

National Center for Environmental Innovation

2004 Report on Progress



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Partnering for Better Environmental Results

I am pleased to present the first progress report for EPA's National Center for Environmental Innovation. The Center was established in 2003 to find new ways to achieve better environmental results. Our efforts to modernize the United States' environmental protection system are designed to address some of today's most pressing environmental problems, to expand the types of environmental protection tools, and to continue the shift from pollution control to prevention and sustainability.

As this report shows, all of our work is achieved in partnership with others. That is why we were created as a "national center"—to engage organizations that are actively working on innovative environmental solutions. We are particularly committed to building our partnership with states that are on the front lines of environmental protection, and to supporting environmental leaders in business and communities that are not satisfied with simply meeting baseline environmental requirements.

This partnership approach also applies within EPA. While we manage a number of unique environmental programs, the Agency's success with innovative approaches depends just as strongly on the efforts of our colleagues in the regional offices and national programs. They are dynamic sources of innovation in their own right, and indeed, I would like to thank the cross-Agency Innovation Action Council and its staff for the leadership they provide in advancing innovative approaches for EPA. I would also like to recognize the creativity and innovation that has been demonstrated by many other staff throughout the Agency.

With a multimedia perspective and a collaborative problem-solving mind set, the Center brings new ideas, creative partnerships, and sound analysis to environmental policy challenges. I hope this report will encourage you to learn more about our work and to consider us a resource that can assist you in developing innovative approaches for improving environmental results.



Jay Benforado, Director
National Center for Environmental Innovation

2003

- EPA opens the National Center for Environmental Innovation.
- NCEI announces environmental partnerships with 12 major business and industry sectors.
- The first investment advisory firm begins using Performance Track in its ratings.
- A Small Business Strategy is released to unify more than 100 small business activities across EPA.
- The 2003 National Awards for Smart Growth are announced at the National Building Museum.
- The first in a series of meetings is held to help states learn about the Environmental Results Program, Massachusetts' innovative program for improving environmental results in small business sectors.
- Six states are awarded a total of \$874,000 under the State Innovation Grant program to explore innovative approaches to permitting.
- Three innovation projects are selected under a new EPA Improving Results Competition, which provides resources to support evaluations and performance measurement.
- Performance measurement training is offered (to winners of the Improving Results Competition)—represents first EPA training in this area since 2000.
- NCEI revises the EPA Public Involvement Policy for first time in more than 20 years.
- The first NCEI Environmental Policy Forum examines barriers to reducing, recycling, and reusing industrial wastes.

2004

- The Administrator signs EPA's first rule giving regulatory benefits to Performance Track members.
- *The Strategy for Determining the Role of Environmental Management Systems in Regulatory Programs* is released to inform future environmental policy and program management decisions.
- A report on Performance Track shows significant environmental accomplishments by members.
- *Innovating for Better Environmental Results: A Report on Progress from the Innovation Action Council* highlights EPA's progress under a comprehensive innovation strategy.
- The *Sector Strategies Performance Report* represents the first-ever collection of environmental performance information for 12 business and industry sectors.
- The Administrator signs a Smart Growth Strategy that explains how EPA will target Agency activities to encourage growth that supports environmental, economic, and community interests.

ighlights

- NCEI-sponsored research on lean manufacturing wins the Shingo Prize—considered the “Nobel Prize” for manufacturing research.
- EPA senior leadership adopts a set of reforms for improving Agency-wide management of voluntary programs.
- More than 75 percent of Performance Track charter members reapply for a second term of membership.
- A collaborative partnership is initiated to eliminate mercury-containing light switches from end-of-life vehicles before they are shredded and prepared for steel recycling.
- Six states are awarded a total of \$901,000 through the State Innovation Grant competition.
- NCEI announces the first corporate membership option for Performance Track.
- An ERP Guide is released to help states improve management of underground storage tanks.
- *The Small Business Strategy Implementation Plan* is approved, which brings unity and improves effectiveness of EPA’s small business assistance activities.
- The Small Business Forum brings together small business owners, states, trade associations, and government agencies to discuss small business priorities.
- A joint innovation work plan is developed in cooperation with the Environmental Council of the States.
- A white paper is drafted to increase collaborative decisionmaking at EPA.
- A new contract is negotiated to provide EPA staff with support for all phases of the innovation process—from startup to evaluation to diffusion.
- A second round of innovation projects is selected for evaluation and performance measurement assistance under EPA’s Improving Results Competition.
- The launch of a new international innovation Web site helps users explore innovative approaches to environmental protection around the world.
- An Innovation Toolkit for Rulewriters is released to help EPA staff consider a broader set of options during regulation development.
- The 2004 National Award for Smart Growth Achievement are announced—with an additional category to recognize small community achievements.
- More than 385 individuals from EPA and state programs are trained on performance measurement, evaluation, and the innovation process.





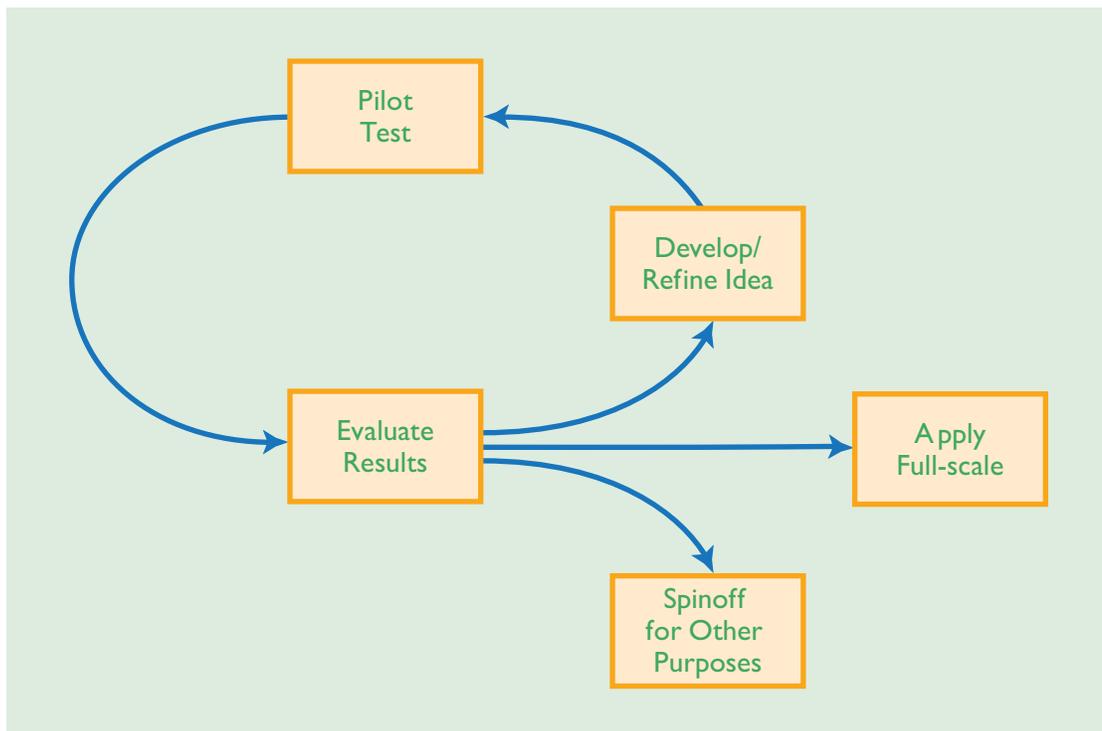
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Introduction

Take a look at America's most successful organizations, and you'll likely see a strong investment in research and development. There is a constant search for new ideas, a willingness to explore their potential, and ultimately, a commitment to putting proven ideas to work. At EPA, the National Center for Environmental Innovation (NCEI) brings a research and development approach to environmental policy. Working with others, we investigate new approaches, evaluate their effectiveness, and apply what we learn to strengthen environmental protection. As the figure below shows, this innovation process sets the stage for continuous improvement and for new ideas to realize their full potential.

The Innovation Process



NCEI plays another unique role at EPA—running a set of multimedia programs that promote environmental stewardship in business, industry, and communities. Rather than addressing a particular environmental issue, these programs focus on the entire environmental footprint. They do so by looking at all aspects of environmental performance. An overview of each one is provided on the next page.

Through these roles, NCEI focuses on finding new ways to achieve better environmental results. That is our mission as we work to achieve three long-term goals:

- Strong environmental stewardship in all parts of society that supports sustainable development and pollution prevention.
- A performance-oriented regulatory system that allows flexible strategies to achieve measurable environmental goals.
- A culture of creative environmental problem-solving that has a high capacity for collaborative, results-oriented work and the organizational systems needed to support it.

This report highlights progress toward each of these goals since our launch in 2003. It also shows how we are contributing to the transformation that EPA and many other organizations believe is needed to sustain a strong, effective environmental protection system.



“The United States must continue to transform its environmental management system, not because innovation is good per se, but because the present system will not solve the nation’s outstanding environmental problems.”

National Academy of Public Administration
November 2000

NCEI's Stewardship Programs—Taking a Multimedia Approach to Improve Environmental Performance

National Environmental Performance Track—This first-of-its-kind voluntary program recognizes America's top environmental performers for their commitment to continuous improvement. To qualify for membership, facilities must demonstrate a strong and sustained history of environmental compliance, use an Environmental Management System that has been assessed by an independent third party, commit to improving environmental results in several aspects of their operations and report on performance annually, and share information about performance with the public. The 300-plus members represent all major industries and range from FORTUNE 500 companies to small independently owned businesses to government agencies.

Sector Strategies—NCEI promotes comprehensive environmental improvement in 12 major business and industry sectors. For each sector, we work with participating trade associations, EPA programs and regions, other federal agencies, and states on environmental strategies that are tailored to each sector's specific operations. Collectively, these sectors represent more than 750,000 establishments, employ more than 11 million workers, and contribute 23 percent of the value of U.S. manufacturing shipments.

Small Business—Widely recognized as the backbone of the American economy, small businesses represent more than 99 percent of U.S. employers and 96 percent of exporters of all goods. Compared to their larger counterparts, however, these businesses face a variety of environmental management challenges. NCEI plays an important role in helping America's small businesses manage environmental performance, acting as the official Small Business Ombudsman and providing a variety of resources that are designed to address their special needs.

Smart Growth—Recognizing that how and where development occurs can affect air, land, and water resources, NCEI works with states, local governments, developers, and nonprofit organizations to help communities minimize the environmental impacts of development. Our partnerships focus on providing information that can inform sound development decisions and addressing regulatory issues that can inadvertently hinder smart growth efforts.



Strong Environmental Stewardship

The United States has a proud heritage of environmental progress. During the past 30 years, the country has cut pollution significantly from the most egregious sources, like smokestacks from factories and wastewater pipes spewing into lakes and streams. Although such images are largely a relic of the past, the 21st century brings a far more insidious set of problems, like global climate change, polluted runoff, and loss of habitat and biodiversity. These challenges are a result of the combined actions and decisions made by millions of individuals and organizations every day. They can not be completely addressed with conventional regulatory controls, but rather require all parts of society to work together on sustainable solutions for this and future generations.

Today, many individuals and organizations are responding to this stewardship challenge, contributing to environmental progress in a variety of ways. As this section shows, NCEI is working to bolster this trend through strategic partnerships with businesses and communities that want the quality of life, cost savings, and other benefits that can come through sound environmental management. Together, we are finding ways to refine existing environmental policies and practices while also pursuing new opportunities to address a broader set of environmental challenges.

Creating Incentives for Stewardship

As the nation's primary environmental overseer, EPA focuses significant time and attention on assuring compliance with environmental requirements. But EPA recognizes it also has a role to play in supporting organizations that exceed requirements. NCEI's Performance Track program does this by creating incentives to reward top environmental performers and motivate others to achieve similar levels of high performance. The incentives are based on the premise that the government should complement existing regulatory tools with new approaches that increase environmental results, reduce environmental costs, and spur technological innovations that ultimately can lead to even greater environmental and economic benefits.

Performance Track offers a range of incentives, including public recognition, networking opportunities with peers and EPA officials, and flexibility in meeting certain regulatory and administrative requirements. Members may use the distinctive Performance Track logo in their public relations and advertising, and they receive official EPA recognition through the Performance Track Web site, articles in trade journals, speeches by senior EPA officials, and an annual Performance Track meeting.



On the regulatory front, Performance Track members are designated as a low priority for routine environmental inspections and are eligible for regulatory flexibility under the Resource Conservation and Recovery Act and the Clean Air Act. A number of other regulatory and administrative incentives are under development. The Agency offers these benefits because the performance- and compliance-focused Environmental Management System (EMS) that all Performance Track members must have—coupled with periodic auditing, regulatory site visits, and members' proven track records of strong environmental performance—are likely to guard against compliance problems. In addition to saving members time and resources, Performance Track's regulatory and administrative incentives allow EPA and state regulators to focus on higher environmental priorities.

Results to date show that Performance Track members are going beyond legal requirements and achieving significant environmental results. Each year, members submit an annual performance report documenting progress toward their goals. Cumulative results since the program's inception are shown in the box to the right.

A number of Performance Track companies have multiple facilities registered in the program. To recognize top environmental performing companies that are substantially involved, NCEI announced a new Corporate Membership designation in 2004. This designation enables EPA to promote corporate-level environmental commitment, interact more directly with corporate leaders, and encourage environmentally sound actions that can be undertaken more effectively at a corporate level, such as decreasing the environmental impacts that occur in the supply chain. To be eligible, companies must have at least five facilities and at least 25 percent of their total operations represented in Performance Track (or similar performance-based state

Performance Track Members' Cumulative Achievements, 2000 – 2002

- Saved 3.1 million MMBTUs of energy
- Conserved 775 million gallons of water
- Reduced hazardous materials' use by 17,996 tons
- Eliminated 176,126 tons of solid waste
- Cut 6,558 tons of hazardous waste
- Prevented 40,193 tons of greenhouse gas emissions
- Prevented 2,152 tons of nitrogen oxide and 13,621 tons of sulfur dioxide emissions
- Reduced toxic discharges to water by 6,834 tons
- Increased use of reused or recycled materials by 13,760 tons
- Preserved or restored 4,485 acres of habitat

programs). In addition, companies must commit to increase their participation to 50 percent within five years.

A new agreement with two chemical industry trade associations—the American Chemical Council and the Synthetic Organic Chemical Manufacturers Association—is also expected to increase Performance Track membership. The agreement recognizes that the industry's premiere environmental stewardship program—known as Responsible Care®—shares many of the same principles as Performance Track, including an emphasis on continuous improvement, sustained compliance, and transparency of operations. Based on these similarities, EPA committed to streamlining the Performance Track application process and coordinate the planning of site visits and audits for Responsible Care facilities. In return, the trade associations committed to increase participation in Performance Track and to leverage the Responsible Care program as a vehicle for continuous environmental improvement.

The past year also brought Performance Track’s first renewal period for the charter members accepted in 2001. The results show that memberships are highly valued—more than 75 percent of eligible members re-applied. Those that declined did so mostly because of difficulty in meeting the high performance criteria or because of a change in management or ownership.

Performance Track Supports Growth in Green Investing

While recognition from EPA can translate into competitive advantage for Performance Track members, so can recognition from the investment advisory industry. Since 2003, three investment advisory firms—Calvert Group, Innovest Strategic Value Advisors, and KLD Research & Analytics Inc.—have begun using Performance Track membership as a factor in developing the ratings they use for guiding investment decisions. In addition to benefitting members, these developments could lead to much greater attention to environmental performance within the financial management industry.

Improving Performance Across Whole Business Sectors

How can EPA maximize environmental improvement efforts? One approach is to look for solutions that can be effectively applied to a large number of facilities. That is the premise behind NCEI’s Sector Strategies program, which partners with select trade associations to improve environmental performance across whole business sectors. Taking a highly strategic approach, NCEI works with each sector on three priorities:

- Addressing regulatory barriers that can inadvertently hinder performance.
- Promoting use of EMSs that can help businesses achieve a more systematic approach to environmental protection.
- Developing measures that enable each sector’s performance to be tracked over time.

Sector Partners

- Agribusiness
- Cement
- Colleges & Universities
- Construction
- Forest Products
- Iron & Steel
- Metal Casting
- Metal Finishing
- Paint & Coatings
- Ports
- Shipbuilding & Ship Repair
- Specialty-Batch Chemicals

NCEI designates a point of contact to work directly with each sector. These individuals are expected to develop expertise and understanding of the issues important to their industry so they can effectively offer assistance. Such interaction is helping to build more collaborative, constructive relationships between EPA and our sector partners. Bruce Backus, chair of EPA's Colleges and Universities Sector Coordinating Committee, described it by saying, "What is exciting...is that this effort has opened a truly meaningful dialogue. We are able to discuss issues that have been a concern to our sector for more than 20 years. These dialogues...have at their foundation a sense of partnering, candor, and a commitment to improve environmental stewardship."

The increased dialogue and interaction often reveal opportunities for improving environmental results within the sectors. For example, in response to the specialty-batch chemical industry's interest in EPA's growing number of voluntary programs, NCEI worked with the sector's trade association on a guide that helps business owners and managers decide which of the more than 70 programs best suit their interests. This new tool provides information on 16 programs that are directly applicable to specialty-batch chemical operations.

The efforts to promote EMSs vary by sector. In some sectors, EMS is still a relatively new concept and so the emphasis is on development. For example, in 2004, NCEI and the American Association of Port Authorities began assisting 11 ports in their EMS development, all of which will serve as models for other ports around the country. In other sectors, EMS use has evolved to a point that industry trade associations are incorporating EMSs into their environmental stewardship programs. This year, both the American Meat Institute and the Society of Organic Chemical Manufacturers included EMS tools, developed with NCEI, into their new stewardship initiatives.



Looking at “Lean” As a Sound Stewardship Strategy

In recent years, use of lean manufacturing has taken off in the United States as organizations look for ways to cut costs, reduce waste, and improve product quality. This business model focuses on continuous improvement, and although most adopters use lean manufacturing to gain competitive business advantages, the more efficient practices can also help with environmental stewardship goals. Recognizing that lean techniques could be helpful for improving environmental results in a number of industries, NCEI is studying its use in private companies as well as the U.S. military. The findings to date show that lean techniques produce a robust waste elimination culture and create strong financial incentives for resource conservation and pollution prevention. In 2004, NCEI-sponsored research earned the Shingo Prize for Research that Fosters Excellence in Manufacturing Business. Dubbed the “Nobel Prize for Manufacturing,” this award recognizes and promotes awareness of research on lean manufacturing processes in the United States, Canada, and Mexico.

To track performance trends in each industry, in 2004, NCEI released the first Sector Strategies Performance Report. The report provides a profile on each industry's operations, highlights environmental performance trends during the last 10 years, and identifies the best opportunities for improving environmental performance in each sector in the near-term. It represents the first time EPA has assembled such a comprehensive portrait of environmental performance on business and industry sectors, and reveals the data gaps that need attention in order to improve performance reporting in the future.

Focusing on the Needs of Small Business

As EPA's leading advocate for small business, NCEI works to understand and address the many issues that can improve environmental stewardship in small businesses. For example, several times a year, NCEI organizes a meeting among EPA's Deputy Administrator and trade associations that represent millions of small businesses. This forum gives the small business community a unique opportunity to raise issues that are important to them. Recognizing that the bulk of assistance is provided by others, NCEI also sponsors a yearly conference for state small business assistance providers, trade association representatives, small business owners, and other small business stakeholders to learn and share information about helping the small business community. This event is key in helping to better coordinate small business assistance delivery mechanisms.

In 2004, NCEI worked with others to create more comprehensive environmental assistance programs for small businesses. Currently, the bulk of government-sponsored environmental assistance comes from State Small Business Assistance Programs. But because these programs are authorized under the Clean Air Act, they tend to focus mostly on air issues. Recognizing the need for help in a range of areas, NCEI, the national air program, and EPA small business advisory groups agreed to work toward multimedia services. As a first step, we are researching state programs to identify those that already incorporate other media to some degree. The goal is to identify existing models that can demonstrate the value and viability of multimedia assistance programs and to then work with states to build support for these programs nationally.

In 2003, NCEI released a strategy to unify and improve the effectiveness of more than 100 EPA small business initiatives. The EPA Small Business Strategy focuses on strengthening advocacy for small businesses within EPA, expanding small business involvement in the regulatory development process, providing environmental assistance tools and resources, and promoting small business participation in environmental leadership programs, such as Performance Track. To follow through on those commitments, NCEI led the Agency in planning implementation activities. Priorities include identifying opportunities to involve small businesses early in the rulemaking process, considering small business needs and limitations in e-government developments, and establishing full time small business contacts in each EPA regional office. Together the strategy and implementation plan provide EPA with a comprehensive framework for improving assistance to small businesses. During a Small Business Forum in 2004, small business stakeholders were asked to reaffirm the commitments EPA made in these products, to test their effectiveness and to continuously provide feedback on how well services are working.

“On Call” for Small Business

One of the many ways NCEI assists small businesses is through a toll-free hotline. Each month, the hotline responds to more than 1,000 calls. From air quality to pesticides to underground storage tanks, small business owners and managers receive the guidance they need to address a range of environmental challenges.

Supporting Smart Growth

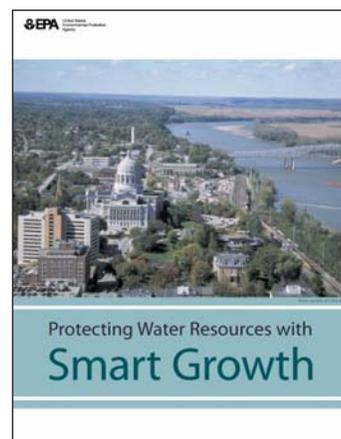
NCEI is working with a variety of stakeholders on smart growth strategies that support environmental stewardship in communities. These strategies are designed to protect the environment by preserving open space and parklands, protecting critical habitat, improving transportation choices to reduce automobile emissions, cleaning up and revitalizing brownfields, and reducing paved surfaces to decrease polluted runoff into waterways.



In cooperation with the Smart Growth Leadership Institute, the University of Southern California, and the University of Colorado, NCEI is assisting nine communities around the country with smart growth initiatives. A team of experts is helping each one assess development codes and ordinances to ensure that they provide for a variety of housing and transportation choices, preserve parks and other critical environmental areas, and locally enhance sense of community. They are also helping create design standards and review protocols that can increase certainty and predictability in each community's development process. The lessons learned from these communities will be incorporated into a national Smart Growth Implementation Kit that will provide guidance to many more communities that want the development, tax, transportation, and open space benefits that smart growth strategies can provide.

Participation in the national Smart Growth Network provides another important partnering opportunity, enabling NCEI to leverage the expertise and resources of more than 30 other organizations that share smart growth interests. As part of the Network, NCEI hosts a Smart Growth Forum in cooperation with the National Building Museum in Washington, D.C. Recognized as a leading venue for discussion on development issues, this monthly event presents a variety of approaches and tools for encouraging development that serves the economy, community, and environment. Previous speakers have discussed transportation choices, best development practices, energy and resource efficiency, architecture and design, local activism, and many other topics.

NCEI also develops guides and other resources to promote understanding of smart growth principles. For example, based on the strong response to *Getting to Smart Growth: Policies for Implementation*, which was developed in cooperation with the International City/County Management Association, NCEI and the association collaborated on a second edition. The latest guide *Protecting Water Resources with Smart Growth*, which was released in 2004, provides information on 100 additional smart growth policy tools. Demand has been similarly strong for this new document, which provides information on 75 innovative approaches, such as growing rooftop gardens and creating shared parking spaces, that can help communities achieve smart growth and water quality goals. More than 40,000 copies were distributed in the first month alone.



2004 Winners of the National Award for Smart Growth Achievement

Built Projects: The city of Greensboro, North Carolina, capitalized on a rich stock of historic buildings and public spaces to create a new development that is revitalizing the downtown neighborhood. Located just one-and-a-half blocks from the city's historic main street, the new development has transformed this blighted area into a thriving, attractive district. Once complete, tax revenues are expected to be 25 times higher than revenues prior to redevelopment.

Community Outreach and Education: The Sacramento Area Council of Governments involved private business, 30 government agencies, and more than 5,000 individuals in the development of a blueprint for managing regional growth. During the course of two years, participants debated various land use, housing, and transportation choices, then evaluated and voted on four proposed scenarios. The winning selection is now the basis of a regional plan that will guide development through 2050.

Policies and Regulations: To provide seniors, students, and other residents with more affordable housing choices, Santa Cruz, California, revised its regulations to make it easier for homeowners to build "accessory units" on their property. These new residences are created by converting all or part of a garage into housing, or by building new structures on a homeowners property. They provide homeowners with an additional source of income and provide additional options to people who need smaller, more affordable housing choices.

Small Communities: The San Juan Pueblo developed the first smart growth model for Indian tribes. Their master plan reflects the same commitment to community, environmentally sound designs, and pedestrian-oriented villages that have long been a part of the tribe's 700-year heritage.

Overall Excellence: Davidson, a small North Carolina community, is setting the standard for creating historic, healthy, vibrant neighborhoods. A land plan, innovative planning ordinance, and smart growth policies are reinforcing Davidson's goal of creating connected, walkable neighborhoods that maintain its traditional, small town legacy.

NCEI's annual National Award for Smart Growth Achievement provides another important mechanism for promoting smart growth. Now in its third year, this award program has recognized an impressive array of projects, policies, and programs that promote healthy, vibrant communities. Each recipient has used smart growth principles to create places that celebrate community culture, protect the environment, foster economic development, and enhance quality of life. The 2004 award winners, highlighted on page 14, provide national smart growth models for other communities around the country.

Recognizing the many ways EPA can help address development issues, the Administrator signed EPA's first Smart Growth Strategy in 2004. Developed with a cross-Agency team, the strategy lays out how EPA will target existing efforts to reduce environmental impacts of development while enhancing economic and community benefits. It focuses on promoting infill and redevelopment, developing smart transportation solutions, partnering on innovative development and building regulations, supporting smart growth initiatives in states, and ensuring EPA's own policies recognize smart growth benefits.

A background image of a sunset with a bright sun low on the horizon, casting a warm orange and yellow glow across a sky filled with wispy clouds.

A Performance-Based Regulatory System

The United States is widely recognized as having one of the strongest environmental regulatory systems in the world. Indeed, our regulations provide the first line of environmental protection defense and help ensure a level economic playing field among competitors. Nevertheless, there are opportunities to achieve better results from regulations, while also adding more flexibility and reducing regulatory burden.

Within EPA, NCEI acts as a catalyst for new regulatory approaches. As the following examples show, we are committed to developing incentives, alternative compliance options, and other enhancements that can help businesses and other organizations achieve their environmental goals as efficiently and effectively as possible.

A Strategy for Determining the Role of EMSs in Regulatory Programs

As the previous section showed, EMSs are a key component of many stewardship programs, providing organizations with a way to integrate environmental goals into everyday operations. EPA formally stated its support of EMSs in 1999. Since then, EPA's support for voluntary use of EMSs has grown, as is evident in numerous voluntary programs and policies with EMS components. Although EPA will continue to promote voluntary adoption of these important management tools, the surge in use is raising questions about how they might also be helpful in regulatory programs. In 2004, NCEI developed an EPA policy research strategy that will help answer that important question. The Strategy for Determining the Role of EMSs in Regulatory Programs is designed to assess how EMSs might be used in regulations to increase environmental results, reduce costs, improve compliance, maximize government resources, and enhance public involvement.

Improving Permitting

Ask businesses and other organizations how to improve environmental regulation, and first responses are likely to focus on permits—the legal instruments by which states and EPA implement environmental laws. From the start, NCEI has focused on permitting improvements that get better results for regulated facilities as well as regulatory agencies. For example, nearly a decade of testing more flexible permits under the Clean Air Act has shown they can lead companies to make

production improvements that significantly reduce emissions. As a result, NCEI is now working with the national air program on a rule to increase use of flexible permits. In addition, we are working together on a plan that would provide this option for facilities that have already shown a commitment to continuous improvement: members of Performance Track. Flexible permits are already under development for three Performance Track members—a 3M facility in Texas, another 3M facility in Missouri, and a Baxter Healthcare facility in Arkansas. When completed, these facilities will be able to make operational changes more quickly than under traditional permits, a critical need in their dynamic business environments.

NCEI has also been instrumental in helping states learn about an alternative permitting program that has proven highly successful in Massachusetts. The Environmental Results Program (ERP) focuses on improving environmental performance in sectors that are comprised mostly of small businesses. In these sectors, the sheer number of facilities can make it difficult for regulators to track and oversee each business's performance. Rather than issuing permits to each business, Massachusetts developed an alternative approach that requires the small business owner to check for and self-certify environmental compliance. The state also developed compliance assistance materials that help owners understand their legal requirements and statistically based measures that allow environmental performance to be tracked over time. Enforcement and inspections are also an integral part of the ERP process.

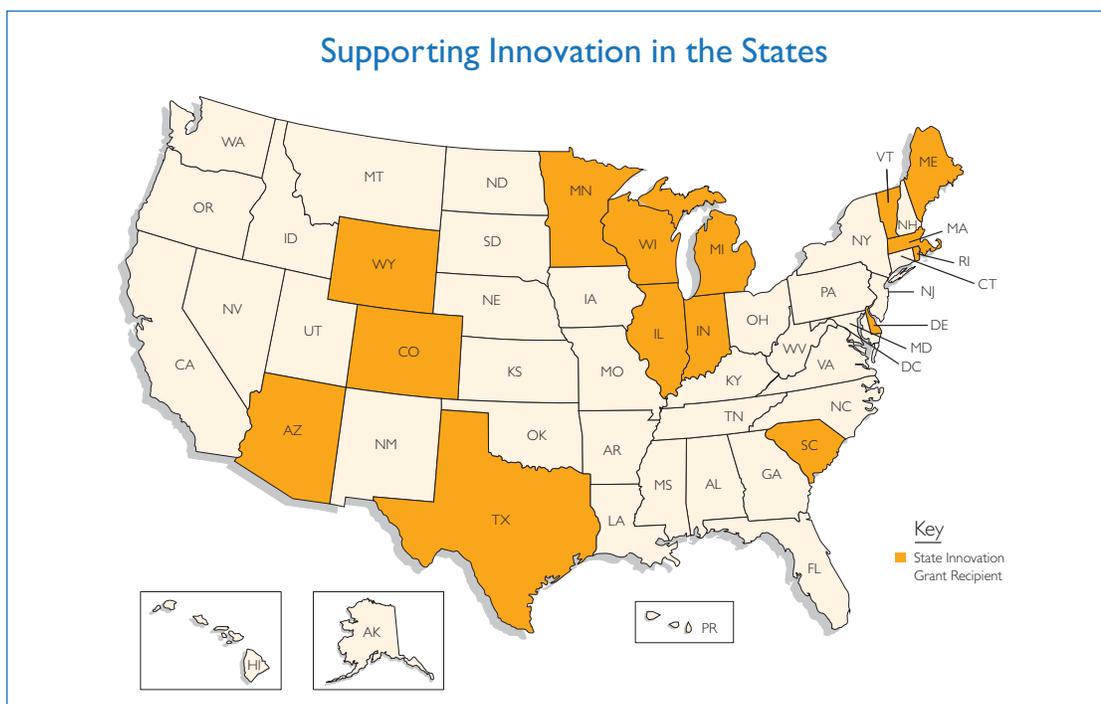
Massachusetts and other states' results show this approach can be highly effective. For example, the Massachusetts photo processing industry's compliance with one water quality requirement rose from 60 percent to 98 percent under ERP. Similarly, in Florida, the average number of environmental violations at auto body repair shops dropped by 42 percent.



NCEI's role in ERP is to help other interested states adopt similar programs. Thirteen states and the District of Columbia are now applying this innovative approach across 15 business sectors. After experiencing success with an initial sector, some states have decided to expand ERP to other sectors. As use increases, so does the nature of problems being addressed. For example, a number of states are considering ERP as a sound approach for addressing a widespread challenge—reducing leaks to underground storage tanks. With more than 700,000 tanks still in use, NCEI developed an ERP workbook that will help states interested in using this approach.

The growth of ERP is an excellent example of how an innovative idea can take hold. Massachusetts pilot tested a novel approach to permitting, and based on the results, other states are now adapting this approach to better address their own environmental challenges.

Permitting improvements have also been the priority under an NCEI State Innovation Grant program. Since inception, NCEI has awarded 15 states more than \$2 million to explore a variety of permitting innovations—from watershed-based permits to electronic systems that streamline the application process to the ERP model described above. These investments represent a strategic approach to permitting reform; we consult with states to determine the permitting improvement priorities, set up a competition to select the best ideas, and then provide resources so the testing can begin. The results are beneficial to the states participating in the pilot projects and to other states that stand to learn from the results.



For example, many states are interested in more efficient ways of handling stormwater permits. Under the Clean Water Act, these permits are required for millions of sources, including many small businesses. With support from the State Innovation Grant program, Arizona created a Web-based system that streamlines the stormwater permitting process. The new system, which screens potential applicants and directs those that require permits to the appropriate application, reduces the time required to obtain a permit from 30 days to four days. Likewise, it reduces the number of state agency staff required to run the program from 30 individuals to less than five. In addition to saving state resources, Arizona expects this simplified approach will lead more businesses to obtain permits and achieve compliance.

In Colorado, a new permitting approach led the state to change its law. In 2003, Colorado received a State Innovation Grant to test multimedia, EMS-based permits. These permits give companies the option of developing a single EMS that includes all applicable pollution limits rather than operating with multiple air, water, and waste permits. In addition to streamlining the permitting process, this approach encourages companies to look at the full range of environmental impacts and the best solutions for reducing them.

Rewarding Environmental Excellence

In 2004, NCEI took an unprecedented step toward creating a more performance-based regulatory system by issuing a rule that—for the first time in EPA’s history—treats environmental leaders differently. The rule reduces regulatory oversight in several areas for the distinguished members of Performance Track. Specifically, it reduces reporting required under the Maximum Achievable Control Technology provisions of the Clean Air Act and extends onsite storage times required under the Resource Conservation and Recovery Act for certain hazardous wastes. These benefits are expected to net a \$700,000 savings for members during the next three years. While these savings are modest, they represent a down payment on a larger set of benefits that we expect to increase over time.

With this in mind, NCEI is now working with Performance Track members and other stakeholders to identify additional regulatory benefits. In September 2004, for example, NCEI and EPA’s national water program convened stakeholders for a discussion of possible incentives that could be offered under the Clean Water Act. The discussion focused on expediting permitting,

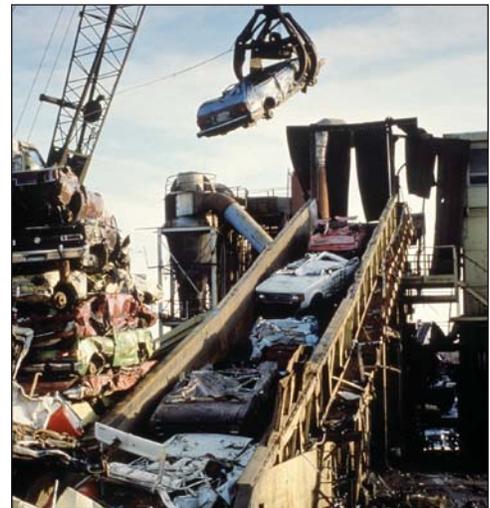


reducing monitoring and reporting requirements, allowing voluntary actions in lieu of regulatory standards, and other options. NCEI is now taking this input into account, as work continues on additional incentives for Performance Track facilities.

Finding Regulatory Alternatives

Historically, EPA has dealt with some of the nation's most serious environmental problems, such as air and water pollution, by requiring the best performing pollution control technologies. In some cases, this approach is required under federal environmental laws. But in others, there is flexibility to consider alternatives. Such is the case with regard to controlling hazardous air pollutants from "area sources" under the Clean Air Act. The 1990 amendments require EPA to develop a national strategy to control emissions of 30 hazardous air pollutants from 70 area sources. Because the majority of these sources are small businesses, the regulatory burden created by the new requirements could be significant for many small business sectors. To lessen the potential burden, NCEI is working with the national air program and external stakeholders to identify cost-effective strategies for reducing emissions from the various sources.

Our work with the iron and steel sector has led us to investigate an alternative approach for addressing emissions from electric arc furnaces, the devices used at mini-steel mills for steel recycling. These furnaces consume recycled steel from shredded automobiles and other sources, and they are the fourth leading source of mercury air emissions in the United States. Requiring emission control technology is one option for addressing them. Recognizing a potentially better way, however, NCEI launched a collaborative partnership that engages automakers, automobile dismantlers, shredders, and steel makers, as well as states and environmental groups in devising an alternative approach. Their efforts are focused on the very root of the problem—mercury-containing convenience light switches. While these switches are no longer used in domestic manufacturing, they are still found in



Source: Institute of Scrap Recycling Industries, Inc.

vehicles manufactured before 2003 and can contaminate recycled steel if they are not removed before the vehicles are shredded. The affected stakeholders are working to create a program to ensure switch removal in a safe, cost-effective manner, knowing the results could have significant influence on the new area source rule.

NCEI's sector strategy with the forest and paper industry also focuses on regulatory alternatives. In this case, the alternative would not be for a single rule, but for a suite of air pollution requirements that are expected for the industry during the next 15 to 20 years. EPA has begun a stakeholder dialogue to consider alternative environmental protection approaches that take into consideration the future evolution of industry operations from a technological, economic, and environmental perspective. Stakeholders will work collaboratively to define a common future vision of industry trends. This task will involve assessing emerging multi-pollutant, air-shed, and market-based regulatory models, as well as innovative approaches outside the current regulatory framework. The sector-based effort has the potential to define more effective performance models that will provide better coordination of existing and future industry requirements, increased flexibility to achieve requirements, incentives for continuous improvement, and a stronger focus on environmental results.



Addressing Regulatory Barriers

NCEI's work with business and community stakeholders provides many insights into how well environmental programs and rules are working or where a requirement inadvertently hinders environmental improvements. NCEI works to eliminate these regulatory barriers in a number of ways; for example, many industries today are interested in reducing, reusing, and recycling materials that are considered waste under the Resource Conservation and Recovery Act (RCRA). In November 2003, NCEI held the first NCEI Environmental Policy Forum to examine barriers to these environmentally beneficial practices and devise recommendations for addressing them. The recommendations were later presented to EPA's national waste program to help inform RCRA policy decisions.



A Culture of Creative Environmental Problem-Solving

Although innovative solutions can occur in a moment of quick, brilliant insight, most evolve in a far less dramatic fashion. They are a result of many factors, including creative thinking, a willingness to try new ideas and, in the case of organizations, support from the top leadership. This section shows how NCEI is working to create a culture of creative environmental problem-solving within EPA and within other organizations that share our interests in improving environmental results.

Transcending Organizational Barriers

While EPA's individual programs and regions often pursue innovative approaches for improving results in a particular area, some concepts may be relevant for many or even all parts of the Agency. With its multimedia perspective, NCEI is uniquely positioned to recognize these cross-cutting opportunities and to bring together EPA's senior leadership to address them. This is accomplished through the EPA Innovation Action Council (IAC) that is made up of EPA's Deputy Assistant Administrators and Deputy Regional Administrators.

Working in cooperation with NCEI, the IAC sets the Agency's overall innovation strategy and brings extensive experience to bear in addressing policy and management issues related to innovative approaches. In the past year, the IAC has been instrumental in addressing an increasingly important issue for EPA—improving Agency management of a growing set of voluntary stewardship programs, such as ENERGY STAR® and WasteWise. During a six-month period, the IAC inventoried and evaluated voluntary programs and instituted a number of reforms to improve the quality of program design and coordination among programs within the Agency. These reforms will simplify participation for external customers and help ensure that EPA's investments in voluntary programs are achieving the best possible results.

The IAC has also been engaged in the development of several multimedia strategies for EPA. The Small Business, EMS Research, and Smart Growth strategies described earlier in this report have all been crafted with IAC input. In addition, the IAC has played a key role in making innovation investment decisions. Part of its job is to look across the spectrum of initiatives and decide which ones merit use on a larger scale. For example, EPA's decision to promote Massachusetts' ERP program to other states was based in large part on IAC endorsement. More recently, the IAC has focused on expanding Performance Track. This expansion will be accomplished by working on additional incentives and by promoting the program to states that have considerable influence on how those incentives are applied.

Sharing Innovation Results

In 2004, NCEI released *Innovating for Better Environmental Results: A Report on Progress from the Innovation Action Council*.

The report highlights EPA's progress under a comprehensive innovation strategy released in 2002. It describes innovative approaches being used to address priority environmental problems and a variety of tools and approaches that are enhancing environmental problem-solving. It also describes how EPA is strengthening its innovation efforts with states and tribes and fostering innovation internally through the Agency's culture and organizational systems. These descriptions provide numerous insights into how environmental programs are evolving to meet the demands of today's world, and highlights how important innovation is for sustaining environmental progress.



Supporting Evaluation

Although routinely tracking results and periodically evaluating overall performance are important for all programs, these actions are especially important when dealing with relatively new concepts. To assess how well innovations and other programs are working and to support the transformation to a more performance-based environmental protection system, NCEI teamed up with EPA's Office of the Chief Financial Officer to provide resources for programs to conduct evaluations and develop performance measures. Contractor expertise and financial assistance are provided through an annual Improving Results Competition.

Evaluation of innovative projects is one of the competition's main focus areas. For example, the national waste program received support in 2003 to evaluate rules that are designed to increase flexibility in the management of certain hazardous wastes under RCRA, and ultimately, increase hazardous waste recycling. The evaluation revealed key factors that influence hazardous waste recycling decisions and led to recommendations that could help the program increase recycling opportunities in the future. Another recipient is focusing on the effectiveness of the Hospitals for a Healthy Environment Program—a voluntary initiative that encourages members to prevent healthcare waste and targets the virtual elimination of mercury-containing waste from the healthcare sector by 2006. The results will help EPA make program improvements and identify successful approaches that can be shared throughout the healthcare sector. Although these and other evaluation efforts will help improve results of the select programs, they will also build critical skills that will help improve many more environmental initiatives in the future.



Guiding Innovation Analysis

To help innovators inside and outside of EPA, NCEI released a *Guide to Analyzing Environmental Innovations* in 2004. Based on innovation theory and the experiences of EPA's own innovation practitioners, this new resource provides analytical guidance on all phases of the innovation process—from startup to testing to diffusion. Now out for public comment, it consists of six modules that can help users think critically about how to:

- Describe their innovation
- Assess environmental results
- Determine cost-effectiveness
- Assess the practical enforceability
- Evaluate the effectiveness of public involvement
- Determine transferability

Building evaluative skills is also the driver behind NCEI's new performance measurement training. Recognizing that performance measures are the building blocks for the evaluation process, NCEI developed a training course to help EPA and state staff develop and apply these important management tools. More than 385 individuals received training this past year.

Improving Public Involvement

Involving the public in the development of innovative approaches can be another useful way of obtaining information to improve environmental programs. Indeed, outside parties can provide EPA and other regulatory agencies with valuable insights that help inform environmental decisionmaking.

Given its importance, NCEI issued a new public involvement policy for EPA in 2003. The new policy provides EPA with guidance on effective means of involving outside stakeholders in environmental decisionmaking. The first revision in more than 20 years, it reflects the experiences EPA has gained with public involvement during the last two decades and some profound changes that have occurred in that timeframe. For instance, the previous policy had no references to what is now a powerful and commonly used tool for communicating with stakeholders—the World Wide Web.



Along with providing policy leadership, NCEI also acts as a clearinghouse for public involvement information. Guidance is offered on a range of topics, such as how to involve the public in siting a hazardous waste landfill, how to run a negotiated rule-making, and how to engage effectively with Indian tribes.

Fostering Collaborative Problem-Solving

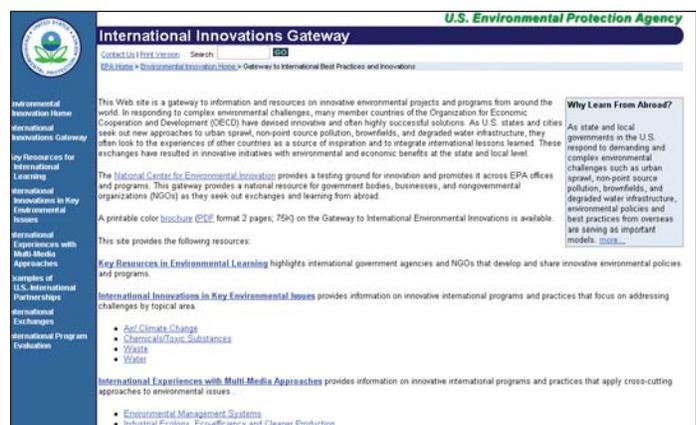
Although EPA has a long and successful history of working with outside parties to address environmental priorities, in 2004, the Administrator challenged EPA to raise this concept to a new level. Recognizing the importance of involving others in efforts to address an increasingly complex set of challenges, the Administrator directed a team from NCEI and the Innovation Action Council to explore ways of improving collaborative problem-solving within the Agency. As a result, several

capacity-building efforts are underway. For example, EPA managers in the Senior Executive Service have received training on how to use collaborative approaches in their programs and regions. In addition, NCEI led the development of a first-ever EPA policy to guide collaborative decisionmaking processes. The policy recognizes collaboration as one of many tools EPA can use to achieve environmental results, and that when used effectively, it can be a powerful means of achieving environmental goals. Through its multimedia performance programs like Smart Growth and Sector Strategies, NCEI also works on the ground to demonstrate the effectiveness of collaborative problem-solving in tackling challenging environmental problems.

Mainstreaming Innovation

To maximize the value of proven approaches, NCEI strives to share information and results that can be helpful to others. For example, in 2004, we developed an “Innovation Toolkit for Rulewriters.” This new resource gives EPA staff information about alternative regulatory approaches so they can consider options before making important regulatory decisions.

Another example is a new international innovation Web site. This online resource allows users inside and outside the Agency to explore numerous innovative initiatives being undertaken around the world to address challenging environmental problems. It provides access to environmental policies and best practices; links to journals and databases; case studies involving innovations in air, toxics, waste, and water issues; as well as multimedia approaches, such as EMS, sustainable transport, and smart growth. Information is also available on state and local initiatives with international partners that have resulted in creative environmental solutions, such as constructed wetlands to treat wastewater, green buildings and renewable energy to address climate change and air pollution, and industrial ecology to achieve pollution prevention in the United States. Users can also find information about international fellowships as well as evaluations of innovation programs.



www.epa.gov/innovation/international

Supporting State-Led Innovation

Because much of the on-the-ground work associated with environmental programs happens at the state level, states are arguably in the best position to see how well various programs are working and to develop innovative strategies for improving them. NCEI invests considerable effort in supporting this critical aspect of state work. For example, NCEI launched the State Innovation Grant Competition, described earlier, to provide states extra resources for innovative pursuits. NCEI has also invited states to be part of the IAC meetings so their views about policy issues related to innovative approaches can be raised at EPA. Helping states learn about innovations, like ERP, is yet another way. All of these efforts are contributing to a stronger relationship between states and EPA, and building more capacity for innovative environmental problem-solving.

One sign of this is a joint innovation work plan between states and EPA that focuses on a set of priority issues. These include the development of Community Actions for a Renewed Environment, or CARE, a voluntary program for reducing exposure to toxic pollutants at the community level. Another priority focuses on increasing the number of pollution budgets (known technically as “total maximum daily loads” or TMDLs) that are required under the Clean Water Act for rivers, lakes, and other water bodies that are not meeting water quality goals.

These budgets can be very time-consuming and resource-intensive to prepare, and so NCEI is working with states to identify innovative approaches for completing them faster and cost-effectively.



Photo courtesy of USDA NRCS

Closing

Since our launch, NCEI has made steady progress toward goals that are important for achieving the next generation of environmental progress. The Center has put mechanisms in place to support innovation in many aspects of EPA's work, and we continue building strong partnerships—inside and outside the Agency—with others that share an interest in improving environmental results.

Previous experience has shown us that the kinds of changes we are working to bring about can take time. Indeed, the Environmental Results Program described in this report, which is now being replicated in other states, began as a pilot project in the late 1990s. Likewise, some of the current proposals for improving environmental regulation reflect learning from pilot projects that have been underway for several years.

Looking ahead, NCEI will continue to explore innovative approaches to environmental protection. In doing so, we expect to gain new information, insights, and models that are needed to transform our environmental protection system and to assure continued progress.

For More Information

Learn more about NCEI and innovation at EPA by visiting

[<www.epa.gov/innovation>](http://www.epa.gov/innovation)

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