

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 5: Tools, Processes, Culture and Resources

This report, facilitated and made public by the EPA Alumni Association, was developed by a Focus Group composed of the alumni listed below. The views expressed, including priorities and recommendations, are those of the authors and do not necessarily reflect the views of the Association or its Board of Directors. The Board of Directors did not review or comment on the Focus Group report. This document has not been peer-reviewed.

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1. Introduction

The charge of Focus Group 5 was to look ahead 25 years and consider what tools, processes, culture and resources a future EPA would need to effectively meet its mission. The members of the focus group represent a diverse set of EPA alumni reflecting a variety of experiences with the agency. The group met three times, June 5, June 19, and June 29, 2018.

Out of this diversity, focus group members identified several common themes that an EPA of the future should address. The focus group felt strongly that its objective should be not simply to “restore” EPA capabilities, but to identify critical capabilities that are necessary for a strong EPA in the future. These themes fall in two categories: policy and management/performance.

Three overarching issues also arose in the group’s discussions. First, there is debate over whether options requiring statutory change should be considered. Our approach at this early stage has been to note when statutory change might be required, but not rule out options on that basis. Second, the group discussed whether a major reorganization is needed to implement these themes; its conclusion was that while some modest organizational changes might be beneficial, large-scale reorganizing is not in general preferred, for reasons discussed in Appendix A. Third, the group’s charge includes the question of resources. Increasing EPA’s budget is not a goal in itself, but the vision of the EPA of 2045 should include candid consideration of the resources required for an effective federal-state system of environmental protection (see Appendix B).

2. Policy Themes:

2.1. Alternatives to media-based approaches

From its creation, EPA has been organized largely by environmental media: air, water, and land (including both waste management and remediation). In general this has worked well, but a media-based model has limitations. It complicates the response of many regulated entities, and within the Agency it has created strongly defined organizational silos. It tends to create a blind spot with regard to solutions that are not media-based -- for example, basic changes in products

and production methods -- that may ultimately be superior both environmentally and economically.

To address this concern, the group identified a number of possible approaches. These are not mutually exclusive and could be implemented side by side.

- a. **Sector-based approaches.** Another way of approaching environmental problems would be to focus on business sectors. Many regulatory actions are already sector-based (e.g., effluent guidelines and air toxics standards), but are implemented in isolation from each other. Closer coordination might yield better results. A sector approach could also facilitate the search for integrated, more cost-effective solutions including pollution prevention and circular economy approaches. It would also create the potential for greater joint problem solving with the regulated industry and the environmental community. Simply analyzing environmental impacts on a sector basis may also help prioritize EPA's work. The data produced would serve the goal of enhanced data availability internally and externally and would be particularly useful for supporting analyses and priority-setting by citizens (both discussed below). This is not a recommendation to embark on a statutory reorganization, which would be disruptive and difficult to achieve in the near term. EPA has experimented at times with integrating sector-based models into its current organizational structure, from the Common-Sense Initiative to a smaller Sector Strategies Program. The current administration has created a "Smart Sectors" initiative. The experiences from these efforts, both positive and negative, should be studied to explore how such an approach could be built into EPA's DNA to a greater degree. Sector-based models can be especially useful in improving performance by small sources. Some states have created integrated programs to regulate (and assist) small business sectors such as dry cleaners and auto body shops – creating single guides that capture requirements across media programs and translate them into practical terms for the sector. This works better for small businesses and is more efficient for the state. Similarly, farms can benefit from a more unified approach, and the Agency could also apply the concept to the broad set of regulatory requirements affecting municipalities.
- b. **Integrated permitting.** Even if the regulatory programs remain organized on media lines, it might be possible to use a more integrated approach at the level where the rules go into effect: in permitting and related functions such as compliance assistance. The European Union has adopted an integrated permitting model, which may offer valuable lessons. A cousin of integrated permitting is facility wide permitting – a concept primarily relevant in air where it is common for a single facility to have multiple regulated sources. The air program has for many years used various "bubble" models to some degree, as well as approaches that allow sources to anticipate and make changes without going through an extended permitting process. Studies have shown this approach to have significant pollution prevention benefits as well as removing unnecessary administrative impediments. These approaches could be used more widely or given more explicit statutory support.
- c. **Community approaches.** For many years EPA has explored various place-based or community-based models of environmental protection. Such models have become especially urgent with the increased appreciation of the burdens faced by low-income,

underserved communities with exposures to pollution of many kinds, and the increasing prominence of environmental justice issues. While standard regulatory approaches can contribute to community solutions, there can be imperfect alignment between these approaches and community needs that go beyond conventional pollution control.

Community level action is often the role of the state or local government. However, EPA can facilitate community-based work by coordinating its own work across programs and by serving as a convener to mobilize other federal agencies and state or local partners. EPA can also take steps to address basic regulatory gaps – the consideration of cumulative risk in permitting, for example, or more formal recognition of neighborhood-level air quality issues that are hidden in airshed-wide attainment designations. Actions under EPA authorities, such as cleanup of Superfund sites or corrective actions under RCRA, benefit from full involvement of communities affected by these actions who will live with their consequences long after EPA is no longer actively present. Other recommendations below, including an enhanced role for citizen science and data transparency can also contribute to action at the community level. Aside from direct EPA activities, EPA community-based models and data could be valuable resources for stimulating university research and citizen science to identify community issues and potential solutions.

- d. **Watershed approaches.** Over the last 30 years the water pollution control program has shifted its focus from a largely technology-based program based on end of pipe control and permitting, to one that recognizes the enduring pollution problems resulting from nonpoint sources, especially excess nutrients. Solving these problems requires a holistic focus on watersheds, from intermittent headwater streams to coastal estuaries and everything in between. Though the importance of this focus has been obscured by the political debate over the reach of the Clean Water Act, crises such as harmful algal blooms or large-scale hypoxic zones drive this message home. Such an approach also encourages the use of “green infrastructure” and other innovative approaches through which water quality is addressed upstream rather than at the point of discharge. For example, Washington DC is pursuing a sustainable and resilient set of proven nature-based solutions that harness the power of natural ecosystems for stormwater management. The investment will use innovative methods to reduce water pollution develop rain gardens, cool urban heat islands, and reduce flooding.

Proper management of water quality over large geographic areas will require a substantial increase in emphasis on water quality data and a commitment by state and local governments to science-based adaptive management approaches, both regulatory and non-regulatory. EPA can provide a framework for expanded engagement among multiple jurisdictions to explore and adopt such approaches, using as models’ actions taken in the Great Lakes, the Chesapeake Bay, and National Estuary Programs. Watershed-based programs can also encourage consideration of innovative approaches, such as effluent trading, non-structural stormwater solutions, and safeguarding drinking water supplies through critical habitat protection.

2.2. *Maintaining a Strong Enforcement Program*

Any long-term plan for EPA must ensure a strong, professionally capable enforcement program. Maintaining a high rate of compliance is essential to the legitimacy of the environmental

protection system, so that those who may be tempted to violate environmental standards are deterred, and those who comply are not put at an unfair disadvantage.

The respective roles of States and EPA in enforcement have produced some controversy. Some groups argue that at least some States do not enforce aggressively enough, while others argue that EPA at least occasionally oversteps its boundaries and takes on work that properly belongs to the States. We believe that it is a mistake to hold that a strong EPA requires weak States, or that strong States require a weak EPA. Effective environmental enforcement requires both strong States and a strong EPA. To maintain effective enforcement, EPA and state officials must have ample legal authorities to redress noncompliance and seek significant penalties for violations. It is also essential that the enforcement program be adequately resourced.

However, legal authority and adequate budgets are not sufficient. Enforcement staff must have access to modern tools and technologies. They must also be well trained and provided with rich opportunities for continual retraining and career enhancement. EPA needs to expand the use of enhanced monitoring, data-driven inspection targeting, and data analytics to identify compliance shortfalls. Rules should be designed to maximize compliance: they must be clear and understandable, and create incentives for compliance – for example, through public transparency and the use of advanced technology.

In addition, there must be a culture of mutual respect and regular communication within enforcement teams across disciplinary lines, and between OECA and program offices and regional office enforcement personnel. EPA enforcement staff also need to maintain cooperative working relationships with state and local agencies—who do the bulk of environmental and compliance work—as well as the Department of Justice, Congress, the White House, and a number of other federal, state, and local governmental entities.

2.3. Promoting Citizen Empowerment and Citizen Science

The role of private citizens in our system of environmental protection has expanded since the Agency was formed in 1970. Not only are strong citizen suit provisions embodied in the major environmental statutes, the active engagement of the public has grown as citizen groups develop greater understanding of environmental concerns in their communities and how federal, State and local laws may apply to these concerns. Information provided by programs such as TRI helps to empower citizens to act independently, as does the shift to electronic reporting. In envisioning the EPA of the future, we must think about how public involvement can be made even more meaningful. New technology and social media create new avenues for input, and while sincere person to person contact and public forums will always have a strong role, the agency should also use technology even more effectively to create opportunities for dialogue.

Citizen science can bring about a dramatic change in the role of the public. Both new technology and an increasingly sophisticated citizenry are making it possible for private citizens, even those not formally trained as scientists, to generate data on environmental conditions. This will enhance the part that citizens can play as active players in the overall system of environmental protection, and the data they provide will enhance our understanding of environmental conditions and local problems. Such crowdsourcing might also be an asset for enforcement. Programs are only beginning to understand how they can fully capitalize on this resource.

The point of promoting citizen science is not just to collect more data, as valuable as that is. The point is to empower citizens to become more active, knowledgeable participants in decisions that affect their communities. The Community Right to Know program is an example of this that has been in place for many years. Information is power, and power that should be available to every citizen.

2.4. An Organic Statute

Many if not all of the themes above could be implemented to some degree within the existing environmental statutes. However, it is worth considering whether an overarching “organic” statute would be more effective and would provide other benefits as well. Unlike most federal agencies, EPA does not have an overarching statute that sets out the Agency’s overall mission and operating principles, and provides general authority to take action within the scope of that mission. While EPA has been quite successful in working within the current statutory framework, often finding authority in specific provisions to adopt innovative strategies and solve new problems, the absence of a general authorizing law limits the Agency’s ability to respond to new and unanticipated challenges, or to use approaches that do not fit neatly with media-based programs.

The group recognized that a full overhaul of all of EPA’s existing authorities is likely beyond the foreseeable capacity of both the legislative and executive branches. However, as EPA looks ahead, it is an opportune moment to ask whether a more selective organic statute might provide certain benefits, for example, in standardizing enforcement authorities across statutes that now contain a great diversity of authorities, obligations and limitations. Such an approach could provide an opportunity to select those areas where a coordinated approach across the agency would be most beneficial. An organic statute could also formalize EPA’s status as a cabinet-level agency.

3. Management and Performance Themes

We envision an EPA that is strong and agile; an organization that is singularly focused on fulfilling the mission entrusted to it by the American public by marshalling its internal talent and knowledge capital, cultivating and leveraging collaborative partnerships with other governmental and non-governmental partners and focusing on evidence-based decision-making.

To bring EPA closer to this vision, we recommend concerted action on four main aspects related to strengthening EPA’s internal management framework and enabling a more integrated and entrepreneurial organizational culture:

3.1. Strengthening Strategic Planning and Performance Management

Like all organizations, EPA needs a strong internal management framework (strategic planning, internal policies and processes, internal information flow, and decision-making approaches) and organizational culture that foster and reward a continuous search for ways to improve how it does its work, enhances internal collaboration and knowledge sharing and boosts employee morale and productivity.

This will be a particular challenge for EPA because of the agency’s statutory and even constitutional responsibilities. Notwithstanding the vast scope of its authorities, EPA is an agency of enumerated and limited powers. However, as former Administrator Reilly once noted, there is a reason why EPA is not the “Environmental Regulatory Administration Agency”. He observed that “the EPA Administrator is far more than a regulator and should see himself or

herself as a major source of information, of encouragement, at times of inspiration, for the public at large.”

This role of EPA could be improved through a stronger strategic planning process. Such a process would incorporate analyses of emerging issues – environmental, technological, and demographic – that may impact environmental quality and environmental management and protection. A stronger strategic planning approach will help EPA use evidence and stakeholder input to define and focus in on key strategic priorities, align its operations to use both its statutory obligations and influence as a trusted authority to accomplish its mission and make a more compelling case for the resources it requires.

In addition, EPA can make a stronger commitment to measurement of results and regular evaluation of programs’ strengths and weaknesses to inform an ongoing process of improvement. When EPA issues rules, an evaluation process should be built in so that the Agency knows whether it is being effective, and whether the consequences of the rules were as anticipated (including cost estimates), so that rules and programs can be updated on a regular basis.

3.2. Staff/Management Coordination and Empowerment

Empowering staff as well as managers to identify potential improvements and correct systemic weaknesses can make the Agency more effective and innovative. This will require a sustained commitment from the highest levels of the Agency.

In this iteration of the Agency, staff will be active participants with management in identifying problems to be addressed and in planning how to address them. Processes to implement this mode of operation should be developed jointly by all participants with a stake in the process.

The focus group recognizes that disagreements will occur from time to time among sincere, committed environmental professionals. In matters involving interpretation and evaluation of scientific inputs, managers and staff qualified by education, training and experience should be the decision makers in resolving differences in professional judgments as they arise, using EPA’s Principles of Scientific Integrity as guidance. (Appendix C)

3.3. Attracting, Retaining and Deploying a Talented Workforce

One way in which EPA can become more productive is to strengthen its human capital management. EPA’s mission continues to be attractive to potential employees looking for a meaningful career in public service. However, like many federal agencies it needs to do a better job of running a hiring process that attracts the best candidates, and of ensuring that its workforce continues to be engaged, challenged with meaningful work, developed and empowered to innovate at all stages of their careers.

EPA’s human capital management system should encourage and facilitate continuous professional and career development of staff and increase the agility with which staff talent is deployed across organizational lines to meet critical agency needs. EPA’s people should be managed as an Agency asset and deployed where they can best contribute to the mission of the Agency as a whole. The Agency needs a robust structure to facilitate strategic workforce and succession planning so that EPA can maintain and grow internal expertise and leadership talent. EPA also needs to build on and improve ways to facilitate internal development and deployment of staff talent, knowledge and skills across programmatic and office lines. This

would bolster EPA's ability to more nimbly respond to emergencies and emerging needs. EPA should also develop more structured ways to provide personnel exchange opportunities with state and local governments and other Federal agencies, combining existing statutory authorities such as the Intergovernmental Personnel Act with increased funding dedicated for this purpose.

3.4. Strengthening Internal Communication, Coordination and Collaboration

EPA's current organizational structure poses a challenge to strategic and integrated planning and action. This is not a problem unique to EPA, and there is no perfect organizational solution. The Focus Group recommends that EPA boost its ability to operate in a manner that encourages and supports cross-organizational information and knowledge sharing, coordination and collaboration. Mechanisms for accomplishing that include supporting informal networks; promoting and rewarding collaboration within and across organizational boundaries; investing in cross-program training and career development for employees; using new technologies to communicate with inside and outside parties; expanding awareness by all employees of EPA's overall role in the environmental protection system; and enhancing data interoperability across programs. This should build on existing efforts to create a more nimble, action-oriented culture at EPA.

That is not to deny the value of thoughtfulness and deliberation. Regulatory development does not proceed quickly for a reason, and respect for law and due process are core values for any iteration of EPA. Nevertheless, it should be easier for staff in the EPA of the future to reach across organizational lines and work with others to solve important problems.

3.5. Building an Organization That Acts Quickly and Responds to Changing Needs

Acting quickly is a challenge for most large organizations, and EPA is no exception. Decision-making processes can be slow, and the intense scrutiny that EPA receives discourages risk-taking. However, in building an Agency for the future, effort must be made to develop a more nimble culture, responsive to technological change and to new information. Programs should be capable of learning from experience and adapting accordingly on regular basis -- both taking new action where needed and recognizing when old approaches have outlived their value. In particular, regulations and other policies will probably need to change more quickly, straining a system that was not built to do so.

Another reason that a nimble culture will be critically important is that EPA will face increasing demands on its emergency response functions. These include helping communities respond to major weather events, which are growing in frequency and severity, as well as responding to oil spills and other "non-natural" disasters. EPA has been on the front lines in responding to domestic terror events from 911 to anthrax; while we hope that these will not be repeated it will have to be prepared for the unexpected.

3.6. Enhancing Data Availability, Interoperability and Management

Access to reliable, high-quality and up to date data is critical to EPA's ability to use robust scientific evidence to inform its decision making. Making reliable, interoperable data available to internal and external audiences is going to be even more important for environmental protection in twenty-five years. Greater interoperability and transparent access to information will improve the integrity and defensibility of EPA decisions, which should help insure trust between EPA and the public. Interoperability of data systems is also important to facilitate sector-based strategies,

cross-media approaches, consistent cross program enforcement approaches/schema, and use of citizen science (data collection, personal monitors, observations).

The evolving environmental observations, prediction and information technologies and paradigms (e.g. citizen science) make possible new approaches for environmental health assessment and real-time monitoring that present opportunities for EPA to detect issues quickly and to see trends, prevent problems and assess the causes of those problems. EPA is still in the early stages of making full use of the data that can be generated on matters such as air and water quality, facility compliance and adaptive ecosystem responses to changes in input conditions. New means of utilizing “big data” will help EPA perform its job more effectively.

EPA should expand its capacity to gather, integrate, analyze and synthesize data and information from public, private, citizen and international sources. Making EPA’s many program data systems interoperable internally, and with state program partners, requires more than resolving the many technical issues. Difficult policy decisions are also involved. EPA should commit the needed resources (conceptual and technical) to maximize consistency of definitions and terms -- such as facilities and pollutants and geographic location -- across programs, as well as to help link datasets for sector or geographic analyses.

EPA cannot, and should not, take on all of these issues and responsibilities by itself. It will require coordination and sharing of responsibilities across levels of government, and perhaps with nongovernmental entities. States must be partners in planning and executing this evolution or it cannot be successful. Further, EPA should bolster its efforts to share data across federal agencies, focusing on those agencies with overlapping responsibilities in health and the environment, including DoD. To its credit, EPA has recognized this as part of its ongoing E-Enterprise for the Environment initiative. These efforts will need continuous and expanded support.

Moreover, the value of transparent data and information should not be misinterpreted as a call for violating privacy rights, attorney-client privilege or long-established scientific protocols, especially in the case of investigations (such as epidemiological studies) where data would simply not be available if participants could not be assured that personally identifiable information would remain confidential. Such a move would undermine scientific integrity and prevent EPA from having access to information about environmental impacts that the agency cannot obtain in any other way.

4. Membership of Focus Group 5

Find below names with their former EPA offices and other relevant experience.

Name	Experience
Stan Meiburg (FG leader)	DRA Region 4, Deputy Administrator
Rob Brenner	HQ: Regulatory Policy Analyst, Office of Policy, Planning and Evaluation (1978-1984) and Office of Air and Radiation (1984-1989) Director, Office of Policy Analysis and Review (1990-2011)
Arden Calvert	HQ Strategic planning, budget, regulatory manager
Greg Fabian	Team Leader, Information Systems Team, Drinking Water Protection Division, Office of Water/Office of Ground Water and Drinking Water. Maintenance and development and technology planning for the Safe Drinking Water Information

	System.
Odelia Funke	HQ Policy Office; Toxics Office, Information Office; Policy analysis (esp. toxics, information, regulatory policies)
Noha Gaber	Environmental Engineer, Office of Research and Development and Office of the Science Advisor (2005-2011), Special Assistant (for collaboration and innovation) to the Administrator and Deputy Administrator (2011-2014), Director, Office of Internal Communication (2014-2016)
J. William Hirzy	HQ, Senior Scientist, OPTS, Risk assessment specialty, Organizer, charter member, president HQ professionals' union, Labor Co-Chair, National Partnership Council, a principal author of EPA Principles of Scientific Integrity. Previously: Chairman, Human Health Research Committee, Chemical Manufacturers Association Phthalate Esters Project Panel as Monsanto employee.
Joel Mintz	Enforcement Attorney, EPA Region 5 Enforcement Division, 1975-1976; Chief Attorney, EPA Region 5 Enforcement Division, 1977-78; State Relations Coordinator and Policy Advisor, Office of the Regional Administrator, 1979-1980; Senior Litigation Attorney, HQ Hazardous Waste Enforcement Task Force, 1980-81; Professor of Law and author of three books and numerous journal articles regarding EPA enforcement, 1982-present.
Bill Shapiro	MBA PE. Asst to Commissioner NYCEPA Worked for Mike Walsh part of time, USEPA R 2 Mobile source advisor for all of R 2 (1971-75); Director of SAFETY Environment and Government Affairs Volvo Cars of N.A (1975-76); Adjunct Professor of Chemistry and D Math and consultant safety, environment government affairs 2007 to present (1976-2007)
Stephen Weil	HQ, in the policy office (then OPPE), toxics (then OPTS), and in the Office of Solid Waste.
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).

Derry Allen, though not a formal member of the Focus Group, provided valuable insights and his assistance is gratefully acknowledged

5. Appendices

5.1. Appendix A: On Reorganizations

The observations that follow are not intended to serve as a blanket statement that reorganizations are never necessary nor useful. There are circumstances where reorganization can be a useful management adaptation to changing conditions. However, reorganization should be used with caution, for the following reasons.

- Reorganization can become a substitute for addressing the real problems inherent in an organization, such as poor communication, a dysfunctional culture, lack of proper management systems and controls, or personnel issues.
- Reorganizations under the best of circumstances are disruptive. Even if they solve old problems, they can create new ones where none existed before.

- For EPA specifically, the greater issues appear to center on how to create a less rigid organizational culture, with more mechanisms for
 - a. supporting informal networks,
 - b. promoting and rewarding collaboration within and across organizational boundaries,
 - c. investing in cross-program training and career development for employees, and
 - d. expanding awareness by all employees of EPA’s overall role in the environmental protection system.

Reorganizations may require approval by outside organizations in the Executive or Legislative branches. While this additional review is not per se inappropriate, it can create long periods of uncertainty, confusion, and avoidable turf battles.

5.2. *Appendix B: Budget Considerations*

This group’s charge included the topic of resources. A larger budget for EPA is not a goal in itself. Rather, after the vision for EPA’s long term future is fleshed out, the resources needed to fulfill that vision should be candidly assessed. In developing that vision, we should consider both the need to fund new or growing functions, and the potential to end others that have outlived their value. The latter analysis should not be framed as a classic “zero based” budget review, but there are strategic questions about the main components of EPA’s budget that would be worth examining, as they speak to the question of what kind of agency EPA is supposed to be.

While EPA’s image is that of a regulatory agency, the budget reflects that EPA is more than that. The following numbers can vary somewhat from year to year, but their relative amounts have been constant for some time. In an average year, about 40% of EPA’s budget consists of grants to State and local governments. Of that 40%, roughly two-thirds is for capitalization grants to the Wastewater and Drinking Water State Revolving Loan Funds, and one third is from operating support to State and local environmental agencies.

Another 27% or so of EPA’s total budget covers salaries and expenses for EPA’s core staff, and about 13% supports staff and cleanup activities under the Superfund program. The remaining 20% covers everything else, from Buildings and Facilities to non-Superfund contract support to research grants to geographic programs such as the Great Lakes, Chesapeake Bay, Gulf of Mexico and Puget Sound.

The strategic questions posed by this distribution include:

- Training and infrastructure support needs for EPA personnel have been underfunded for many years, even as EPA staff has shrunk by about 25% from its high point in the early 2000’s. How can this be remedied, assuming for the sake of argument that further reductions in EPA staff are not warranted? Training in this case runs the gamut from executive development to cross program rotations to shared personnel arrangements with State and local agencies; infrastructure includes such functions as travel and adequate IT support.
- What is the long-term future of the State Revolving Loan Funds? The original intent was for the federal contribution to phase out at some point, but the funds are very popular. They meet distinctive community needs and supplement both private sector financing and the new leveraged WIFIA program. Is the need for continued capitalization funds expected to continue indefinitely?

- Support for State programs and support for EPA staff are not zero-sum activities. How can this presumption be overcome?
- What levels of Superfund funding are needed for Fund-lead cleanups, which beyond emergency and non-time critical removals are becoming scarce. Is there any prospect of renewing an independent funding stream such as the Trust Fund had originally, or will Trust Fund monies continue to come from general revenues as they have for the past 20+ years? How does the nation expect to handle remaining “mega-sites” that have billions in outstanding potential liabilities for the Fund?
- EPA is a science agency, but is it a research agency, or one that relies on research conducted by others?
- How can EPA adequately fund functions that are not classic regulatory or enforcement activities (such as data analysis or voluntary programs)?
- Should the relative distribution of EPA resources between Headquarters and Regional offices remain the same if formal rulemakings decline and as operating programs mature?
- How can adequate funding be provided for EPA to manage, upgrade as needed, or even reduce its existing footprint of physical locations? Some of these locations are legacy sites going back to the agency’s founding; others are a complex mix of owned and leased space and with a combination of very specialized facilities and general office space. It costs money to reduce EPA’s physical footprint by reconfiguring space; funds for this purpose have only rarely been available and even then, on a very ad hoc basis.
- EPA’s budget is micromanaged by the Appropriations Committees, to a greater degree than is true for other federal agencies. Reprogrammings beyond \$500K have to be approved by the committees, and more flexibility to shift funds between accounts would significantly ease the management task at EPA.

5.3. *Appendix C: EPA’s Principles of Scientific Integrity*

It is essential that EPA's scientific and technical activities be of the highest quality and credibility if EPA is to carry out its responsibilities to protect human health and the environment. Honesty and integrity in its activities and decision-making processes are vital if the American public is to have trust and confidence in EPA's decisions. EPA adheres to these Principles of Scientific Integrity.

EPA employees, whatever their grade, job or duties, must:

- Ensure that their work is of the highest integrity - this means that the work must be performed objectively and without predetermined outcomes using the most appropriate techniques. Employees are responsible and accountable for the integrity and validity of their own work. Fabrication or falsification of work results are direct assaults on the integrity of EPA and will not be tolerated.
- Represent their own work fairly and accurately. When representing the work of others, employees must seek to understand the results and the implications of this work and also represent it fairly and accurately.
- Respect and acknowledge the intellectual contributions of others in representing their work to the public or in published writings such as journal articles or technical reports. To do otherwise is plagiarism. Employees should also refrain from taking credit for work with which they were not materially involved.
- Avoid financial conflicts of interest and ensure impartiality in the performance of their duties by respecting and adhering to the principles of ethical conduct and implementing

standards contained in Standards of Ethical Conduct for Employees of the Executive Branch and in supplemental agency regulations.

- Be cognizant of and understand the specific, programmatic statutes that guide the employee's work.
- Accept the affirmative responsibility to report any breach of these principles.
- Welcome differing views and opinions on scientific and technical matters as a legitimate and necessary part of the process to provide the best possible information to regulatory and policy decision-makers.
- Adherence by all EPA employees to these principles will assure the American people that they can have confidence and trust in EPA's work and in its decisions.