarized these future challenges “from two perspectives---‘environmental and sustainability’ and related ‘systems’ challenges, the latter being defined for this report as laws, procedures, institutions, or practices on which the operations of EPA depend. FG1 believes that all challenges listed below are important to address. The overarching challenges of most concern to the group are [1] Climate change and its mitigation through emission reductions and response to its multiple impacts [eg, on water, ecosystems, biodiversity, material resources, health, and infrastructure], [2] sustainable management of water, energy and material resources, [3] demonstrating that the environment and a robust economy are mutually supportive, [4] ensuring that EPA will have access to, and employ, the best and most relevant science, [5] enabling EPA to anticipate emerging environmental threats, provide leadership, and effectively communicate its mission, activities, and science, within and outside the government, and [6] support of past environmental gains and the scientific and procedural methods which have supported the environmental improvements over the past 50 years [regarding the latter, see <http://www.epaalumni.org/hcp/> for reference to the EPA Alumni Association report entitled ‘A Half Century Of Progress’ for multiple practitioners views on the challenges, actions initiated and progress made since EPAs inception in 1970].”