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The New Jersey Department of Environmental Protection's Non-Traditional Role in Promoting Sustainable Development Internationally[1]

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As states and countries throughout the World prepare for the World Summit on Sustainable Development in Johannesburg this fall, they will do so in a new era of environmental policy that requires government to think beyond traditional problems and approaches, to look beyond its borders and to see how it can work with other levels of government. Working towards a sustainable environment is in everyone's interest and is everyone's responsibility. States can, and should, serve as catalysts to set the example for others to follow, working in partnership with local authorities, national governments, and international institutions toward common goals.

Introduction

There is a commonly accepted principle in international affairs, called "subsidiarity principle," that states that each problem is best addressed at the level most affected by the problem; problems should thus be addressed at the lowest level at which they can be solved. While this approach often has merit—and it makes sense that the level of government action should meet the level of the problem—in many cases lower levels of government do not tackle issues that are conventionally considered to be of a larger scale. Global warming is one example of a global scale issue that also has local implications.

The state of New Jersey has not only begun to deal with the causes of global warming, but, in a unique manner, has shown that local governments can exert positive influence on others by crossing levels of government to address such problems and

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contribute to the shaping of global policy.

In the early 1970s, photographs of Earth taken from space showed us the important global perspective that our planet is united by ecological systems that cannot be divided by political boundaries. These photos helped inspire the first Earth Day, and countries around the world started creating environmental agencies and passing protective laws. Modern environmental policy began, in part, with this global perspective in mind.

Protecting the environment is not done in fragments of time. Although the first Earth Summit in 1992 called for action at a local level to address sustainability, local action is not common.[2] Environmental policy evolves along with the ongoing coordination of state-of-the-art technology, scientific and sociological forces. Our understanding of the causes of environmental degradation has evolved in line with changes in environmental laws and socioeconomic needs. This evolution has caused us to rethink the way we do business.

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Achieving sustainability requires a coordinated and balanced approach, through enhanced inter-agency and inter-governmental cooperation. We need to further protect our natural resources in a way that involves new, results-based methods that provide opportunities for economic development and social equity.

Today, we live in a different world. We can no longer take for granted the freedoms upon which democracies were founded. If the economic and environmental systems of the world are not sustainable, states will no longer enjoy long term sustainability, as we cannot exist as islands of prosperity surrounded by instability.

New Jersey's Unlikely Global Role

Subsidiarity principle[3] aside, New Jersey has gone beyond geographic borders and conventional state scale in thinking and initiatives. Other sustainability initiatives that do not have a direct international connection also serve as feasible examples for other states and nations to consider.

In January 2002, the state released a new report, *Governing with the Future in Mind,*[4] that builds on a previous report describing progress and strategies to achieve 11 sustainability goals with 41 indicators that relate to these goals. The report is an inter-agency document coordinated by the New Jersey Department of Environmental Protection (NJDEP) and approved by the state Governor. New Jersey's Sustainable State goals include environmental protection, economic vitality, decent housing, quality education, healthy people, equity, efficient transportation, and strong communities, culture and recreation.

Responsible government calls for continual progress, not only in improving the quality of life for today's citizens, but for future generations as well. The report will help strengthen the integration of sustainability into the core missions of state agencies, as well as interagency cooperation, a need noted in the 1989 United Nations report,

Our Common Future, which put sustainability on the map. *This is the first time in New Jersey—and probably, in the nation—that state-level strategies are linked to sustainability goals.*

The report also proposes the development of a new goal in New Jersey that relates our pursuit of sustainability to the need for it at a global scale. It suggests that indicators such as participation in national and international efforts to promote sustainability, sustainability-oriented investments in developing countries by state corporations, and contributions by corporations and citizens to organizations promoting sustainable development in third-world countries are effective ways to measure progress towards this goal. If this goal is successfully integrated state-wide through a public process led by New Jersey's new Sustainable State Institute, it will lead to a greater awareness of the interconnectedness of the pursuit of sustainability and will encourage closer relationships with other countries.

The Sustainable State Institute is a cooperative venture with academia, business and non-governmental organizations, and will be led by both Rutgers University and New Jersey Institute of Technology (NJIT). It will help guide New Jersey's pursuit of its sustainability goals by discussing sustainability challenges with the public, updating our performance on the 41 sustainability indicators, advising state government and others, and performing research on critical gaps in our knowledge of sustainability.

Another recommendation of the above report is to expand state government's environmental procurement program to avoid purchasing products from companies that violate child labor laws in other countries. Companies can work with the International Labor Organization, the New Jersey AFL-CIO, and other statewide and international organizations to protect workers and the environment wherever they have subsidiaries and subcontractors.

Last year, U.S. Environmental Protection Agency (USEPA) Administrator and former New Jersey Governor Christie Whitman, asked the NJDEP Commissioner to accept an invitation to address the United Nations Commission on Sustainable Development. This body coordinates effective follow-up to the 1992 International Earth Summit held in Rio de Janeiro. More than 50 world environmental ministers attend the Commission's session each year. This was an extraordinary opportunity to share with the world some of New Jersey's many sustainability initiatives as it set the foundation for the future of environmental management.

Other New Jersey Sustainability Initiatives

To achieve sustainability, economic, social and environmental systems must work in balance, much like an environmental management system, using raw materials efficiently, focusing on energy efficiency, preventing or reusing waste, and conserving land. NJDEP's pollution prevention, brownfields redevelopment and recycling programs are examples of systems that work in unison to help create a sustainable state. The New Jersey State Development and Redevelopment Plan, which aims to channel new development into already developed areas and preserve open space,

promotes environmental protection, economic vitality and the social renewal of cities. More efficiently produced products and less waste can be cost-effective and helps foster economic development and opportunity. NJDEP created an innovative facility-wide permitting program— a national first in the early-1990s— that promoted a holistic approach to preventing pollution. The National Pollution Prevention Roundtable gave NJDEP an award for this program in 1997.

In 2000, NJDEP signed an international declaration committing the agency to join with other states and nations to seek reductions in emissions to increase environmental and economic sustainability worldwide. The International Declaration on Cleaner Production, sponsored by the United Nations' Environment Program (UNEP), was signed as part of the state's observance of National Pollution Prevention Week. Officials from approximately 40 foreign governments have also signed the document, as well as more than 1,000 business entities.

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New Jersey's environmental leadership was recognized by President George W. Bush when he selected former Governor Whitman as his Energy Protection Agency (EPA) Administrator. New Jersey has led the country by entering into one of the first National Environmental Performance Partnership System agreements with USEPA in 1997, to develop results-oriented goals in a holistic manner. NJDEP has developed a comprehensive set of environmental indicators to measure the state's progress toward specific objectives. For example, do we have enough open space permanently preserved to provide habitats for wildlife? The agreement embodies a new approach to relations between federal and state governments and the public, with a more flexible and collaborative process that focuses on compliance assistance, consensus building, energy efficiency and pollution prevention, since it is more efficient to prevent pollution from occurring than to try and control or manage it afterward.

This agreement is a significant move forward in environmental management and provides a solid framework for building sustainability for the next generation. Over the past two years, more and more sustainability concepts have been integrated into this framework. NJDEP is looking at incorporating additional sustainability indicators, including reviewing work done in this area by the United Nations. These sustainability indicators may help us to deepen our understanding of the relationship between the environment and the economy, which is crucial to pursuing sustainability.

For businesses that are capable of going beyond compliance minimums to achieve higher environmental standards, which will be essential for sustainability, NJDEP created the Silver and Gold Track Program for Environmental Performance. A

company's compliance and enforcement track record and commitments to improved environmental performance determines acceptance into the program. NJDEP's experience has shown that the vast majority of companies want to be good corporate citizens and comply with environmental regulations—it is easier in the long run and more cost effective. Corporate executives and their families want clean air and water, and a healthy ecosystem. The state recognizes corporate environmental excellence by entering a covenant with participants to go "beyond-compliance," and recognizing their accomplishments.

NJDEP also has encouraged companies to reduce or eliminate their use of hazardous substances, such as mercury, through recycling programs and promotion of alternative technologies to replace mercury with other, safer materials in switches, auto parts, and lighting. In January, following the completion of a multi-sector, NJDEP-led Mercury Task Force report, NJDEP initiated a mercury recycling partnership program with auto recyclers, scrap metal recyclers and auto shredder facilities to remove electrical switches and other parts containing mercury from the iron and steel recycling stream. This will result in reducing air emissions from iron and steel smelters and the deposition of these airborne pollutants into waterways. The United Nation's new workgroup on mercury may benefit from this new mercury report.[5]

New Jersey is a leader in encouraging the development of regional strategies to address air pollution, since air pollutants can be transported across political boundaries. NJDEP has been an active participant in national and international organizationsthat strive to reduce air pollution, such as the Center for Clean Air Policy, the North American Research Strategy for Tropospheric Ozone, the Ozone Transport Commission and the Ozone Transport Assessment Group.

Increased concentrations of greenhouse gases in the atmosphere, primarily from carbon dioxide emissions, contribute to global warming with local sea level rise and flooding impacts, that threaten coastal communities and ecosystems. If sea levels continue to rise as predicted, the impact on coastal towns and tourism in New Jersey, as well as elsewhere, could be very serious. In addition, higher temperatures mean more summertime smog and air pollution threatening public health. Warmer temperatures also increase evaporation and, quite possibly, the frequency and intensity of both rainstorms and droughts.

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NJDEP formed a Climate Change Workgroup with representatives from other state agencies and the business and environmental communities to develop a plan to reduce emissions of greenhouse gases (GHGs). New Jersey was the first state in the nation with a specific goal for GHG reductions. GHG emissions are an indicator for

the Sustainable State Project mentioned earlier. New Jersey's Greenhouse Gas Action Plan[7] identifies cost effective strategies for achieving GHG reductions. On Earth Day 1998, New Jersey committed to reduce greenhouse gas emissions by 3.5 percent below the 1990 level by the year 2005. This translates to a 14 percent, or 20.5 million metric-ton reduction per year in GHG emissions by 2005, compared to a business-as-usual scenario. When the action plan was adopted, the National Resource Defense Council and the Center for Clean Air Policy, two nongovernmental organizations, and USEPA all publicly commended New Jersey for establishing a model for the rest of the nation to follow. NJDEP kicked off its GHG program by signing sustainability covenants with some of New Jersey's largest companies who pledged to match New Jersey's goals. Recent reporting by this initial group of participants documents GHG emission reductions of more than one million metric tons.

Since the GHG initiative began, all 56 presidents of the state's colleges and universities have signed the sustainability covenant pledging to help New Jersey meet its GHG reduction goal through implementation of reduction strategies at their facilities. Recently, the New Jersey School Boards Association and the interfaith community pledged to help New Jersey meet its GHG reduction goal. Businesses, counties and municipalities also have been joining in this goal by entering into partnership agreements with the NJDEP. NJDEP's plan has been used by people in other states to argue that their states should also be more involved in addressing global warming.

A variety of innovative technologies such as insulation, geothermal heating and cooling systems, and the purchase of energy efficient lighting and vehicles, all make economic sense and can help achieve our goal of reducing greenhouse gases. New Jersey's strategy includes the creation of a comprehensive greenhouse gas inventory, creation of a landfill gas reduction program, energy conservation program, development of renewable energy facilities and clean fuel vehicle fleets in the public and private sectors. With all of the initiatives cited above and below mostly in place today, NJDEP anticipates meeting and exceeding its GHG reduction goal. Further, if implementation is successful and momentum maintained, it is estimated the state may be well on its way to even more ambitious GHG reductions by 2010.

The New Jersey Board of Public Utilities, in consultation with NJDEP, recently issued an order for a $358 million societal benefits charge program to help fund the capital costs of energy efficiency and renewable energy technology. The program, established by the New Jersey Legislature, is expected to avoid nearly two million tons of GHG emissions annually.

NJDEP also recently signed an agreement with the state's largest energy utility, PSE&G, which establishes a 15 percent reduction goal of the utility's 1990 greenhouse gas emissions by 2005.

Furthermore, NJDEP established an Open Market Emissions Trading program to provide incentives for voluntary reductions of air emissions. A driving vision behind the program was the idea that trading emissions would benefit New Jersey and other participants economically, as well as environmentally. In 2000, DEP expanded the

program to reward facilities which take early, voluntary actions to reduce greenhouse gases and allow greenhouse gas credits to be traded on the open market.

Building on an pre-existing fruitful relationship involving the exchange of policy ideas, the State of New Jersey took a first-of-its-kind action to sign an agreement with a foreign nation, the Netherlands, to work jointly on global warming issues. By forming a partnership with the Netherlands, which has similar coastal communities and some similar environmental problems, NJDEP developed economic incentives to curb global warming. Clean air is essential to sustainability and our quality of life; initiatives that reduce carbon dioxide nearly always reduce other air pollutants. The landmark agreement, signed in 1998, identifies strategies for developing pilot projects to trade carbon dioxide emission credits internationally.

Part of the purpose of the agreement was for each party to gain experience in emissions trading for expanded use in the future if and when global trading becomes a more commonplace means of addressing global warming. NJDEP explored potential emission trade projects such as the purchase by a Dutch company of carbon dioxide credits from a United States electric utility's program to capture methane at a landfill in New Jersey. Without the installation of the landfill gas collection system, the methane would have been vented into the atmosphere, thereby contributing to global warming. Instead, the methane is captured and used as a renewable energy resource.

The establishment of the nation's first state Office of Innovative Technology and Market Development within NJDEP encouraged and facilitated the commercial use of reliable technology among both states and internationally. The office works in cooperation with national organizations such as the Environmental Research Institute of the United States to promote environmental technology through public-private partnerships with other states and countries.

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New Jersey also has formal agreements with Canada, Thailand, Brazil, Germany, Israel and France to promote the exchange of environmental technologies and information. Regulatory flexibility provides economic savings, speeds up the attainment of environmental goals and promotes greater sustainability in our state and in participating countries. The agreements are investments in our future as they allow environmental industries to establish partnerships between government, industry and universities to foster research and development and to target new markets, while helping address environmental problems internationally.

One of the United States' most prestigious awards for innovative government, the United States Government's Hammer Award, was presented in 1996 to a coalition of state and federal agencies, including NJDEP, for fostering the development of new

environmental technologies. New Jersey received recognition for helping to frame and promote a multi-state agreement, established through a Memorandum of Understanding, to expedite technology reviews through interstate reciprocal agreements. If a technology is approved by a participating state, it is accepted by the others in the partnership. Now known as the Technology Acceptance and Reciprocity Partnership, the agreement launched a pilot project to evaluate a variety of different technologies ranging from pollution prevention to remediation technologies for contaminated sites. Since the initial six-state agreement, two more states have joined and, collectively, the states have issued several interstate technology protocols for reciprocal acceptance.

New Jersey built on that success to host the country's first-of-its-kind International Environmental Technology Expo in 1999. The New Jersey Corporation for Advanced Technology (NJCAT), which provides technical, commercial, regulatory and financial assistance to emerging companies, was a co-sponsor of the Expo, as along with USEPA, the Environmental Council of States (ECOS), which is comprised of the environmental agency heads from 49 states, and the Interstate Technology and Regulatory Cooperation, a group of 40 states involved with remediation technologies. Representatives from the UNEP and other countries, including the Netherlands, Egypt and Canada, spoke at the Expo.

New Jersey's leadership efforts have spurred more international involvement with ECOS. For example, representatives from the Netherlands now attend ECOS conventions, and ECOS is inviting Canada and Mexico to upcoming meetings. There has emerged a good working relationship with the Canadian government and some businesses and, through our agreement with Canada, we are developing a prototype for a technology verification system.

Moreover NJDEP's agreement with Thailand includes a joint Center for Environmental Technology, Transfer and Development, with satellite operations headquartered at NJIT in Newark. Thailand is developing its regional leadership capability to implement environmental technologies throughout Asia, which will offer additional opportunities for New Jersey businesses. The Center has an International Advisory Board that provides oversight with representatives from other state and federal agencies, industry and universities. The Center will not only spur economic development for both parties, but will also seek solutions to important environmental issues such as renewable energy, waste minimization, site remediation and pollution prevention.

NJDEP received a grant to share its pollution prevention methodology with Thailand to improve their industry's environmental performance. The grant was administered by the U.S.-Asia Environmental Partnership and funded by the U.S. Agency for International Development, which supports the transfer of state environmental technologies through partnerships with targeted countries.

The Thai Ambassador to the U.S. and his officials visited New Jersey in 1995 to learn more about wastewater treatment and solid and hazardous waste management. Thai officials chose to visit New Jersey during their trip to the United States and

Canada due to our cutting-edge environmental protection programs. Most developing countries do not have enough specific information about the levels of their pollution. Environmental progress will depend, in part, on knowing more about pollution quantities, using materials accounting processes like those employed in New Jersey.

In addition, NJDEP has hosted presentations for professionals from other nations to learn how our programs can be adapted to solve environmental problems in their regions of the world, including Africa, the Caribbean, Latin America and the Middle East. DEP hosted visitors from the governments of China, Sweden, Korea and Belgium to exchange views on environmental policy. Last June, NJDEP staff participated in a USEPA-sponsored trip to China for workshops on pollution prevention and energy efficiency. The purpose was to share ideas and experiences regarding voluntary industry-government partnerships. NJDEP's pollution prevention Director gave a presentation on our Silver and Gold Track program, mentioned earlier, which provides an incentive for businesses to go beyond compliance. As a result of our participation, a delegation of Chinese officials visited NJDEP in January to continue the exchange of ideas. NJDEP has also hosted seminars for its staff on the sustainability policies of South Africa, the Netherlands, Sweden, Costa Rica and Germany.

NJDEP employees also participate in a program to bring environmental education to Cuba, including teaching the use of Geographic Information Systems (GIS), a dramatic technological advancement that increases the availability and usability of information. GIS is a computerized mapping tool that uses various types of data to create complete environmental profiles of selected geographic areas, and is used for resource-based decision making at all levels of government. NJDEP has expanded the use of GIS throughout New Jersey, and also has been sharing its GIS expertise with other countries, including Germany.

Last year, NJDEP joined Germany and EPA in a workgroup to share information on the cleanup of hazardous waste sites and each other's technologies. The redevelopment of contaminated sites is a concern in many countries and requires an integrated approach to protect human health and the environment. Many countries have committed extensive resources to the effort to address the environmental, social and economic issues related to the clean up of hazardous waste sites. Brownfields redevelopment is a way to rebuild urban viability. The challenge is how to capitalize on the resources, expertise and knowledge of countries that are developing solutions to these issues, and to effectively share this information.

It is clear that the successful redevelopment of brownfields requires the cooperative efforts of federal and state agencies, as well as industry and local governments. Both Germany and New Jersey identified similar obstacles to the redevelopment of abandoned contaminated properties such as sprawl, liability, identification and marketing. New Jersey, USEPA and Germany agreed to develop training, guidance materials and web sites that describe additional resources that can be used by all interested parties to facilitate the cleanup and reuse of contaminated properties.

Redeveloping and reinvesting in urban centers makes good environmental and economic sense. Brownfields redevelopment prevents further land consumption, saves

money through the use of available infrastructure, broadens the local tax base, and socially and economically revitalizes urban communities. Our brownfields redevelopment program provides grants to local governments to acquire and clean up contaminated properties. NJDEP's successful brownfields program won national awards for the past three years for innovative redevelopment projects. By reinvesting in our brownfields sites, encouraging partnerships with businesses and other levels of government, New Jersey can continue to facilitate brownfields redevelopment and thus, sustainability in several ways.

Another example of New Jersey's international environmental efforts includes the state asking the federal government for a regional ban on the harvesting of horseshoe crabs in Delaware Bay. The crab eggs provide food for declining populations of neo-tropical birds that migrate between continents. The birds, such as the red knot, travel from Chile to the Delaware Bay Region, then to the Arctic, and their food supply has become scarcer due to over-harvesting by fishermen. While New Jersey and a few other states had banned harvesting, the entire multi-state region and the relevant federal agency had not. NJDEP led a multi-country science team to track the birds through their entire journey, to generate enough data to prove the need for a regional ban.[7] We asked staff to volunteer to help the scientists band birds and perform counts. NJDEP also provided funding and expertise to landowners in the region to better manage their land to help the birds during their stay. Last year, the Bush Administration agreed to the request by NJDEP and others to issue a regional ban on horseshoe crab harvesting and stated that it would develop a sanctuary.[8]

The national Right-to-Know Program, to gather and make available to the public data on the level of certain chemicals emitted into the environment, began in New Jersey. *This program, considered by environmental policy experts to be one of the most successful environmental initiatives, shows how one state's efforts can spread beyond to a larger national scale.* The program also has received inquiries through the years from various countries showing how information and strategies can flow between the state and international scales.

States should take the initiative in addressing global level problems that have both an effect at the local level and for which effective local action can be taken. However, this does not mean that global level actions are not necessary.

Conclusion

All of the programs described above are intended to create a coordinated and balanced approach to the pursuit of sustainability. No matter what the environmental challenges might be, we have to join together to solve them. No one person, group or agency can do it all. *Partnering at all levels of business, government and private*

organizations is key to success.

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Beyond this, states should not dismiss the possibilities for creative initiatives at the international level, even if this does go against conventional wisdom. Among other reasons, action at a lower scale can create the dynamics for action and synergies at higher levels of government and between the different levels.[9] Remember the famous saying attributed to Margaret Mead, "Never doubt that a small group of thoughtful, committed citizens can change the world; it is the only thing that ever has." State government leaders are citizens, too.

There is a lot we don't know yet about what sustainability requires and what we will have to do. There is always room for improvement and we all need to stay on our learning curves. One way to do this is to question limiting assumptions that prevent us from taking innovative actions that could be effective at multiple levels.

We owe future generations progress towards sustainability, and a better quality of life. We hope that New Jersey and other states and countries will work in greater partnership toward the common goal of a sustainable planet Earth.

Notes

[1] The authors thank Loretta O'Donnell and Jeanne Mroczko for their help with this article.

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