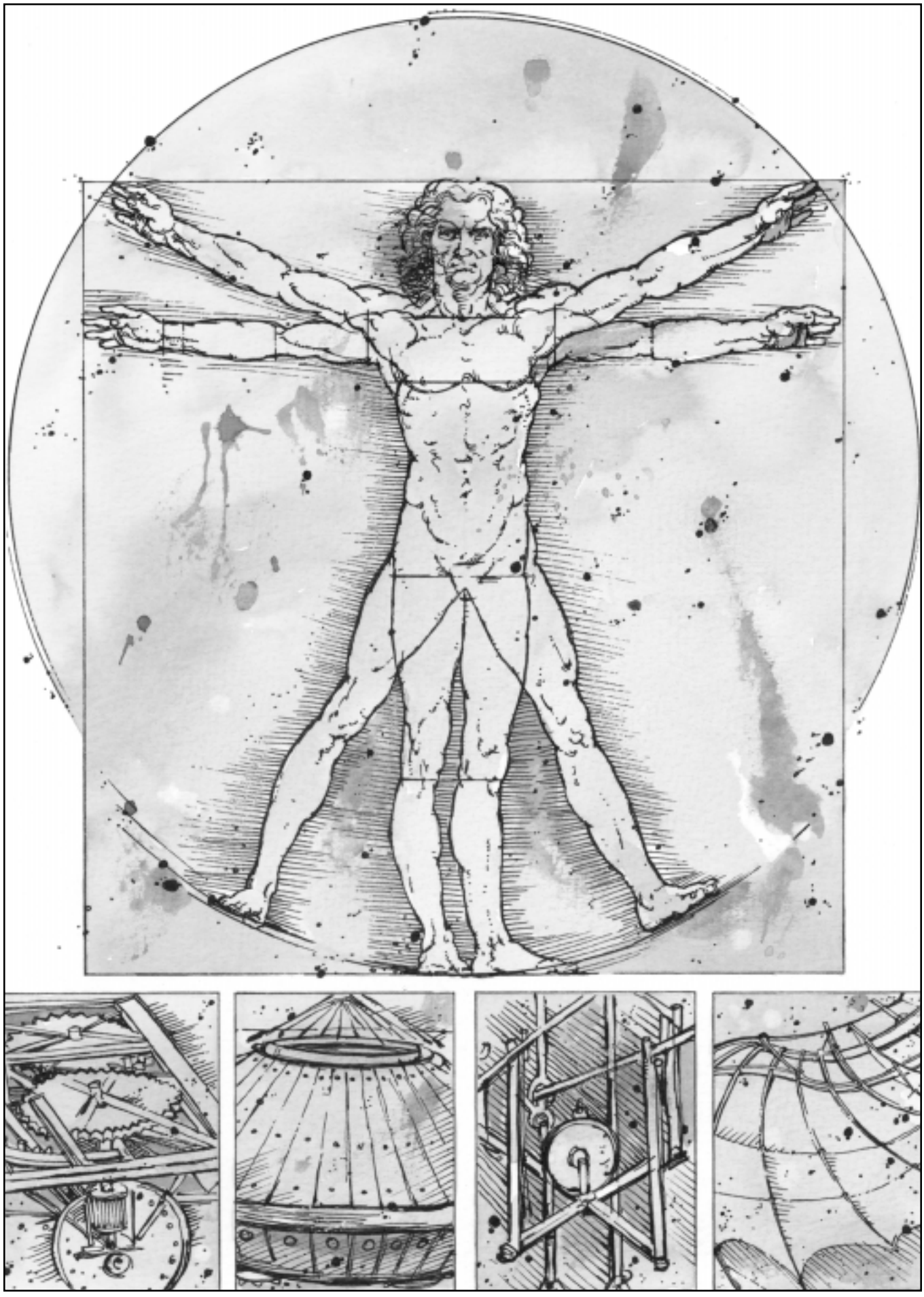


The Innovation Imperative

EPA has had "innovation" as a mandate for over a decade, but many observers have been skeptical about results. The record shows real successes, however, and the pace of progress is increasing. As the agency grapples with today's most important environmental problems, innovation has become an essential part of doing business

THOMAS GIBSON

Innovation has become a pervasive idea in our society. Advertisements in newspapers and on television are filled with claims about companies' innovative products and services. Magazines, books, and tapes offer a chance to learn how organizations realized success through innovation — and how you might, too. Speeches are peppered with anecdotes designed to show innovation at its best.

While the prevalence of such claims can make one skeptical, it is easy to understand why everyone wants to hang out the innovation banner. Innovation is a sign of leadership, of those on the cutting edge — traits that are highly valued in our competitive society. In practice, innovation is what Peter Drucker, widely regarded as the father of organizational management, refers to as "change that creates a new dimension of performance." Understandably, it is of great interest to any organization that wants to excel in its field, including EPA.

Today, innovative environmental strategies are needed more than ever before. We are working with an environmental protection system that is undoubtedly among the strongest in the world. For more than thirty years, this system has succeeded in cleaning up some of the most visible and egregious forms of pollution, and provided Americans with strong environmental and public health protection. But that legacy of progress is challenged by a growing and increasingly complex set of problems, such as global climate change, polluted runoff, and the loss of habitat and biodiversity; by the influence of large and vital economic sectors, like agriculture, energy, and transportation, on environmental quality; and by societal trends, such as the revolution in information technology, globalization of our economy, and devolution between levels of government. Additionally, concepts such as pollution prevention, sustainable development, smart growth, and environmental justice are challenging the way we operate environmental programs. Together, these drivers make environmental innovation an undeniable imperative.

EPA's new Innovation Strategy is designed to make innovation a routine part of our work. It looks beyond conventional tools and toward innovative approaches that can help us achieve our goals. Developed by the agency's Innovation Action Council, in consultation with states and many outside stakeholders, the Innovation Strategy is one of Administrator Christine Todd Whitman's key initiatives for instilling results-based management at the agency. From the start, she has been clear that the focus of her administration would be getting results. This goal — she constantly reminds us — must be the driver for everything we do. That is why she established the Managing for Improved Results Steering Group to examine and make recommendations for improving our core management systems, such as planning, budgeting, and performance measurement. It is why she committed EPA to producing a State of the Environment report. And it is why she called for a new strategy to not just advance innovation, but to take it to a whole new level.

That call is more than rhetoric. It is one we expect to keep. Why, you may wonder? What makes this strategy likely to succeed, when so many recommendations of "blue ribbon commissions" only gather dust on the bookshelf? There are several compelling factors. The first is experience. As the April 2000 report "Innovation at the Environmental Protection Agency: A Decade of Progress" describes, innovation is not a new concept for the agency. Increasingly, we have been testing innovative approaches, often in partner-

Thomas Gibson is the Associate Administrator for EPA's Office of Policy, Economics, and Innovation and the Chairman of the agency's Innovation Action Council.

Innovation Is Needed, But It's Performance That Counts

There is a rapidly growing recognition that management of the environment and natural resources must be substantially improved. To do so will require substantial improvement in how we manage that management — the environmental protection system. The need to upgrade the performance of the *system* for the environment suggests the need for innovation focused on better results not in the system itself but in environmental quality.


Robert Stephens

EPA appears to understand this imperative for innovation. The agency's new Innovation Strategy makes a strong case for beginning the process of change that will lead to better environmental outcomes. This new policy, and the initiatives it proposes, have grown from a substantial legacy of innovation, environmental leadership, and performance-recognition programs launched over the past several administrations. There are many who believe this legacy is not altogether positive, suggesting that if the goal of the early innovation programs was improved performance, they never realized that goal, or the goal was only realized after disproportional effort and expense. It does appear to me from reading the draft strategy and implementation plan that EPA recognizes the shortcomings of past efforts.

There are three elements that are critical for innovation that is both successful and meaningful :

Performance. The focus of the national environmental Innovation Strategy must be performance enhancement. Many elements of EPA's new strategy, such as metrics and reporting, are vitally important, but they must be seen as means to the greater end. Indeed, the goals of past EPA and state innovation initiatives, including our own in California, have largely been focused on the means. This focus on process has been the root of much of the implementation difficulty and opposition to past innovation programs. The new EPA strategy appears to be much more clear as to the performance mission of innovation.

Environmental Protection as a System. There has long been recognition that the environment is an integrated system, meaning its component parts relate and work together. But to a great extent, civil society manages the environment, both in government and the private sector, with non-systematic tools. Unless this disconnect can be fixed, significant progress toward sustainability will not be possible. The creation of a system (components that work together toward a goal) to manage our environment will be extraordinarily difficult. Notwithstanding heroic efforts at program coordination, it would be difficult to characterize EPA or most state environmental agencies as systems.

Partnerships with the states. The relationship between EPA and the states is vital to any future environmental policies and programs. This relationship is one of the four themes of the Innovation Strategy. Within this theme, the strategy calls for revitalizing the partnerships, increasing the dialogue between EPA and the states and tribes, as well as increasing state and tribal involvement in budgeting and planning, granting more flexibility with accountability, and facilitating innovation in states.

From the perspective of a state environmental official and as the chair of the Multi-State Working Group on environmental management systems, I fully endorse these elements of the strategy. The real issue is how these ideas will play out. There is a long but uneven history in the relationship between EPA and the states. There have been a number of bilateral agreements under the National Environmental Performance Partnership program, but many states, including California, have found NEPPS agreements unwieldy and contrary to state interest or law. Some important agreements have been struck, such as the EPA - Environmental Council of the States innovation agreement and the EPA-MSWG regulatory framework agreement on pilot EMS projects.

In most examples it would be difficult to describe these agreements as partnerships. However, this concept of partnership with the states, and with other non-governmental stakeholders, runs prominently throughout the strategy and its implementation plan. The policy of federalism, with attendant authority, responsibility, and accountability, is also prominent in several remarks by Jim Connaughton, chair of the Council on Environmental Quality. The challenge, therefore, is to describe just what these partnerships are, and how the relationship among EPA, the states, and the regulated community will change as a result of them. How much these relationships can change given the underlying statutory framework is an another important question.

The recently released GAO report on obstacles to innovation in state environmental regulatory programs suggest that it is the lack of statutory authority to create innovative programs, which includes new relationships between governments and the non-governmental sectors, that creates the barrier to innovation. Regardless of the lack of definition of these new relationships, limitations resulting from law, or just the habit of fighting instead of cooperating, we in California, we in the MSWG, believe *partnerships* in service of creating *systems* to increase environmental *performance* is good public policy. We applaud EPA in taking this policy initiative. We stand ready to work together with the agency, as partners, to make this initiative a reality.

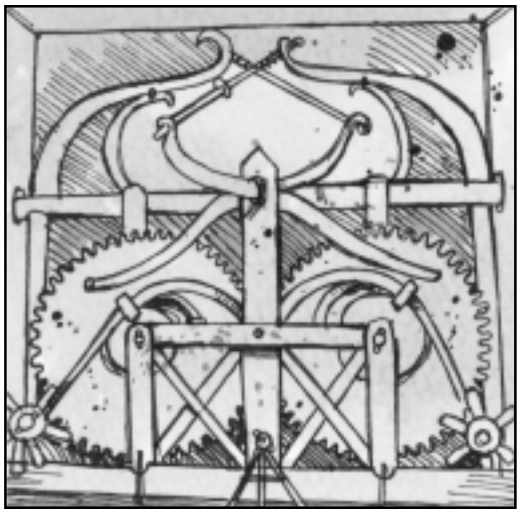
Robert Stephens is Assistant Secretary of the California EPA and chair of the Multi-State Working Group.

ship with others. One of those approaches is the use of voluntary programs. In 1990, President George H. W. Bush signed the Pollution Prevention Act, making this approach to environmental protection a national priority. The following year, EPA kicked off a program known as 33/50, with the unprecedented goal of having companies voluntarily reduce their emissions of 17 high-priority toxic chemicals by 33 percent by 1992 and by 50 percent by 1995. This ambitious goal was achieved a year ahead of schedule. Even more important was the program's demonstration that voluntary efforts could achieve results quickly and effectively.

The success helped spawn a new generation of voluntary initiatives, such as Green Lights, Energy Star, Waste Wise and WAVE (Water Alliances for Voluntary Efficiency). These programs help participants find ways to improve a particular aspect of environmental performance, and they are wracking up impressive gains. In 2000, more than 11,000 participants saved 769 trillion BTUs of energy, enough to power a city the size of Washington, D.C., for a year. They cut carbon dioxide emissions by an amount that equals taking 25 million cars off the road. They recycled 17,800 tons of solid waste and conserved more than 600 million gallons of water. As an added bonus, the partners found that what is good for the environment is good for the bottom line. By improving efficiency and cutting waste, they saved an impressive $6 billion.

The 1990s also gave rise to wider use of market incentives, which link environmental and economic objectives. Suddenly, environmental interests in wetlands, water quality, air pollution, and other issues emerged as opportunities for financial gain — not just costs to be managed and minimized. No where is this more evident than in the exchange of acid rain allowances that now takes place annually via the Chicago Board of Trade. At the auction held in March 2001, more than 255,000 allowances valued at more than $36 million were traded. This innovation has reduced acid rain emissions by 22 percent more than required by law, and proven highly cost-effective — in fact, the cost is 75 percent lower than originally predicted. Mandated in the Clean Air Act, it shows how legislation, too, can facilitate the introduction and use of innovative approaches.

This period was also characterized by major advances in the information arena. As the Internet emerged as a powerful tool for sharing information, public demand for environmental information soared. So did expectations for greater stakeholder involvement in environmental decisionmaking. With the highly visible Toxics Release Inventory demonstrating how effective information could be in motivating improved performance, EPA moved to provide more access to more environmental data. We also began working with the states on a new electronic data exchange network to speed up regulatory transactions, do away with paperwork, and improve our ability to gather, collect, analyze and report data.



Community-based initiatives were created to provide more tailored solutions to problems at the local level. The resulting projects addressed a variety of needs that had not been met through traditional programs. They reflect every type of environmental scenario imaginable, and many unique approaches for solving them. One of the best examples is brownfields — abandoned or under-utilized properties often found in urban areas that can be cleaned up and returned to productive use. An initial set that began in the mid-1990s has now grown into a national program. Newly passed federal legislation provides more funding and more flexibility to states and local governments, so this novel approach to environmental cleanup and economic revitalization can be realized in many more communities.

Together, these experiences represent a tremendous body of work to draw upon in future innovation efforts. They provide valuable lessons, as well as many useful models that can be replicated in a similar or modified form to address other problems.

Our legacy of progress is challenged by a growing and increasingly complex set of environmental problems, the influence of large and vital economic sectors, and trends like information technology and globalization.

This brings us to the second factor that increases this strategy's chances for success: the emphasis on following through on innovations that have already proven effective. As the preceding summary shows, EPA has experimented and developed many innovative approaches in recent years, but

many have not moved beyond the pilot stage. Others have gotten only limited use. The time has come to realize the full benefits from these endeavors. And so rather than just launching multiple new initiatives, the Innovation Strategy takes a more balanced approach to innovation, one that embraces the old and the new.

Now, this approach may not seem very exciting to some. But make no mistake, replication is the way to make the most of every innovation investment. In a time when resources are limited and demands are great, it is exactly what EPA should do. In an article in the *Harvard Business Review* called "Building an Innovation Factory," Andrew Hargadon and Robert Sutton speak about the importance of replicating successes. They show that new innovations aren't nearly as important as having a system for making innovations in one area and then applying them in others. Likewise, in their book *Beyond Entrepreneurship: Turning Your Business Into An Enduring Great Company*, management consultants and Stanford University professors James Collins and William Lazier argue that "innovation often comes from seeing the relationship between unconnected ideas and melding them together."

The third factor is engagement and support by senior management. Upon coming to EPA, Governor Whitman recognized immediately the important role that innovation could play in achieving results. And she relied on EPA's most senior career managers — the deputy assistant administrators and deputy regional administrators, who collectively make up the Innovation Action Council — to chart the path. These are the individuals who have been at the helm running national programs and regions for years. Collectively, they have many decades of experience, and keen insights and practical ideas about what it takes to innovate within environmental programs.

A final factor is extensive analysis of our environmental protection system. Starting in the mid-1990s, a stream of policy studies emerged with recommendations about how to make the system more efficient and effective. The latest came from the National Academy of Public Administration. In its 2000 report "Environment.gov: Transforming Environmental Protection for the 21st Century," NAPA acknowledged some "extraordinary efforts" to reshape environmental programs, but concluded that transforming actions were still needed to focus environmental resources on results and problem-solving. To bring about that transformation, NAPA recommended that EPA: tackle the big environmental problems; invest in information and assessment; hold states accountable for results; and use all tools available to change management cultures and practices to focus on achieving critical environmental goals. These recommendations were based on a two-year evaluation of EPA and state innovation efforts, and they echo themes found in earlier studies.

The Innovation Strategy takes advantage of these evaluations and EPA's own considerable experiences. It addresses four inter-related aspects of our work, all of which will influence the agency's ability to innovate for better environmental results:

Strengthen the Partnership with States and Tribes. As University of Wisconsin professor Donald Kettl points out in his discussion paper "The Transformation of Governance: Globalization, Devolution, and the Role of Government," EPA is increasingly accomplishing its work directly through the states. If we can achieve a true partnership, one built on mutual trust and collaboration and strong accountability, both levels of government stand a much greater chance of success. That is especially true when we engage in innovative environmental problem-solving.

EPA and states have two key mechanisms for supporting their partnership and innovation efforts. One is the National Environmental Performance Partnership System, which was established in 1995 to provide states with an equal voice in determining environmental priorities and to create more efficient alignment between state and EPA activities. Today, about two-thirds of the states participate in NEPPS by developing Performance Partnership Agreements, Performance Partnership Grants, or both. The other mechanism is the Joint EPA / State Agreement to Pursue Regulatory Innovations. This agreement was signed in 1998 in response to the strong state interest in pursuing innovation, and EPA's interests in assuring that these initiatives maintained compliance with federal environmental and public health protection standards.

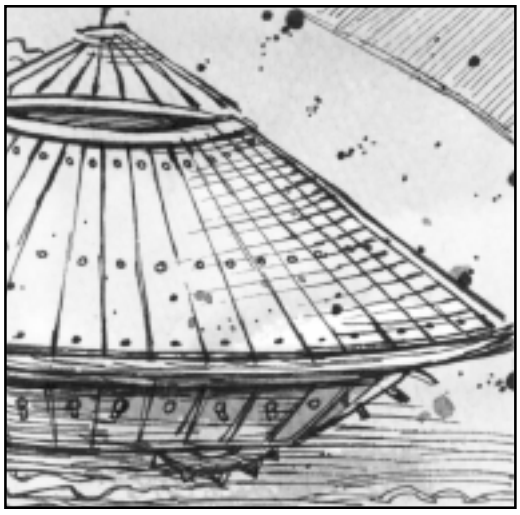
Today neither NEPPS nor the EPA / State Innovations Agreement is being used to full advantage. In principle, NEPPS is widely rec-

ognized as the best ever framework for coordinating the work of EPA and the states. In practice, it has fallen short of its vision. As Mark Stoughton and Jennifer Sullivan describe in "Mixed Results," which appeared in the May/June 2001 issue of *The Environmental Forum*, many practices and procedures of the old "delegation and oversight" system persist. The lack of guidance — which was a deliberate choice to promote more tailored approaches by the states — has led to uncertainty in the EPA regions and states about issues related to flexibility and accountability. A shortage of environmental data for measuring environmental outcomes make the NEPPS vision of performance-based management more challenging to attain.

EPA remains committed to the principles that underlie NEPPS and the Innovations Agreement. Innovative problem-solving must be a core element of the state/EPA relationship. Our intent is to work with states to determine how we can support and advance that capability. This includes developing incentives that encourage use of state/EPA agreements and grants, and addressing barriers that may have hindered their usefulness in the past. At the same time, we will give states earlier and more meaningful involvement in our planning and budgeting processes. We will also continue to evaluate state innovations, with the goal of sharing lessons learned with other states and environmental practitioners. Together all these actions will be undertaken with one goal in mind — creating a durable partnership with state governments that will lead to better environmental results.

Focus on Priority Problems. EPA has chosen four environmental problems that are in need of innovative approaches because they are serious in nature, national in scope, and where current programs are unlikely to attain adequate environmental results. They are reducing greenhouse gases; reducing smog; improving water quality; and closing the gap on water infrastructure. This is not an exclusive list, for EPA recognizes the need for innovation in many areas. But these issues will be singled out for concentrated attention.

Undoubtedly, EPA's problem-solving strategies will take many forms. That is certainly true for the water infrastructure issue, which is more than a matter of money. The costs — which were great before September 11 — have grown even larger in the wake of increased security risks. But there are other means of preserving these vital public services, and we will take the lead in identifying them. This spring, we will bring together states, local governments, and other interested parties to determine the best options at this point in time.



The opportunities to improve results in the other areas are more well-defined. For example, we see several viable strategies for reducing smog, starting with the Bush administration's market-based proposal for controlling emissions of three air pollutants — sulfur dioxide, nitrogen oxides, and mercury. We also see benefits from expanding use of proven programs, such as Ozone Flex, which assists communities close to violating, but still meeting the 1-hour ozone standard, and Cool Cities, which uses reflective coatings and vegetative cover to help reduce the urban heat island effect that can hasten smog formation. Yet another approach involves developing new methodologies for states and metropolitan areas to assess the air quality benefits from "mixed use" development and apply for credit under state implementation plans for national ambient air quality standards under the Clean Air Act.

Diversify Tools and Approaches. We believe the future system for environmental protection will include many more options for addressing different environmental challenges. Yes, we will still have strong standards, regulations, and enforcement. But we will also make use of other tools, such as partnerships, incentives, technologies, emissions trading, and better use of information, to expand environmental and public health protection capabilities.

With finite resources, EPA must take a strategic approach to new tool development. We must develop those that give the biggest bang for the buck, and that means making deliberate choices about where to invest. When advising organizations about how to go about this process, Peter Drucker suggests asking the simple question, "If we were not already doing this, would we now go into it?" While he acknowledges the answer is seldom no, the positive response often does come with a caveat of "but with some

Innovation is not a new concept for EPA. Dating back at least to 1990, the agency has increasingly been testing new approaches, including voluntary initiatives and use of market mechanisms.

changes." This line of questioning can help people come to terms with what is and is not adding value. It is consistent with results-oriented management and the approach we used in determining which tools and approaches to focus upon first.

Several tools were identified as priorities for strategic development because of the value they have shown in achieving results and the potential they have for replicating those results on a larger scale. One is environmental management systems. With interest rising and many organizations adopting them, in 1997, EPA went on record in support of EMSs. Two years later, the agency signaled more support by committing to actively promoting EMS use. And it has done so, most prominently through the National Environmental Performance Track program that rewards top environmental companies with public recognition, streamlined administrative requirements, and information benefits, such as an opportunity to participate in a peer exchange network. Now, EPA is signaling its support for EMSs with another round of commitments, starting with a pledge to implement an EMS at its own facilities by 2005.

Foster An Innovative Culture and Management Systems. People are an organization's greatest asset, the reservoir from which innovation flows. But how do you tap into that reservoir and realize its full potential? This is an important question that many organizations wrestle with. There is no magic formula, but there is much to be learned from looking at others' experiences.

EPA sees value in looking to the states, where the drivers and challenges associated with innovating are similar to our own. In remarks at a state / EPA innovations symposium in December 2000, the director of Virginia's Department of Environmental Quality shared a number of insights about what it takes to spur innovation in an environmental agency. He found a variety of leverage points, starting with the development of an EMS for the department that forced staff to think more broadly about their own role and responsibilities. The process of examining their own actions was useful for improving environmental performance in and around their facilities. But it also provided staff with new insight into how others outside of EPA perceive, balance, and address their environmental responsibilities every day. Enhancing information systems and harnessing information technologies were also key factors. Steps were taken to standardize and integrate data systems, and to provide the public with more access to more data because, in his words, information is the "great equalizer." It helps level the playing field by assuring that everyone has the same information to inform decisionmaking. This in turn helps address one of the biggest barriers to environmental innovation, one that has, frankly, stood in the way of new legislation, and that is a lack of trust among the many players involved.

We also stand to gain by looking at the experiences of our federal peers. During 2000, the PricewaterhouseCoopers Endowment for the Business of Government supported a series of studies on outstanding government leaders and the lessons learned from their transformation initiatives. In "Transforming Organizations: Lessons Learned About Revitalizing Organization," the endowment reports on common experiences at three agencies — the Veterans Administration, the Federal Emergency Management Agency, and the Department of Defense. What did it find? That it is important to clarify the mission and develop a focused agenda to guide the changes needed. That agencies should capitalize on the changing climate, such as the one we have in environmental policy and management right now. A strong emphasis on communication was important, as were developing employee skills and rewarding their innovations. EPA's innovation strategy reflects attention to all these matters.

As the agency promotes innovation, it has some distinct advantages in its workforce. The first is simply professional backgrounds. Many EPA employees are either scientists or engineers, and so they are not only naturally inclined to be open to new ideas, they thrive on them. Second, as anyone who has ever worked at the agency will attest, EPA's workforce is extremely dedicated to the mission of environmental and public health protection. This commitment can be expressed through support for innovative approaches *if* those approaches show promise for delivering better results. A final factor — and a relatively new one — is turnover. Historically, EPA's turnover has been very low, about four times lower than the national average. But that is about to change. According to

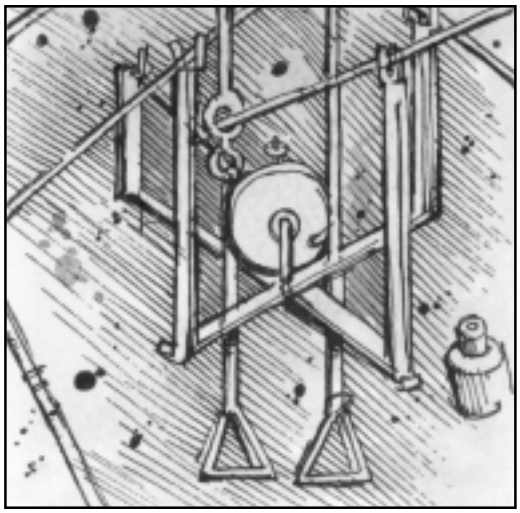
EPA's latest workforce assessment, half of the overall workforce and 80 percent of all managers in the Senior Executive Service are eligible to retire within five years. As a result, the agency is about to experience a major inflow of new managers and staff with new ideas and experiences to draw upon.

EPA will foster innovation in its workforce in a variety of ways. We start, as the three agencies noted above did, with strong support at the top. Indeed, Administrator Whitman and Deputy Administrator Linda Fisher have been clear about their support for this strategy, and they continually stress the importance of innovation to staff. The strategy reinforces this message, stating we will promote innovation in all we do. It also challenges staff to view their jobs in broader terms than program manager, scientist, or engineer. To be most effective, staff must be prepared to step into different roles — environmental problem-solver, partner, facilitator, and leader.

This message will also be reinforced through actions that include revising awards criteria to recognize innovation, providing training to develop and enhance staff skills, and creating opportunities for staff to gain exposure to new ideas. The latter is particularly important, and so starting this spring, the agency will begin an ambitious effort to rotate managers in the Senior Executive Service. This action will encourage more cross-program and cross-region collaboration and allow the strengths in one part of the organization to be transferred to others.

EPA will also focus on creating innovation-friendly systems for planning, budgeting, and accountability. For example, to support strategic planning that EPA conducts under the Government Performance and Results Act, we are exploring the use of futures analysis as a planning tool. Over the past year, EPA's senior managers have engaged in futures analysis efforts, including discussion of potential scenarios and their implications for environmental protection and for the agency and its partners. EPA is now considering ways to incorporate a futures analysis approach into its next Strategic Plan.

Futures analysis efforts are also under way in several programs, including research and international activities. In addition, the national waste program has recently created a new vision for where to take the Resource Conservation and Recovery Act program over the next 20 years. The white paper "Beyond RCRA: Prospects for Waste and Materials Management in the Year 2000" calls for more emphasis on resource conservation, a more comprehensive approach to managing chemical risks, and a broader materials management system that would use and reuse wastes in a continuous cycle. We will consider launching more futures efforts for other national programs. As we do so, we will benefit from a new report from EPA's National Advisory Council for Science, Policy, and Technology entitled "The Environmental Future: Emerging Challenges and Trends for EPA." This forward-looking document provides some of the latest thinking about emerging issues, such as biotechnology, nanotechnology, and green chemistry that could play an important role in shaping environmental strategies in the future.



The agency will focus on four environmental problems in need of innovative approaches because current programs alone are not enough: climate change, smog, water quality, and water infrastructure.

Budgeting is obviously key to innovation. While no-cost innovations are possible, and of course, preferable, most come with a price tag. And so, if we expect to innovate, we have to build support for that work into the budget up front. If innovation is forced to compete against mainstream activities, there is a strong tendency in most organizations to treat change as a lesser priority. And indeed that has been an issue for EPA. Managers presented with promising opportunities have found themselves faced with the unenviable choices of either diverting resources from ongoing priorities or letting the opportunity pass by. The Innovation Strategy aims to avoid these win-lose scenarios by addressing funding needs as the overall budget takes shape.

One look at the president's budget for fiscal year 2003 shows that support for innovation is strong, and in fact, aligned with the Strategy. There is a $4.5-billion federal investment for global climate change-related activities, a Clear Skies Initiative to significantly cut emissions of smog-producing pollutants, and $21 million for targeting improvements in up to 20 of the country's most

highly valued watersheds. There is also support for developing new tools. The budget includes $10 million to fund a new environmental technology competition that will reward more effective and lower cost solutions to environmental protection and stimulate development where major technology gaps exist. It also includes $25 million in information grants to help states modernize their systems and complete development of the environmental information exchange network.

Accountability systems are another critical management tool, and one that must be refined to capture the results of innovative approaches. Performance measures enable us to determine whether we are making progress toward our goals. Those measures that focus on environmental outcomes rather than environmental activities are the most revealing and they can help drive innovation. In the annual performance plans prepared for FY 1999 through FY 2003, EPA has more than doubled the percentage of goals and measures that are outcome oriented. While we are working to develop additional outcome measures, there are many hurdles to making improvements. For example, it may be impractical to obtain accurate information without imposing unreasonable reporting burdens on states, local governments, or regulated entities. Or it may be impossible to measure results from activities that will not take full effect or become evident for years. The difficulty is even greater in measuring the results from innovative approaches, where the experimental nature of the work can make it difficult to predict and quantify outcomes. The State of the Environment report referenced earlier will help drive the development of better performance measures, as will the Government Performance and Results Act.

This administration's focus on managing for results will strengthen the agency's core management systems. Efforts to align and refine them are necessary complements to the innovations strategy, and prerequisites to the higher forms of innovation EPA aims to achieve.

We place just as much importance on having a system to follow-through on innovations once they prove successful. This is mostly an issue for regulatory innovations. Indeed, EPA's ability to develop, and then expand and replicate voluntary programs, such as Energy Star, speaks for itself. But adoption and replication of regulatory innovations has been more difficult.

Consider Project XL. As former EPA Assistant Administrator Elliott Laws explained in the November/December 2001 issue of *The Environmental Forum*, the program suffered initially from a lack of trust by industry representatives who were suspicious of the political motivations, the enforcement implications, and its staying power. Environmental and community stakeholders had their own concerns about assuring strong performance and accountability. But even as early problems were ironed out and more projects got under way, the full promise of regulatory change has not been realized yet.

Why is that? First, as it happens, some projects did not require a change in regulations, but were already doable. It was not until someone stepped forward to propose an unconventional approach that the preexisting maneuvering room became evident. Second, the results are not in. Today, over half of the projects have less than 12 months of data. So, making any decisions about greater applicability would be premature. Third, the focus of some projects is quite narrow. The concept may be valid and prove beneficial, but the end result may not be significant enough to displace other regulatory priorities.

What do these experiences suggest for the future? Will following through on regulatory innovations always be a challenge? In our experience, innovating is easier when conducted in a single program, such as air or water permitting. It becomes more difficult when it cuts across programs and aims for a more integrated environmental management approach. In these cases, there are more players involved and many challenges that stem from the stovepipe construct of the existing system.

One of the best examples of cross-media innovation is the Massachusetts Environmental Results Program. ERP was designed to improve environmental performance in three small-business sectors that have not been priorities for regulatory attention in the past. It replaces multiple environmental permits with a single self-certification procedure, shifting more responsibility for compliance to the individual facility while reducing regulatory burden.

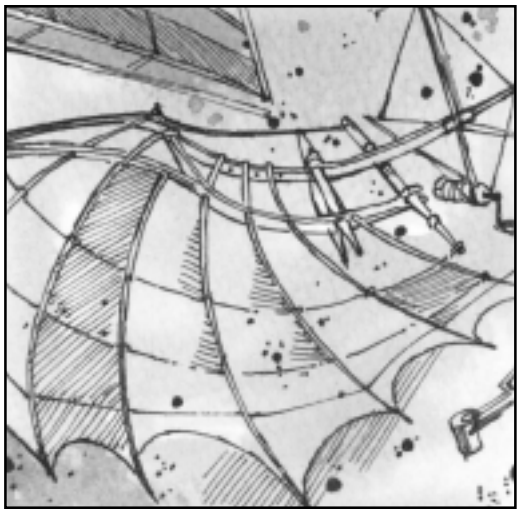
It also provides compliance assistance and performance measures to gauge results and track performance changes over time. Massachusetts has found this approach highly effective for getting previously unknown facilities into its regulatory system. And the latest data on all three sectors shows improvement in environmental indicators. Based on the results, ERP is already being explored for replication in other states and sectors.

ERP is an exception. Our challenge is to make its success and diffusion more the norm. A recent study suggests that innovating in a regulatory system will never be easy. Jonathon Walters analyzed all 150 winners of the Ford Foundation / Harvard University John F. Kennedy School of Government's "Innovations in American Government" award to identify success traits. In the report, "Understanding Innovation: What Inspires It? What Makes It Successful?" he found innovations were more apt to work if they could be put in place without legislation or administrative rule changes. It is also worth remembering that resistance to change is not always a bad thing. As Clayton Christenson, a professor of public administration at Harvard Business School, points out in the Summer 2001 article in *Leader to Leader* entitled "Assessing Your Organization's Innovation Capabilities," processes are not put in place to allow easy variances, but to assure strong, consistent, and reliable performance. That is certainly true for environmental regulation.

Nevertheless, when EPA finds that an innovative approach can produce significant environmental and public health protection benefits, the agency has a responsibility to put that innovation into practice as quickly as possible. Recognizing this as the point in the innovations cycle where activity has generally slowed, EPA is setting up a process to not automate but, at least, facilitate adoption and replication efforts. The intent is to overcome organizational resistance and become better managers of the entire innovation cycle.

The need for decisionmaking at the mid and later stages of this cycle is great. Today, there are more than 40 innovations being tested under the EPA / State Innovations Agreement and nearly 80 under Project XL. About 100 projects are under way in all. In addition, EPA recently completed a catalogue of more than 400 innovations in national programs and regions. The results are coming in, and understandably, the innovators behind them are expecting answers about what will become of their work.

What is needed to guide EPA's decisionmaking in these matters — and even earlier decisions about which innovations to invest in testing — is a set of criteria that can help the agency assess the innovation's importance in the context of other regulatory priorities. A few years ago, EPA developed criteria to help screen and select the best candidates for testing under Project XL. We will use those as a starting point for creating a revised set that can be used for broader screening purposes. We will also put more emphasis on evaluation. Strong evaluation components must be planned and built into the experimental design of projects rather than added on at the end. And in some cases, they may be needed at later phases should new questions about an innovation or its results arise.



Innovating in a regulatory system will never be easy. It works best when legislative or administrative rule changes are not needed. And when it works, the task becomes commitment — and replication in other policy areas.

The importance of this commitment — of following through on innovations — cannot be overstated. Over time, it will lower the cost of each innovation investment, build confidence in the ability of the system to embrace improvements as they occur, and provide motivation for those that see the value in pursuing innovative solutions. As Frances Hesselbein, chairman of the board of governors of the Drucker Foundation, states, "The effectiveness of an innovative program serving one community is multiplied when it is expanded and shared." We couldn't agree more.

With strong management support and systems in place, EPA is well-positioned to advance environmental innovation. Recognizing that this is not an option, but an imperative, we will focus on the many opportunities at hand, stay open to new ideas and approaches, and eagerly embrace innovations that can add value to our environmental protection system. As we do so, we will continuously improve this system and begin to realize the new dimension of environmental performance that will be needed in the 21st century. •