



# EPA and the Future of Environmental Protection

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Note to Readers: This paper was edited by George Wyeth, former EPA attorney, with assistance from EPA alumni and staff, and developed in cooperation with the AU School of Public Affairs, Center for Environmental Policy in conjunction with the conference: *EPA and The Future of Environmental Protection* (April 23-24, 2019). This paper and other conference-related documents are posted at: <https://www.american.edu/spa/cep/>

## **Modernizing Environmental Protection: A Brief History and Lessons Learned**

Edited by George Wyeth

Since the creation of EPA in 1970, many efforts have been undertaken to modernize environmental protection. In general, these activities have sought to improve EPA's activities by lowering costs, introducing new technology, streamlining requirements, establishing more ambitious environmental goals, creating incentives for leadership in the private sector, and unifying environmental programs for maximum benefit in communities and ecosystems (geographic programs), and for regulated facilities and industrial sectors.

The lessons from these efforts over many decades form a strong foundation for the EPA of the future. Taking stock of both successes and failures can be challenging but also enlightening. Moreover, there are different perspectives of different stakeholder groups, a large volume and diversity of program reforms, and a general lack of objective evaluation. The polarized and politicized nature of environmental protection also inhibits progress.

This paper seeks to summarize that experience to inform future thinking. It has two parts: first, an attempt to summarize what has been learned, and second a very brief summary of modernization programs and projects, including:

- **More flexible and streamlined regulation/permitting through innovative regulatory strategies**
- **Multimedia and sector-based approaches that better align environmental decisions**
- **Place-based and community-based approaches that address local concerns more effectively**
- **Encouragement of sustainability/stewardship actions beyond EPA regulatory requirements**
- **Innovative management tools to increase efficiency and effectiveness of EPA programs**

## Part I: Key Lessons

Below are ten key lessons, intended to stimulate additional thinking about what we have learned from the considerable investments to date, with an eye toward what is needed for the future. The list is likely incomplete and would benefit from additional insights, experiences and perspectives.

**1. Leadership and consistent vision** – The search for better approaches should be an ongoing, continuous, structured process rather than a series of temporary initiatives. Implementation of new approaches to environmental protection requires a sustained commitment, in contrast to the wide swings in priorities, direction and support (often driven by political transitions) that have characterized past efforts. Visionary leadership at EPA—but also in businesses, NGOs, states and other partner organizations—is essential.

**2. Supporting innovation both within and across program boundaries** – Some past innovation efforts have suffered from being set up as isolated projects, separate from the national program offices. Instead, innovation should be seen as part of every program’s mission and should take place on a continuous basis; efforts set up as isolated projects can have difficulty. At the same time, because innovative approaches that cross program boundaries can offer some of the greatest opportunities, creative management structures should be explored to enable solutions that do not follow media lines.

**3. Better data to drive evidence-based change** – Insufficient investment in evaluation and monitoring of EPA’s rules and programs results in a weak base of information to build support for changes from the status quo. EPA would benefit from following the lead of other agencies like health care, which now support structured evaluation programs to document what works (and what doesn’t).

**4. Intertwined goals: Improved outcomes and reduced regulatory burden** – Modernizing environmental protection can seem threatening to some because it entails revisiting existing regulations and program approaches. Foundational principles can help guide modernization efforts and establish clear expectations for positive change. In particular, it should be clear that the purpose is to achieve better long-term environmental outcomes while also reducing costs and regulatory burden. Opportunities for streamlining regulatory requirements still exist and should remain part of the modernization enterprise.

**5. States as innovation laboratories** – Many improvement ideas come from states, and many modernization successes have been the result of EPA-state partnerships. An informal survey of EPA senior executives about 20 years ago asked the question of where promising new ideas come from, and the highest ranked answer was state environmental programs. States can serve as valuable real-world demonstration laboratories, which provide evidence and impetus for adoption of new environmental approaches and strategies at a national level.

**6. Leveraging environmental leadership from companies** – Important innovations in environmental management continue to emerge from the private sector, which contributes to environmental improvements in areas outside EPA’s regulatory reach, such as supply chain management, sustainable sourcing, and green buildings. EPA’s path for the future should take this into account and EPA should reinforce these trends while driving improvement in area where regulated parties are still falling short.

**7. Creative ways to stimulate technology innovation** – Improvements in technology can lower the cost of environmental protection, and enhance environmental results while also opening up new approaches for environmental protection. For example, in the 1990’s, continuous emission monitors transformed power plant permitting and made market trading in the acid rain program possible. Today, cost-effective monitoring technologies can be applied far more broadly and provide the environmental

assurances/backstops that enable permitting to be streamlined. There are diverse untapped opportunities to increase investments and incentives for technology innovation -- through legislation, design of regulatory programs, and voluntary partnership programs.

**8. Industry sector strategies** – One especially useful frame for modernization, not envisioned in current statutes and programs, is improving environmental outcomes in industry sectors. Although EPA needs to maintain a strong, independent role relative to the sectors it regulates, the private sector is also leading the way in many areas -- in ways not anticipated when EPA was established. EPA needs to complement its regulatory role with roles in which it supports and builds on leadership in the private sector.

**9. Information as a driver for better results** – The potential for information to be used as an incentive for performance has advanced, but has not been fully utilized, especially in an era in which data analysis has become extremely powerful. Information tools can range from emissions data (building on TRI), to performance metrics that can be used to assess and compare major actors. Greater emphasis can also be placed on creating and publicizing high quality information on environmental conditions, to maintain objective measures of environmental progress.

**10. Innovation culture and systems** – Innovation in the nation’s system of environmental protection -- that searches for better ways to get environmental results -- would benefit from a managed process that identifies promising ideas, provides support for testing and demonstration of new program approaches, and culminates with implementation at scale. New approaches often need a structured process and resources to go from idea to adoption. EPA would benefit from a long-term commitment to managing processes designed to move ideas through the stages of initial testing and demonstration to incorporation into regulatory programs. Some activities could focus on improvements to EPA media programs, while others would address issues that cross program boundaries.

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## Part II: Historical Overview of EPA’s Modernization Initiatives

The section below highlights some of the innovative activities that EPA has tried over many decades. Although it is not possible to be comprehensive, this provides examples of influential projects and programs, and what those experiences may tell us as we look forward. The material is organized into five categories of change, which reflect the original goals of specific activities.

### 1. More flexible and streamlined regulation/permitting through innovative regulatory strategies

*Idea: Use of regulatory flexibility and better incentives for environmental improvement will reduce burden and cost while also increasing environmental outcomes.*

#### Past activities

EPA has tested many innovative regulatory approaches ranging from those that operate within the traditional structure such as performance-based regulation, bubble permits, and regulatory incentives, to alternative models such as emissions trading, use of information as a performance driver, and economic incentives.

#### Examples

- Project XL – *agency-authorized demonstration projects to test flexibility ideas.*
- State innovation grants – *seed funding for State staff to test new strategies.*
- Emissions averaging/trading/banking – *seeking innovative approaches to reducing air emissions.*

- Environmental Management Systems (EMS) – *organizational processes to improve environmental performance.*
- Performance Track – *recognition and rewards for facilities going above and beyond legal requirements.*
- Performance-based and facility-wide permits – *facilitate and incentivize reductions in emissions.*

### Lessons

- Time intensive for EPA/States; successful reforms need corresponding resources, institutional stability.
- Need buy-in from co-regulators and stakeholders; transparent processes build confidence.
- Search for new and better approaches needs to become part of program office DNA, not imposed externally or run as a separate function.
- Better to focus on small number of targeted reforms, rather than larger number of small projects.
- Design regulations with greater emphasis on compliance in relation to high levels of regulatory monitoring/enforcement.
- Ongoing program evaluation is critical to document results.
- Considerable flexibility possible within current regulations, but difficult to implement without clear authorization.

Bottom line – Lots of ideas are already tested so it is now possible to introduce systemic regulatory improvements, while building a culture of continually searching for new and better approaches into the DNA of EPA's programs.

## **2. Multimedia and sector-based approaches that better align environmental decisions**

*Idea: Unified, multimedia approaches to working with sectors or whole facilities can reveal more integrated solutions, resulting in improved environmental outcomes while increasing efficiency, sustainability, and pollution prevention.*

### Past activities

EPA has deployed many programs and projects that attempt a more holistic, integrated approach to environmental problem-solving, such as the Common Sense Initiative, various programs focused on industry sectors, integrated permitting, and sector-based compliance assistance centers.

### Examples

- Common Sense Initiative – *sector-based effort to identify better approaches.*
- Sector strategies – *collaborative EPA-industry partnerships approach to improve environmental performance.*
- Environmental Results Program – *increase compliance in small business sectors.*
- Compliance assistance centers – *tools, portals and checklists for small entities.*
- Greening the supply chain – *using business optimization strategies to green small suppliers.*
- Life cycle assessment – *analytic tool to measure long term product impacts.*
- Multi-media permits – *experiments aimed at driving sustainable manufacturing and P2.*
- Market-based innovative tech projects (OW & OCSPP) – *assistance to green product design.*
- Coordinated rulemaking – *linking air and water rules for same sector.*

## Lessons

- Often creates conflict across EPA silos – can involve tradeoffs across media and programs.
- Requires sustained leadership attention and support; willingness to take risks.
- Collaboration with industry sectors has benefits (e.g., mercury partnership) but not game-changing.
- Analysis of sector-wide impacts could have been better used for planning and prioritizing.
- Sector strategies did work to coordinate efforts across the agency but was not sustained.
- Focus on measurable outcomes, rather than outputs.
- If revitalized, need clear statement of concrete desired outcomes; intent to collaborate without specific end in mind is not enough.

Bottom line – A very large number of these strategies have been tried. Some have had lasting success, but results have sometimes not been as great as anticipated. There are substantial organizational barriers to making these approaches stick as a new way to organize work.

### **3. Place-based and community-based approaches that address local concerns more effectively**

*Idea: Citizens experience environmental problems at a local level; media-based regulatory programs do not always act in a way that responds to local concerns (e.g., environmental justice). Building solutions from the community level up, in an integrated way, can meet local needs more effectively and provide a route for citizen engagement.*

## Past activities

EPA has a long history of various “geographic” initiatives that have been well received by the public and local officials. While generally popular, these programs have existed somewhat “along side” EPA’s main programmatic activities, and have not received high level/sustained funding.

## Examples:

- OW Watershed approach – *use watershed as an organizing framework to improve water decisions.*
- Environmental Justice – *focuses on the most vulnerable and overburdened communities.*
- Community-Based Environmental Protection – *integrate environmental protection across individual media program in communities and ecosystems.*
- Urban Waters program – *holistic community-based approach to cleaning up rivers in major cities, engaging local governments and citizens as partners.*
- “Making a Visible Difference in Communities” – *a cross-cutting strategy under the 2012-16 Strategic Plan, aimed to better coordinate EPA activities and engage citizens in a set of priority communities.*
- Community Action for a Renewed Environment (CARE) – *provided small grants for underserved communities.*

## Lessons

- Engages citizens in taking action locally to improve/protect their local environment.
- Environmental Justice is a significant driver.
- Requires a large investment of resources and management attention.
- Can build a stronger local presence for EPA and enhance appreciation that EPA addresses real local problems.

#### **4. Encouragement of sustainability/stewardship actions beyond EPA regulatory requirements**

*Idea: Environmental performance is much more than simply complying with EPA regulations. In this realm the private sector is taking major steps to improve environmental performance and EPA's role is not one of control; rather, EPA can support those efforts by using its authorities and leadership to provide technical support, recognize accomplishments, and provide incentives.*

##### Past activities

EPA has operated a variety of programs and initiatives aimed at advancing a goal of sustainability – some large flagship efforts like pollution prevention, Smart Growth, Brownfields, Performance Track, Energy Star, CARE, and other smaller targeted projects like green chemistry, green purchasing and supply chain management. Sustainability concepts can be applied in many ways often as part of EPA regulatory program operations by more explicitly considering economic and social outcomes in decisions.

Simultaneously, private sector initiatives have equal if not greater impact on behavior; these include the Global Reporting Initiative on sustainability, US Green Building Council LEED certification or Yale's Environmental Performance Index that ranks countries on performance indicators on environmental health and ecosystem vitality.

##### Examples

EPA programs:

- Voluntary partnership programs – *EnergyStar, Green Power Partnership, AgSTAR Program, Safer Choice, WaterSense.*
- Performance Track – *encouraged facilities to improve all aspects of environmental performance through EPA recognition, regulatory benefits, and collaborative relationship with the Agency.*
- Community Action for a renewed Environment (CARE) – *grant program offering innovative ways for a community to organize and take action to reduce toxic pollution in its local environment.*

Private sector initiatives:

- Environmental reporting – *NGO led efforts (e.g., GRI) on standardized measurement/reporting.*
- Industry led performance initiatives – *GEMI, Responsible Care.*
- Labeling programs – *LEED, Forestry Stewardship Council, others.*
- NGO-corporate partnerships – *e.g., EDF's work with Walmart.*
- Investors – *CERES builds leadership in investors/companies.*

##### Lessons

- Lack of agreement that EPA should use sustainability to guide overall strategies.
- Noteworthy examples (e.g., Energy Star); many smaller activities that address specific issues; voluntary programs have established their value as part of the agency's toolkit, where there is a solid value proposition.
- Need clearer definition of role of EPA versus private sector/markets in leadership recognition; EPA needs ability to distinguish among actors, but branding some as "leaders" proved problematic.
- EPA can collect and share performance data, provide input to ratings done by others.

- Need to understand what motivates companies and which incentives work for different organizations.

Bottom line – Although EPA has exerted some leadership on sustainability and stewardship, there remains considerable tension between carrying out EPA’s multiple statutory requirements and organizing these requirements into a sustainability framework. EPA has untapped opportunities to collaboratively work with the private sector to harness market forces for environmental protection. Experience indicates this does not undercut or undermine the regulatory role.

## **5. Innovative management tools to increase efficiency and effectiveness of EPA programs**

*Idea: Improvements to internal business process in EPA operations can positively impact overall organizational performance and result in higher levels of environmental protection at lower cost. Focusing on outcomes rather than outputs/activities could reward programs for using new approaches.*

### Past activities

A large number and variety of internal management processes have been introduced at EPA – from changes to organizational structure, to different management priorities, to the way in which staff and managers perform their tasks. High-profile performance management activities have included GPRA and PART. As required by GPRA, EPA now prepares a multi-year strategy with annual plan, report and, measures. Lean and other process improvement measures have been pursued to use resources more effectively and allow staff to provide leadership.

### Examples

- National Environmental Performance Partnership System (NEPPS) – *performance-based system designed to improve the efficiency and effectiveness of state-EPA partnerships.*
- Grants management/PPG/NEPPS – *flexibility for state implementation priorities; reduces burden.*
- Program evaluation – *after the fact evaluation of program theory, activities, results.*
- Lean – *streamlining of various agency processes (now ELMS).*
- NPM guidance – *operationalize budget priorities at regional level.*
- Senior councils – *get managers working together (e.g., DAA/DRA Innovation Action Council).*
- Risk communication.
- “Managing for Results” Initiative.
- Total quality management (TQM).

### Lessons

- For lasting improvement, need strong champions and high-level commitment to make changes.
- Often viewed as “flavor of the month”, with lack of complete buy-in from staff and managers.
- Some EPA programs lack clear theory that links to outcomes; default is activity-driven programs.
- Focus on results seems to create a “quota” mentality rather than rewarding initiative and encouraging innovation.
- Many efforts have been too incremental, not transformational.
- Some initiatives work initially, but lose steam and fall out of popularity.
- EPA has improved its measurement of both efficiency and outcomes.
- Questionable whether performance affects budget decisions.

Bottom line – Many performance management strategies have been adopted at EPA aimed at improving the efficiency and effectiveness of EPA and state agencies. Although the internal system of

management controls has evolved to be more data driven and results oriented, there is a risk of becoming more bureaucratic in internal processes.