Innovating

for Better Environmental Results:

A Strategy To Guide
The Next Generation of Innovation at EPA

A Message From the Administrator:

As America works to meet the next generation of environmental challenges, innovative new technologies and techniques will be a key contributor to our success. Making America's air cleaner, its water purer, and its land better protected will require the best, most creative, and most inventive efforts the public, private, academic, and non-profit sectors can devise.

Encouraging such innovation and ensuring that the best innovative ideas are widely shared is a role I believe the Environmental Protection Agency is well-positioned to perform. That is why, early last year, I directed EPA's Office of Policy, Economics and Innovation to work with the Innovation Action Council to assess the Agency's innovation activities and propose a long-term innovation strategy to guide the EPA in the years ahead.

This report is the result of their efforts. It provides the EPA with a practical roadmap for encouraging innovative solutions to environmental challenges and for making sure those solutions are available to everyone who shares our common goal of protecting the environment and safeguarding public health.

As you will see, this report also emphasizes the importance of developing clear, easily understandable benchmarks against which we can judge the success of our efforts. It is not just enough to measure process, we must also measure progress. In addition, we must do so in active cooperation with our many partners – the most important of which are the American people.

I want EPA to become a model for innovation in the federal government, a place others can look to when developing their own efforts to promote innovative solutions to today's problems and tomorrow's challenges. The proud record of this Agency is the foundation on which we can build that model. I look forward to working together to ensure that EPA does its part to help tap into the innovative spirit that has long been the hallmark of America to achieve the next generation of environmental progress.

Christine Todd Whitman
Administrator

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Introduction

The United States is entering a new era of environmental policy, one that emphasizes improved results in the form of cleaner air, purer water, and better protected lands, and innovative approaches as a means of accelerating progress. This evolution responds to a growing consensus that our nation's current environmental protection system alone is not adequate for handling an increasingly complex set of challenges. Indeed, problems, such as polluted runoff from streets and farms, global climate change, and loss of habitat and biodiversity, require a broader set of tools than we have relied upon in the past.

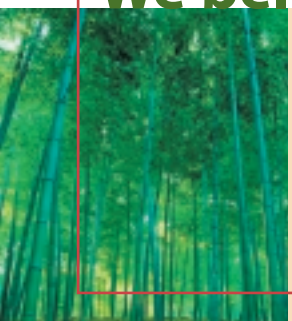
Strengthening environmental partnerships, targeting priorities, expanding the current collection of tools, and creating a more innovative culture to effectively address challenging problems is what this innovation strategy is all about. It positions EPA to improve its problem-solving capabilities, and provides a framework for innovative approaches to become a routine part of our work. It also acknowledges other drivers that make environmental innovation an imperative. These drivers include continued pressure to create more value for each tax payer dollar invested, the constraint of working under a set of environmental laws that in many cases have not been updated for years, the extra attention that is needed to tailor environmental strategies and assure environmental justice for all people, and the need to move beyond the single medium approaches that have traditionally dominated our work, and toward more integrated, holistic approaches.

Clearly, EPA must innovate to move forward. But the process presents us with a challenge—to maintain those vital elements of the existing system, such as the standards, permits, and compliance assurance efforts that are part of our basic mandate, while simultaneously pursuing creative new tools and approaches to complement and enhance its efficiency and effectiveness.

Fortunately, many factors are working in our favor. Today, the United States is much more sophisticated about environmental protection compared to when environmental programs were first established. We no longer debate whether to protect the environment; rather we discuss how to do so in ways that boost our economy. Increasingly, American companies are looking beyond minimum environmental requirements for additional opportunities to prevent pollution and improve efficiency. States and local governments have more experienced environmental managers to run programs and work with local stakeholders. Citizens are tuned in to environmental issues and conditions, and are likely to be involved in improvement efforts right in their own neighborhoods. We also have the advantages of better information, science, and technology than ever before.

Recognizing these advantages and determined to bring about the improvements we know are needed, EPA is proposing a new strategy to guide the next generation of environmental innovation efforts. This strategy is based on an extensive review of EPA's innovation initiatives by EPA's Innovation Action Council—the senior career leaders responsible for managing innovation at headquarters and in the regions. It also reflects EPA's extensive experience in addressing environmental problems, careful consideration of recommendations from outside policy groups, and discussions with the states and a variety of stakeholders. We believe this strategy represents the best opportunities for making environmental progress at this point in time, and provides concrete steps toward realizing a stronger system of environmental protection for the future.

We believe this strategy embodies the best opportunities for advancing environmental progress at this point in time, and provides concrete steps toward realizing a stronger system of environmental protection for the future.



An Expanded
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Environmental protection will be defined more broadly in the 21st century than it has been in the past. No longer will environmental managers focus on just controlling pollution. Rather, we will strive to prevent pollution from occurring in the first place and think longer-term about how we protect human health and safeguard the natural environment—the air, water, and land upon which life depends.

So, what does this mean for the environmental protection system currently in place? That is the question that policy groups have been wrestling with for several years. While there is variation in the recommendations, there is also a remarkable degree of consensus around five key traits. They are presented below as a statement of what we are working toward with this innovations strategy.

- **Focus on environmental performance and results.** Environmental agencies should emphasize results more than the means to achieve them, using regulatory and nonregulatory tools and working in partnership with others. In such instances, public accountability should be provided through use of meaningful performance measures.

- **Emphasize greater environmental responsibility, not just pollution control.** Environmental programs should address a broader range of issues than they typically do today. The goal should be greater environmental responsibility and natural resource stewardship across all of society, along with successful integration of environmental, economic, and social objectives.

Vision

nmental Protection

- **Integrate environmental management more fully across facilities, problems, and media.** Environmental management should be practiced with a holistic approach rather than as a series of separate air, water, and waste management tasks. This "systems approach" provides more complete attention to the many issues that affect environmental outcomes, and results in more tailored improvement strategies.

- **Use market-based incentives to achieve environmental goals.** Government should create more financial incentives for strong environmental performance. These incentives should be used in regulatory and nonregulatory programs, and they should take many different forms—ranging from trading programs that provide flexible, cost-effective compliance options for industrial facilities to liability provisions that reduce costs for safer, cleaner operations.

- **Emphasize partnership and stakeholder collaboration.** Businesses, government agencies, community groups, and other interested stakeholders should become more involved in development of environmental solutions. With fewer opportunities for making progress with centralized command-and-control regulation and growing sophistication among environmental managers, this brand of teamwork becomes not only desirable, but essential.

A New Strategic Framework for Environmental Innovation

EPA has been working toward this expanded system for more than a decade, providing leadership for innovative environmental initiatives among federal agencies. While significant advances have been made, the result has sometimes been a disparate array of projects that were not designed to achieve system-wide improvement. The transactions costs have often been high and there has not been a consistent process for moving successful pilots into broader use. By failing to recognize all achievements, we have missed opportunities to increase their use and encourage innovative approaches in other aspects of our work.

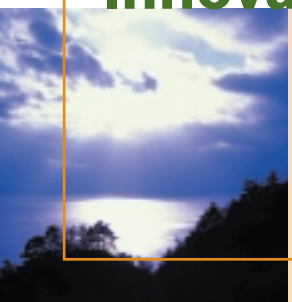
EPA considered these and other limitations in the course of crafting a new innovation strategy. Several key findings emerged that set the stage for its development. The first is that innovation must be encouraged from senior management as a way of fulfilling a clearly articulated vision and commitment to measurable results. There was agreement that innovation needs to be discussed widely and agreed upon with major partners and then nurtured patiently. Second, innovation must be oriented to achieving measurable, affordable progress, and the expected benefits should outweigh costs. Third, innovation will increase when staff begin to see their job as environmental problem solvers—helping to develop new tools and creatively applying them to solve specific environmental problems. Finally, innovation must be an attitude, an outlook, and an integral part of EPA's daily work, management systems and culture.

These findings provided the basis for the following strategy, which presents a framework for pursuing results through innovative approaches. It features four elements:

- Strengthen our innovation partnership with states and tribes.
- Focus innovation efforts on priority environmental problems.
- Diversify our environmental protection tools and approaches.
- Foster a more innovative culture and organizational systems.

These elements are strongly connected, and should be implemented in combination, to the greatest extent possible. With an emphasis on partnerships, tools, and results, they also directly support the expanded vision for environmental protection outlined earlier.

Innovation must be an attitude, an outlook, and an integral part of EPA's daily work, management systems, and culture.



Strengthen Innovation Partnership with States and Tribes

EPA believes that partnerships with other organizations are essential for developing and pursuing new ideas, and we are eager to work with all stakeholders that share our goals for achieving environmental results. We see multiple partnership opportunities among businesses, environmental and public policy organizations, community groups, and other agencies at the local, regional, and federal levels of government. But of all these, EPA's most important partnerships are those with states and tribes. These partners, which include varied agencies with environmental management responsibilities, are closer to the front lines of environmental protection, and must be an integral part of a strategy to obtain better results through innovation.

EPA and states lately have been using two key mechanisms to advance innovative approaches. The first is the National Environmental Performance Partnership System (NEPPS), which was established in 1995 to build a more effective working relationship between the states and EPA. NEPPS provides a framework for the states and EPA to negotiate a set of priorities and assure that respective activities are aligned to achieve results more efficiently and effectively. The resulting collaboration is guided by a set of well-defined principles, shown on the next page.

Principles from the National Environmental Performance Partnership Agreement

- **Continuous environmental improvements are desirable and achievable throughout the country.**
- **A core level of environmental protection must be maintained for all citizens.**
- **National environmental progress should be reported using indicators that are reflective of environmental conditions, trends, and results.**
- **Joint EPA/state planning should be based on environmental goals that are adaptable to local conditions while respecting the need for a "level playing field" across the country.**
- **EPA/state activity plans and commitments should allocate federal and state resources to the highest priority problems across all media, and should seek pollution-prevention approaches before management, treatment, disposal, and cleanup.**
- **The new approach to the EPA/state relationship should facilitate and encourage public understanding of environmental conditions and government activities.**
- **A differential approach to oversight should provide an incentive for state programs to perform well, rewarding strong state programs and freeing up federal resources to address problems where state programs need assistance.**

The second supporting mechanism is the Joint EPA/State Agreement to Pursue Regulatory Innovation (State/EPA Innovations Agreement). Signed by EPA and the Environmental Council of the States in 1998, this agreement addresses the development, testing, and implementation of regulatory innovations. The principles that guide these specific actions are shown on the next page.

This strategy reaffirms EPA's commitment to both sets of principles and to the vision of a strong, collaborative, and innovative partnership that is so important for increasing environmental results. It also extends this vision to tribes, which face their own unique set of issues and which stand to gain a great deal through innovative approaches that can provide strong, cost-effective results.

Principles from the State/EPA Innovations Agreement

- **Experimentation:** Innovation involves change, new ideas, experimentation and some risk of failure. Experiments that will help us achieve environmental goals in better ways are worth pursuing when success is clearly defined, costs are reasonable, and environmental and public health protections are maintained.

- **Environmental Performance:** Innovations must seek more efficient and/or effective ways to achieve our environmental and programmatic goals, with the objective of achieving a cleaner, healthier environment and promoting sustainable ecosystems.

- **Smarter Approaches:** To reinvent environmental regulation, regulator should seek creative ways to remedy environmental problems and improve the environmental protection systems, and be receptive to innovative, common sense approaches.

- **Stakeholder Involvement:** Effective stakeholder involvement produces better innovation projects and catalyzes public support for new approaches. Stakeholders must have an opportunity for meaningful involvement in the design and evaluation of innovations. Stakeholders may include other state/local government agencies, the regulated community, citizen organizations, environmental groups, and individual members of the public. Stakeholder involvement should be appropriate to the type and complexity of the innovation proposal.

- **Measuring and Verifying Results:** Innovation must be based on agreed-upon goals and objectives with results that can be reliably measured to enable regulators and stakeholders to monitor progress, analyze results, and respond appropriately.

- **Accountability/Enforcement:** For innovations that can be implemented within the current regulatory framework, current systems of accountability and mechanisms of enforcement remain in place. For innovations that involve some degree of regulatory flexibility, innovators must be accountable to the public, both for alternative regulatory requirements that replace existing regulations and for meeting commitments that go beyond compliance with current requirements. Regulators will reserve full authority to enforce alternative regulatory requirements to ensure that public health and environmental protections are maintained, and must be willing to explore new approaches to establish accountability for beyond compliance commitments.

- **State-EPA Partnership:** The States and EPA will promote innovations at all levels to increase the efficiency and effectiveness of environmental programs. We must work together in the design, testing, evaluation, and implementation of innovative ideas and program, utilizing each other's strengths to full advantage.

Strengthen State-EPA Partnerships

Guided by a renewed vision of partnership, EPA will work with states to make effective use of resources to achieve the greatest environmental results possible. Together, we will collaborate in setting goals and priorities and in implementing strategies to solve environmental problems. As we do so, we will maximize use of innovative and flexible approaches to improve environmental performance. We will also encourage use of valuable partnering tools, such as partnership agreements and grants and projects under the State/EPA Innovations Agreement. To this end, we will create new incentives for their use and address barriers, such as transaction costs, that might have diminished their real or perceived value in the past. Finally, we will effectively integrate state priorities and needs into EPA's planning, budgeting, and accountability systems to ensure progress in meeting national goals while giving states the flexibility to tailor protection efforts to fit their own environmental conditions and program needs.

Work with Tribes to Develop and Implement Tailored Innovation Approaches for Indian Country

EPA will collaborate with tribes to encourage the use of innovative environmental management approaches in Indian Country. These approaches will be based on the same partnership principles that guide our work with states, but will take into account the particular environmental issues that tribes face, the status of tribal environmental programs and infrastructure, and funding needs.

Focus on Priority Issues

Believing in the need for a focused agenda to achieve results, EPA identified specific environmental challenges that are serious in nature, national in scope, and where innovation is needed to assure progress. These challenges—greenhouse gases, smog, water quality, and water infrastructure—will be targeted for particular attention and resource investments. We will work with our partners to develop innovations for these problems specifically, and as part of broader, multimedia improvement strategies. This is not an exclusive list, and should not be perceived as limiting innovative pursuits for other issues. However, the problems identified here are priorities for EPA.

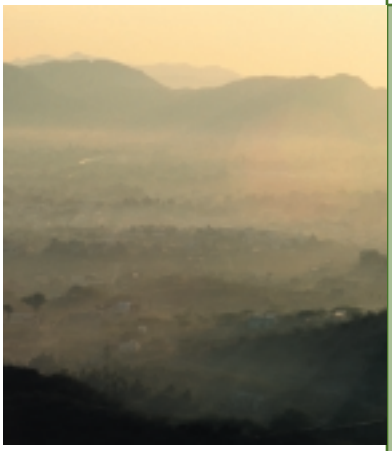
Our focused efforts will consider all potential avenues to progress—regulations, policy, guidance, voluntary initiatives, technical and compliance assistance, outreach, and, as appropriate, development of legislative proposals.

Reduce Greenhouse Gases

The core of EPA's climate change efforts are partnership programs designed to capitalize on sound investments in energy-efficient equipment and practices. We are especially interested in innovative partnerships that extend across economic sectors to catalyze reductions in greenhouse gas emissions while simultaneously increasing economic productivity and competitiveness. Potential strategies and tools include industry sector agreements or company pledges to reduce greenhouse gas emissions; voluntary transportation programs that promote fuel efficiency; agricultural carbon sequestration; and incentives for use of clean, renewable power sources.

Reduce Smog

Many areas of the country struggle to meet air quality standards, particularly those for ground-level ozone and particulate matter. In many of these areas, all conventional technologies and strategies have already been implemented. We, together with our partners in state and local government, need to find innovative, cost-effective emission reduction strategies, including opportunities for regulatory flexibility, where appropriate, to reach the 1-hour ozone standard. We will use a number of different strategies including: market-based programs, voluntary programs, tribal programs, and new approaches that are just being created. One example of a market-based program is our legislative proposal for controlling emission of three pollutants—SO2, NOx, and mercury. The SO2 and NOx emissions reductions will help communities significantly as they work to meet the ozone and particulate matter standards. To promote voluntary reductions, we will issue a policy aimed at controlling emissions from currently unregulated small stationary sources of air pollution. Other strategies include developing an integrated resource assessment tool for decision-makers to create and test alternative emission control strategies, and expanding "Ozone Flex," a voluntary ozone reduction program for areas that meet, but are close to exceeding, the 1-hour ozone standard. We will conduct three to five tribal clean air projects to identify strategies that might be useful in Indian Country. Finally, as an example of a new approach, we will expand "Cool Cities," a program that uses reflective coatings and vegetative cover to help reduce the urban heat island effect that can hasten smog formation.



Restore and Maintain Water Quality

Sediments, nutrients, pathogens, and toxic substances continue to threaten the quality of many of the nation's waters. The sources of these pollutants are often diffuse: runoff from urban, suburban, and agricultural lands; onsite septic systems; and air deposition. To address these problems, we will support, build on, and expand the many creative partnerships underway with corporations, states, local governments, and watershed groups to achieve healthy watersheds. We will implement policies and projects that enable water quality trading programs to thrive, along with other collaborative and cost-effective approaches to meeting water quality goals. To foster innovative approaches to managing onsite wastewater (septic) systems, we will develop voluntary performance guidelines and encourage performance-based designs. Because sufficient and reliable water quality data are key to understanding and addressing problems in local watersheds, EPA will continue and enhance efforts to improve water monitoring programs and data availability. Finally, we will conduct research on ecosystem assessment and restoration and on biological, physical, and social stressors in watersheds to help EPA and others determine the optimal strategy for achieving water quality goals.

Close the Water Infrastructure Gap

Our nation's drinking water and wastewater treatment systems provide Americans with significant benefits: reduced water pollution and safe drinking water. However, this critical infrastructure is aging and deteriorating. There is concern that current spending will not keep pace with future needs, threatening to rev
gains in water quality made over the past t
decades. Ensuring the long-term integrity
nation's water infrastructure requires a con
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and mechanisms; respective roles of all lev
of government and the private sector;
expanded use of innovative technology, ra

structures, and water conservation; and greater use of innovative approaches in managing financial assets and physical infrastructure. EPA will work with stakeholders to create a more sustainable, efficient, and innovative water infrastructure system. In particular, EPA will explore innovations that can increase flexibility in funding mechanisms, create incentives for adoption of best management practices, and advance technologies that provide better service at lower cost.

EPA identified two additional and significant opportunities for creative, multimedia solutions—agriculture and brownfields redevelopment. Many EPA programs have responsibilities that relate to agriculture, and most focus on reducing environmental impacts from agricultural production. But agriculture also presents opportunities for improving environmental quality, such as carbon storage, cleaner water, and better habitat for fish and wildlife. To realize these and other benefits and to help address specific environmental problems more effectively, EPA will develop a strategy to increase coordination and collaboration with agricultural interests, including the related public agencies and the agricultural producers.

EPA will also seek to extend innovations achieved through the Brownfields Economic Redevelopment Initiative to a wider range of properties. The goal is to increase the number of properties cleaned up and redeveloped, and to take a wider range of environmental issues, such as air and water quality, into account in the process.

Diversify Environmental Protection Tools and Approaches

While focusing more attention on specific environmental problems, EPA's innovation strategy must promote also the continued development of new tools and approaches that can not only solve, but prevent problems from occurring. We believe the future system of environmental protection will include many more options for addressing different environmental challenges. It will rely less on end-of-pipe technology requirements and more on tailored strategies that address the needs of whole facilities, communities, and sectors or segments of the population. It will put more emphasis on pollution prevention and natural resource conservation. It also will boost accountability for meeting specific performance goals. To this end, EPA must develop new tools that can be effective for problem-solving, and use tools in creative combinations that make the most of both traditional and new approaches.

Target Tools and Approaches for Strategic Development

Working with states and tribes, EPA will provide leadership in moving new tools and approaches through all stages of development—testing, monitoring, evaluation, and finally application. However, this process should not occur on an ad hoc basis. EPA, states, and tribes have limited resources, and so we must develop new tools with a strategic purpose in mind. This means focusing on tools that have potential for addressing high priority problems or that have proven effective and show strong potential for broader, multimedia application. EPA's initial priorities for tool development are as follows:

- **Improve the use and deployment of information resources and technology to achieve greater environmental results.** Building on the Environmental Information Exchange Network, currently under development, work with states on a strategy for harnessing the power of information and information technology to transform environmental protection. Specific goals include providing better information to the public, handling information exchanges with states and regulated communities more efficiently, and linking information more directly with state and EPA decision-making processes.

- **Support environmental technology innovation.** Find ways to support development and use of new technologies that can achieve more effective and lower cost solutions to environmental problems. Establish a challenge and award program to encourage and recognize the development of innovative technologies, starting with those technologies approved under EPA's Environmental Technology Verification program. Be inclusive in identifying the problems needing technology solutions, and in developing criteria for assessing technology performance. Ensure that environmental regulations and other core activities encourage and provide flexibility for use of innovative technologies.

- **Increase use of incentives.** Apply economic, information, compliance assistance, and other types of incentives that can motivate sound environmental performance and pollution prevention by individuals, communities, businesses, and industry sectors. To promote flexible and innovative approaches, incentives should be considered: (1) during the regulatory economic analysis for each new rulemaking, (2) as permitting options, (3) as part of a systematic review for identifying where economic and other incentives could be added to existing programs, and (4) in voluntary, collaborative partnerships with facilities, sectors, co-regulators, and others.

- **Encourage use of environmental management systems (EMSs).** Support use of effective EMSs in a variety of applications, and expand studies of how EMSs fit into environmental policy as a way to ensure compliance and promote "beyond compliance" performance.

- **Develop results-based performance goals and measures.** Develop more outcome-oriented performance goals and measures that describe the results achieved by EPA's programs, and incorporate those goals and measures, as appropriate, into all activities. Emphasizing results will facilitate and encourage use of innovative approaches for protecting human health and the environment.

Build Upon Flagship Innovation Programs

EPA will build upon a broad base of innovative activities that already exist—an accumulation of many years and much hard work. We will work with our stakeholders to identify the appropriate next phases for several multimedia programs. They include programs that test alternative regulatory approaches, based on the lessons learned from programs such as *Project XL*; the *National Environmental Performance Track*, which recognizes high performing companies; and *Industry Performance Improvement Partnerships*, which offer a more integrated approach to environmental management for specific industrial sectors. We will also engage in dialogue with parties that are interested in applying the flexibility and multimedia dimensions of these and other innovation programs more broadly through new legislative authority.

At the same time, EPA will continue support for innovative approaches in national programs. Examples of innovative partnership programs include *Brownfields*, *Energy Star®*, *High Production Volume testing program for chemicals*, *Design for the Environment*, and *Compliance Assistance Centers*. EPA also supports innovative approaches in traditional programs, such as the mitigation banking program for wetlands and demonstrations of facility-wide emission caps under Title V of the Clean Air Act, and the diffusion of the *Massachusetts Environmental Results Program*. As EPA works with stakeholders to define next steps on such programs, it will do so consistent with the expanded vision of environmental protection in mind.

Just as important, EPA will set up a process to ensure that proven innovations, achieved through these or other initiatives, realize their full potential. This will include evaluating innovations results to make strategic decisions about those that can and should be applied on a broader scale. It will substantially increase the value realized from individual innovation, and demonstrate to environmental personnel in the public and private sectors that innovation is worth pursuing.

EPA will set up a process

to ensure that proven innovations realize their full potential.

Foster a More Innovative Culture and Organizational Systems

Focusing on environmental problem-solving—and not just the necessary routine of day-to-day program operations—poses significant management challenges for EPA as well as states and tribes. But for this strategy to be effective, such a change must occur. In many cases, solving problems will mean doing something different from what we are doing today. And so as the Innovation Action Council found, innovation must become an attitude, an outlook, and an integral part of EPA's daily work, management systems, and culture. It must become our new way of seeing and doing and must be expressed through concrete actions. It cannot be an extracurricular activity or a collection of special projects run out of one organization.

Recent experience at EPA, as well as from other federal and state agencies that attempted similar "reinvention," underscores the need for a well planned and managed approach to fostering a more innovative organizational culture. EPA believes the next round of innovation activities should take on this challenge, integrating support for innovation into planning, budgeting, and other organizational systems, and promoting and supporting an innovative spirit within the attitudes and culture of our staff. That spirit will require each individual to view his or her job more broadly—as an environmental problem-solver, a partner, a facilitator, and a leader, not solely a program implementor. Such change will depend upon raising awareness of and access to the full range of problem-solving approaches that have been tried, providing support for testing wholly new ideas to further diversify the environmental protection tool kit, and creatively applying traditional and new tools in appropriate combinations to solve specific problems.

As part of its review of EPA's past innovation activities, the Innovation Action Council made detailed recommendations on how to incorporate innovation into the business processes and attitudes of the Agency. Based on those recommendations, EPA will:

- **Promote innovation in all we do.** Provide a clear message that innovation is strongly encouraged and expected at all levels of the Agency. This message will start with the Administrator, and get repeated continuously by managers in all levels of the organization. It will be reinforced through a set of actions that include rewarding innovative individuals and organizations, providing training that can enhance creativity and problem-solving ability, rotating personnel and cataloging innovations to increase exposure to new ideas, encouraging multimedia approaches to environmental management, and exploring all available options in regulatory and non-regulatory decision making.

- **Plan, budget, and manage for results.** Develop better outcome-based performance measures, starting with the four problem areas identified earlier, to more effectively communicate results to the public and open the door for greater flexibility. In addition, seek earlier agreement on priorities between national programs, regions, states, and tribes, which will allow innovative initiatives to be incorporated into the Agency's annual and long-term plans and budget requests. Routinely examine priorities to ensure that resources are invested for the greatest possible return.

- **Manage the full cycle of the innovations process.** Establish a system to move innovative approaches through each stage of development so benefits are realized as quickly and broadly as possible. These stages include experimentation, monitoring, and evaluation, followed by timely decision-making about the appropriateness of further application. Evaluate results based on specific performance criteria established at the onset. Communicate results to increase understanding of innovations and to build confidence in the value of pursuing innovative ideas. Follow through by applying those innovations that prove effective.

- **Recharter the Innovation Action Council.** Recharter EPA's Innovation Action Council to enable implementation of this strategy, and to include regular participation by states and tribes. Increase responsibilities for scaling up successful innovations, and for monitoring trends in the economy, in state and tribal governments, and in other countries that might affect the environment and policy options for environmental management. Also increase responsibility for communicating with the Administrator, EPA staff, state agencies, and other interested stakeholders on the status of innovation activities at EPA and on related policy, technical, resource, or legislative issues that might need attention.

- **Plan strategically for the future.** Undertake futures planning, as recently conducted in several EPA programs, to ensure that EPA and its partners are ready for new trends and circumstances that might affect environmental quality. Identify and harness opportunities created by emerging fields, such as industrial ecology, lean manufacturing, supply chain management, and product stewardship.

Conclusion

This strategy, accompanied by an initial set of actions that EPA will take to implement it, provides a solid framework for making innovation integral to environmental protection programs. Our goal is to enable innovation to flourish, as a way of getting better environmental results for America. We look forward to working with states, tribes, local governments, and interested stakeholders to pursue innovative approaches and the many exciting opportunities they present for expanding and enhancing our environmental protection system.

Strengthening environmental partnerships, targeting priorities, expanding the current collection of tools, and creating a more innovative culture to effectively address challenging problems is what this innovation strategy is all about.

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