

The Road to Sustainable Development: A Snapshot of Activities in the United States

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PREFACE

In preparation for the Rio+5 Forum, Maurice Strong, Chair of the Earth Council, asked national sustainable development councils to assess their respective countries' progress on sustainable development since the 1992 United Nations Conference on Environment and Development (UNCED). The President's Council on Sustainable Development (PCSD) welcomes the Earth Council's leadership and efforts to integrate the experiences of all sectors and countries in pursuing sustainability. Due to time and resource constraints, it was not feasible for us to conduct a full assessment, but we felt that we could make a positive contribution to the Forum by presenting the PCSD's reports--*Sustainable America: A New Consensus for Prosperity, Opportunity, and a Healthy Environment* and *Building on Consensus: A Progress Report on Sustainable America*--along with a sampling of sustainability initiatives across the United States.

We organized this document to give a Snapshot@ of just a few of the many sustainability efforts that are underway around the country. Since the PCSD's formation in 1993, we have discovered a wealth of activity in every region of the country and seen tremendous amounts of energy, thought, and resources being devoted to sustainable development by all sectors of society. The examples presented here represent just a few of the efforts we have encountered, and many more stories remain to be told. Although the Council has not been directly involved in many of the examples described in the report, nor formally reviewed all of them, we believe that they convey a sense of the breadth and diversity of sustainable development activities that are underway across the nation. We hope that this document will be useful to others in the United States and abroad as we work together to ensure a sustainable future for generations to come.

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INTRODUCTION

As we approach the 21st century, the challenges we face are as great as any we have faced in the past. The ending of the Cold War, the emergence of a global economy, continuing population growth, and the development of advanced technologies are changing the world in fundamental ways. These changing realities require us to adopt completely new approaches to economic, environmental, and social issues if we are to ensure a sustainable future for ourselves and our children.

In 1992, the United Nations Conference on Environment and Development (UNCED) issued an urgent call to nations around the world to address the challenges of sustainable development. The United States and its international partners have begun to respond by examining the steps they must take to "meet the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, *Our Common Future*, 1987, p. 8). It is already clear that true success will depend on our ability to build global partnerships and to draw upon the collective ingenuity, resources, and energy of all sectors of society.

Since UNCED, more than 100 countries have established national councils on sustainable development or other institutional mechanisms for developing policy recommendations or monitoring progress toward sustainability. We have had the honor and privilege of serving as co-chairs of the U.S. council, known as the President's Council on Sustainable Development (PCSD). This Council was established by President William J. Clinton in June 1993 with a mandate to develop policy recommendations on steps the United States could take to realize sustainable development. The Council has a unique membership with approximately one-third of its members from industry, one-third of its members from government, and the remaining third of its members from environmental, civil rights, and Native American organizations.

Over the past four years, the Council has examined a wide range of issues such as energy and transportation, eco-efficiency, sustainable agriculture, natural resources, sustainable communities, population and consumption, and education. In order to engage citizens from across the country in its discussions, the Council held four of its meetings outside of Washington, D.C. (These meetings took place in Seattle, Washington, in January 1994; Chicago, Illinois, in July 1994; Chattanooga, Tennessee, in January 1995; San Francisco, California, in April 1995.) The Council's task forces have involved extensive participation from hundreds of citizens and individuals from many different sectors and drawn upon a wealth of knowledge and experiences from across the country.

In March 1996, the Council presented its first set of recommendations to President Clinton in the report, *Sustainable America: A New Consensus for Prosperity, Opportunity, and a Healthy*

Environment. The President welcomed the Council's report and responded by asking the Council to begin implementing its recommendations immediately.

The Council began implementing its recommendations by focusing on a select number of issues at local/state/regional, national, and global levels. In January 1997, the Council completed its second report, *Building on Consensus: A Progress Report on Sustainable America*. At its most recent meeting in December 1996, Vice President Al Gore asked the Council to continue its efforts over the next several years. The Council looks forward to the next phase of its work and will continue to forge consensus on policy, disseminate information, foster and report on implementation activities, and evaluate progress. In the coming weeks, we expect to receive a specific charge from President Clinton concerning the Council's work through 1998.

The Council continues to receive a warm welcome as it carries the message of sustainability to communities across the country. We have been inspired and encouraged by the enthusiasm and commitment of individuals and organizations who are working to make the vision of sustainable development a reality. We have seen clear evidence that environmental, economic, and social goals are indeed compatible; and we have come to believe that one goal can not be pursued at the expense of the others.

This document describes a small sample of the sustainability efforts we have encountered. This sample is by no means comprehensive and many other examples could have been included. The chapters are organized according to sector--business; nongovernmental organizations and academic institutions; federal agencies; and regions, states, and localities. This categorization is somewhat artificial, since many of the efforts involve partnerships. In fact, the very nature of sustainable development means that success will ultimately depend on interdisciplinary approaches and multi-stakeholder participation.

Additional examples and information about sustainable development in the United States can be found in the Council reports mentioned above and in the United States Country Profile. The latter is being prepared by the United Nations Commission on Sustainable Development (UNCSD) based on input provided by the United States on selected Agenda 21 topics over the last five years. (This document should be available from UNCSD by mid-1997.)

We sincerely believe that sustainable development is beginning to take hold in the United States, and that we are indeed on the right path. At the same time, we know that both the public and private sectors must do much more if the United States is to fulfill the commitments it made at UNCED five years ago. We still have much to learn, but by highlighting a few of the sustainability efforts underway in the United States, we hope to make a positive contribution to international discussions and collaboration in the pursuit of a brighter, more sustainable future.

For more information, please contact the PCSD Secretariat by phone at 202-408-5296, by fax at 202-408-6839, or through the World Wide Web at /PCSD/.

THE BUSINESS COMMUNITY

One of the greatest strides the Council made over the past four years was to reach a common understanding about the compatibility of economic growth, environmental stewardship, and social equity. As the Council defined its principles and goals and discussed the conditions that would be necessary to achieve them, it became clear that economic progress and environmental protection must go hand in hand. As stated in the Council's first report, "some things must grow--jobs, productivity, wages, profits, capital and savings, information, knowledge, education--and others--pollution, waste, poverty, energy and material use per unit of output--must not." Future natural resource stocks and a clean and healthy environment are essential to many businesses, and our ability to address environmental and social issues often depends on having a strong and vibrant economy.

Today, many businesses are demonstrating that environmentally-sound business practices can make good economic sense. They are improving product quality and production efficiency, reducing energy needs, and minimizing the costs associated with pollution. A 1996 study by the World Resources Institute--*Has Environmental Protection Really Reduced Productivity Growth?*--noted that electric utilities now produce twice as many kilowatt hours per ton of emissions as they did when the Clean Air Act was passed in 1972. And the pulp and paper industry produces seven times as much paper per ton of water pollution as it did before the Clean Water Act was passed in 1972. These efficiency gains have greatly improved overall productivity while also reducing the impacts of pollution on human health, the environment, and natural resources.

Dow Chemical Company has found that voluntary projects to improve environmental performance are often more cost-effective over the long term than actions required by legislation and regulation. The company has achieved average returns of 55% from voluntary investments over the past ten years and expects to see continuing financial gains from its environmental performance improvements and associated capital investments. Dow is participating in a number of voluntary initiatives in the United States, Canada, Europe, and Australia, and has found these cooperative efforts to be quite valuable.

The Council encountered a number of specific industry efforts to improve both environmental performance and economic productivity. Some industry efforts focus on extending product responsibility to minimize the negative environmental impacts of products throughout their life cycles and the entire chain of commerce. Others relate to the relatively new idea of eco-industrial parks--a combination of businesses that cooperate with each other and with the local community to efficiently share resources (information, materials, water, energy, infrastructure, and natural habitat), leading to economic gains, improved environmental quality, and [the] equitable enhancement of human resources for business and [the] local community (President's Council on Sustainable Development, *Building on Consensus: A Progress Report on Sustainable America*,

1997, p. 27). Still others are aimed at developing environmentally sound technologies to meet societal needs in the 21st century.

Extended Product Responsibility

As defined by the Council, Extended Product Responsibility (EPR) stresses the idea of shared responsibility--among suppliers, manufactures, and consumers--for reducing the environmental impacts of products throughout their life cycles. EPR encompasses any or all steps in the process from the use and distribution of raw materials, to the design and manufacture of products, to the use and disposal of those products. The Council has stated that "The greatest responsibility for EPR rests with those throughout the chain of commerce. . . that are in the best position to practice resource conservation and pollution prevention at lower cost."

A number of businesses throughout the United States are already implementing EPR and making significant changes in products and their associated environmental impacts. Though EPR is not yet a standard way of doing business in the United States, we are optimistic that the concept and practices of EPR will continue to spread.

On October 21-22, 1996, the Council and the U.S. Environmental Protection Agency co-sponsored a workshop to showcase a variety of EPR initiatives. The following are just a few of the examples that were presented during that meeting.

The Evergreen Program

One approach that manufacturers can take to EPR is to assume responsibility for a product through the end of its useful life and to provide a traditional product as part of a customer service package. A good example of this is the Evergreen Program, developed by Interface Flooring Systems, Inc., which provides a new approach to the conventional sale of carpet. Through this program, commercial and institutional customers lease the services of replaceable carpet tiles (functionality, color, design, and aesthetics), without having to take responsibility for disposal when they become worn. Instead of buying and replacing entire flooring systems every few years, customers prolong the life of the flooring by replacing individual tiles as needed. The Program provides a complete service package that includes design layouts, product selection, carpet, access flooring, furniture lifting, installation, ongoing maintenance, and ultimate removal for reclamation or recycling. Interface Flooring Systems assumes responsibility for the on-site condition of the carpet and for its eventual disposal and re-use in ways that do not harm the environment (e.g., old carpet tiles can be ground into a powder that can then be molded into new products or used as backing materials). Through the Evergreen Program, Interface is drastically de-materializing its industrial process, while also saving customers money and protecting the environment.

Recycled Urban Wood

Another approach to EPR is to reclaim waste products and recycle them as inputs to the production process. For example, Georgia-Pacific Corporation is recovering, processing, and recycling urban wood waste at its particleboard production plant in Martell, California.

In California, the U.S. Forest Service's timber harvest has declined, as has the residual fiber supply that results from the lumber-manufacturing process. This fiber supply has been the primary resource for producing particleboard at the Martell plant. To augment the supply, Georgia-Pacific has reached agreements with recycling companies in the area to purchase the wood they recover from commercial and general urban solid wastes.

These agreements will be beneficial not only to Georgia-Pacific and the recycling companies, but also to local governments, which have been required by the state of California to achieve a 50 percent reduction in solid wastes by the year 2000. This use of waste products as inputs for the manufacturing process is helping Georgia-Pacific reduce the costs of its final products and achieve its sustainability goals.

America Recycles Aerosols

Another example of recovering and utilizing wastes is the "America Recycles Aerosols" program, initiated by S.C. Johnson & Son, Inc., the Steel Recycling Institute (SRI), WMX Technologies, and others since 1991. Nearly 17,000 communities across the United States collect steel cans as part of their recycling programs, but steel aerosol cans are often not included. By recycling the 3 billion aerosols produced annually in the United States, we could potentially build 160,000 cars and save the energy-equivalency of 5.7 million barrels of oil.

Concerns about perceived worker safety during the recycling process had previously prevented some communities from including empty aerosol cans in household residential recycling programs. To address these concerns, the Chemical Specialties Manufacturers Association (CSMA) and its partners commissioned the Factory Mutual Research Corporation to conduct additional research which confirmed that aerosol containers discarded for recycling can be handled safely.

Educational and technical partners in the America Recycles Aerosols program conducted a multi-faceted campaign to educate and assist communities in recycling aerosol cans. This campaign included Keep America Beautiful, the U.S. Conference of Mayors, the Solid Waste Association of North America (SWANA), the American Public Works Association, and the National Recycling Congress. As a result of this effort, more than 100 million Americans in 4000 local and statewide programs (e.g., Los Angeles, Chicago, Pittsburgh, Philadelphia, Houston, Boston, and Sacramento; and Michigan, Illinois, and Delaware) now recycle aerosols in recycling programs.

For every pound of steel recycled, 5450 BTUs of energy are conserved; and for every ton of steel recycled, 2500 pounds of iron ore, 1000 pounds of coal, and 40 pounds of limestone are saved. In addition, communities avoid the costs of needlessly landfilling aerosol cans and increase revenues from the sale of recyclables, with no increases in the cost of final products.

Vehicle Recycling Partnership

Other companies are approaching EPR by developing new institutional relationships throughout the chain of commerce. The U.S. Council of Automotive Research (USCAR) has established a consortia among Chrysler Corporation, Ford Motor Company, and General Motors Corporation known as the Vehicle Recycling Partnership (VRP). This Partnership involves U.S. automotive manufacturers, as well as "upstream" suppliers and "downstream" vehicle recyclers. Formal collaborative agreements have been established between the VRP and the American Plastics Council, the Automotive Recyclers Association, the Institute of Scrap Recycling Industries, and the Aluminum Association.

As a frame of reference, the current U.S. vehicle recycling infrastructure processes approximately 95% of all vehicles that are removed from service. Approximately 75% of each vehicle by weight is recycled, and the remaining 25%--comprised primarily of plastics, rubber, fluids, and glass--is shredded and landfilled. A primary objective of VRP is to reduce the contribution of this automotive shredder residue to municipal solid waste landfills.

The VRP has established a research center, the Vehicle Recycling Development Center, in Highland Park, Michigan, where the partners are conducting joint research and development on the technologies and infrastructure needed to recycle and properly dispose of scrapped automobiles. In addition, the VRP is supporting vehicle recycling research at a number of universities and research institutes.

The VRP has already resulted in design changes by the three big auto makers (e.g., the elimination of mercury switches) that will increase the potential recyclability of automobiles. It will continue to strengthen the market-driven recycling infrastructure and to reduce the environmental impacts of end-of-life vehicles.

Asset Recycle Management

In 1991, the Xerox Corporation initiated a corporate-wide program to minimize the environmental impacts of its products at all stages of the product life cycle. The overall goal of the Asset Recycle Management Program is to eliminate the disposition of materials to landfills by designing waste-free, high quality products with minimal environmental impacts. Xerox has adopted several strategies for implementing the Program: (1) design-for-the-environment, an approach that ensures that recycling and remanufacturing are designed into the first stages of product development; (2) a product delivery process that integrates new-build and remanufacturing lines to facilitate the use of existing manufacturing tools, processes, and product

quality controls; and (3) a cartridge recycling process that encourages customers to return spent copying and printing cartridges and toner containers.

Since implementing the Asset Recycle Management Program, Xerox has initiated efforts to limit the use of production materials to those that are recyclable and recycled thermoplastics and metals. It has also begun to emboss plastic parts with recycling symbols and to mark engineering drawings with remanufacturing codes to expedite processing. In 1995, 60 percent of the Xerox cartridges sold around the world were recycled, preventing the need to discard 1100 tons of materials in landfills. Between 1991 and 1995, Xerox achieved a 45 percent reduction in solid wastes for its 17 largest sites. The recycled content in products has more than doubled in five years, and the company is realizing over \$200 million in annual savings. Xerox is continuing to demonstrate that EPR can be good for business and for the environment.

Charge Up to Recycle!

The Rechargeable Battery Recycling Corporation (RBRC) has initiated the "Charge Up to Recycle!" program to educate the public about the need to recycle used nickel-cadmium (Ni-Cd) batteries. Used Ni-Cd batteries are a principal source of the toxic heavy metal cadmium in the solid waste stream, and the program is designed to reduce environmental risk and conserve natural resources.

The program is funded by over 20 companies worldwide that manufacture rechargeable batteries for sale in North America. Key participants include Energizer Power Systems, Sanyo Energy (USA), Panasonic Industrial Company, Saft America, and Varta Batteries. INMETCO recycles the batteries, and many facilities and trucking firms are also involved. Batteries are collected from all market sectors, including businesses, government agencies, institutions, and consumers.

The "Charge Up to Recycle!" program recycled over 15 percent of the Ni-Cd batteries available for recycling in 1995, the first full year of the program. By the year 2000, RBRC hopes to achieve a 100 percent collection rate and a greater than 70 percent recycling rate.

Other Business Efforts

Many other businesses across the United States are taking steps to implement practices and policies that support sustainable development. In addition to extended product responsibility, these efforts involve reducing the consumption of raw materials, improving the efficiency of production processes, conserving energy, and reducing pollution, while also improving product quality and services.

Enhancing Environmental Performance in Chemical Manufacturing

A joint effort to enhance environmental performance is underway between Dow Chemical Company and the Natural Resources Defense Council (NRDC), the state of Michigan, and the local community in Midland, Michigan. This initiative focuses on identifying cost-effective

opportunities to reduce the wastes and emissions generated by Dow's major manufacturing facilities. It involves two parallel activities. First, a third-party pollution prevention auditor will work with Dow employees to identify and evaluate pollution prevention opportunities. At the same time, NRDC will examine the existing, publicly available information about one of Dow's major manufacturing facilities near Midland, Michigan, and work with local residents and environmental organizations to identify the environmental issues that are of greatest concern. The results of the audit and the NRDC outreach efforts will then be discussed with Dow to determine which pollution prevention opportunities identified by the auditor can be implemented to respond to the environmental priorities identified by the local community.

Studies such as this are paving the way toward enhanced communication and collaboration among industry, environmental organizations, and local communities. By breaking down traditional adversarial relationships and building new levels of trust, we can create a solid foundation for addressing the challenges of sustainable development.

Energy Efficiency

Energy efficiency programs are an important component of strategies to reduce the consumption of and damage to existing natural resources, while also allowing the economy to grow. Pacific Gas and Electric Company (PG&E) has established energy efficiency programs that save energy and money and improve air quality. These programs increase customer awareness of how to use energy wisely and facilitate wise energy use by increasing the distribution of energy-efficient technologies.

Since 1990, PG&E's customer energy efficiency programs have saved PG&E customers 10,800 gigawatt hours (gwh) and 480 million therms. These electricity savings have been enough to power 1.3 million homes, while the gas savings have been enough to heat 1.4 million homes for one year. Customers also save money, and since 1990, two million PG&E customers have received a nearly \$1.5 billion reduction in their bills. These savings stimulate the economy and enhance the competitiveness of business customers.

The actions taken by PG&E customers since 1990 have caused a reduction in peak demand of nearly 1200 MW. Reduced generation has resulted in tremendous pollution savings totaling 6,189,165 tons of carbon dioxide, 3,560 tons of nitrous oxides, and 2,176 tons of sulfur dioxide since 1990. These pollution savings are comparable to the savings achieved by removing 775,000 automobiles from the California highways for one year.

These results were made possible by a collaborative process crafted by regulatory agencies, the environmental community, investor-owned utilities and other major stakeholders. The success of these programs provide continuing financial incentives for the utilities to encourage their customers to use energy efficiently.

Eco-Industrial Parks

In its initial report, the Council recommended that "Federal and state agencies assist communities that want to create eco-industrial parks... [as] models of industrial efficiency, cooperation, and environmental responsibility" (PCSD, *Sustainable America: A New Consensus for Prosperity, Opportunity, and a Healthy Environment*, February 1996, p. 104). As broadly defined, an eco-industrial park is a group of businesses that work together and with the community to efficiently share resources (materials, water, energy, infrastructure, natural habitat, and information), enhance economic prosperity, and improve the environment. Eco-industrial parks can be initiated by a community, local government, a nonprofit organization, or a business, but their success often depends on broad multi-stakeholder support and collaboration.

The Council encountered three general models of eco-industrial parks:

1. a zero-emissions eco-industrial park, in which a group of businesses are co-located and work together to reduce or eliminate emissions and wastes;
2. a virtual eco-industrial park, in which businesses are geographically separate, but work together to minimize their impact on the environment; and
3. eco-development, in which nonindustrial establishments apply the principles of industrial ecology.

This newly evolving area of economic development is only beginning to be tested in practice. Early experience suggests that it presents unique opportunities to link economic development, environmental protection, and social equity in communities throughout the United States. To help move eco-industrial parks from theory into practice, the PCSD convened a workshop involving participants from 18 communities across the United States to discuss why they are pursuing eco-industrial development, to share their experiences in creating eco-industrial parks, and to identify needed next steps.

Northampton County, Virginia

An example of the first type of eco-industrial park is the Port of Cape Charles Sustainable Technologies Industrial Park, located in Eastville, Northampton County, Virginia. Cape Charles is in the Chesapeake Bay coastal region, and the area serves as a critical flyway for migrating birds, with some of the highest bird counts on the whole eastern shore. In addition to its natural features, the area has a rich cultural and historic heritage, characterized by Native American archeological sites and historic homes.

The Port of Cape Charles eco-industrial park is being designed by the community as part of a comprehensive Sustainable Development Action Strategy. Its success will ultimately be judged by whether it creates jobs for local people and by whether the area's natural and cultural resources are protected and maintained.

The future park will provide for water recycling among the resident companies by means of a used-water collection system, a water recovery facility, and a recycled-water distribution system. In addition, a technical panel will be established to analyze and determine whether the by-products of existing and proposed companies can be used by other companies within the park.

Ground-breaking for the park as a whole occurred on October 16, 1996, and the first tenant will be Solar Building Systems Inc. Funding is being received from local, regional, state, and federal sources; and the project will be managed by the Northampton County Department of Sustainable Economic Development/Joint Industrial Development Authority. In the coming months, efforts will focus on recruiting compatible companies and on developing an effective process for managing the park as an industrial ecosystem. The local community's enthusiasm and commitment to the project are high and will be a key to the park's future success.

Brownsville, Texas

An example of the second type of eco-industrial park--a *Avirtual@* eco-industrial park--is a project in Brownsville, Texas. Brownsville is located on the southern tip of Texas in the Rio Grande Valley and is often referred to as a city "on the border, by the sea." It has a rich natural environment and is considered to be one of the three top bird-watching sites in the United States. At the same time, the city has some of the most serious environmental problems in the northern hemisphere and is struggling to address its 43.9% poverty rate and 11.72% unemployment rate (PCSD, *Eco-Efficiency Task Force Report*, 1996, p. 5).

Local and state government officials have been the primary drivers behind the development of an eco-industrial park in this border region. It is clear that if the region's industrial growth is to continue, the nature of that development must change to protect both human health and the environment.

As a virtual eco-industrial park, the Brownsville project takes a regional approach to exchanging waste materials and by-products--an approach that is sometimes referred to as regional "industrial symbiosis". The project could eventually include a group of businesses that are geographically located together, but co-location is not the driving force behind the project at this time. As currently envisioned, the project will include not only industrial facilities, but also small businesses and the agricultural sector.

The planning process for the Brownsville project has focused on identifying firms that could benefit from participating in regional industrial symbiosis. A database of companies in Brownsville and in the neighboring city of Matamoros, Mexico, has been developed and is being analyzed to identify potential materials exchanges among these industries and/or new companies.

Initial funding has been provided by the Texas Department of Commerce and the Brownsville community, and project leaders are working to secure long-term support. State officials will be working closely with project leaders to ensure that permitting procedures do not become a barrier

to development. In the months ahead, cost-based data will be added to the database, and a marketing plan will be developed to evaluate and recruit participants. Efforts will also be made to educate and involve the local residents in implementing the project. The project holds great promise for improving the lives of the people of Brownsville.

Burlington, Vermont

An example of the third type of eco-industrial park--eco-development--is the Riverside Eco. Park in Burlington, Vermont. This project will create an agricultural-industrial park in an urban setting which will (1) generate electricity using bio-mass technologies that utilize readily available resources (e.g., wood chips), (2) use the waste heat generated by the power plant to support the greenhouse production of fish and horticultural products, (3) use biologically-based "living systems" to digest liquid organic wastes (which are common in the food processing industry) to purify water and create high strength fertilizers; and (4) recycle and compost the area's waste foodstuffs and yard debris to replenish local soils, increase agricultural production, and support value-added organic food industries. All of these emerging technologies are being developed with the ultimate goal of transferring them to other industries and communities.

This project is expected to have several positive results including reducing the waste heat that is released into the air and water, improving soil conditions and water quality, and creating sustainable jobs for the local people. A feasibility study which examined the inputs, outflows, and costs of the bio-mass energy systems and the living systems led to the conclusion that combining the two systems could be economically and environmentally beneficial. The next steps will be to prepare engineering and cost analyses of the linked systems.

Support is being provided by a Community Development Block Grant, the Burlington Electric Department, the Department of Public Works, and Cornell University; and funding applications have been submitted to the U.S. Environmental Protection Agency and the U.S. Department of Energy. A number of organizations and companies have been recruited to participate in the first demonstration project, and additional partners will be recruited as the strengths and weaknesses of the project are identified. Project leaders have developed an aggressive five-year plan which is expected to lead to the transfer of this eco-development model (waste-to-energy-to food-to waste) to other sites and to the development of commercially-viable spin-off industries.

Automotive Technologies

One of the greatest challenges we face in realizing sustainable development relates to our use of private automobiles. Cities around the country are faced with increasing traffic congestion and the associated emissions of greenhouse gases. A number of communities are actively working to provide greater access to public transportation and to reduce sprawl, but these efforts alone are not sufficient to address the environmental challenges associated with the use of private vehicles. Recognizing the magnitude of the challenge and the associated technological issues, federal

agencies and the U.S. auto industry have now joined forces to conduct the necessary technological research and development (R&D).

Partnership for a New Generation of Vehicles

In September 1993, Vice President Al Gore and the chief executive officers of Chrysler Corporation, Ford Motor Company, and General Motors Corporation announced the formation of the Partnership for a New Generation of Vehicles (PNGV). This public-private partnership is focused on developing a car that is three times more efficient than today's comparable vehicle; promoting commercially viable, near-term innovation; and improving national competitiveness.

PNGV partners expect to narrow the R&D technology focus by the end of 1997 and to present a concept vehicle by 2000. The goal is to produce prototype vehicles by the year 2004, which can achieve up to 80 miles per gallon, can accelerate from 0 to 60 miles per hour in 12 seconds, can hold six passengers, can meet all safety and emissions requirements, and can be purchased for approximately the same cost as today's comparably sized cars.

Among the technologies being evaluated through the PNGV is a fuel processor that can use a variety of fuels--gasoline, ethanol, methanol, and natural gas--to produce hydrogen. The hydrogen can then be used by on-board fuel cells to produce electrical power. If successful and affordable, this technology could make it possible to use existing gasoline stations and could speed the transition to renewable transportation fuels. Fuel cell vehicles are expected to be exceptionally clean, with near zero emissions, and the Chrysler Corporation recently announced that it hopes to demonstrate a complete system in a vehicle within two years.

From the perspective of both the government and the private sector, the PNGV is an historic undertaking. It is laying new ground in building partnerships among government and three of the strongest competing companies in the nation. Good progress is being made on many projects, but much more R&D work remains to be done. Technological breakthroughs will be needed if the PNGV's ambitious goals are to be achieved; but by working together, the three big automakers are making more rapid strides than would otherwise have been possible.

Electric Vehicles

General Motors recently introduced the first modern electric vehicle known as the EV1. This vehicle was developed specifically as an electric vehicle, not as a conversion from a traditional automobile. The EV1 incorporates innovative changes in design, processing, and materials that result in a completely new class of vehicle with improved energy efficiency and environmental performance. The EV1 is now available at Saturn retailers in Arizona and Southern California; and a commercial sibling--the Chevrolet S-10 electric pickup truck--is available to government and commercial clients nationwide. These two vehicles are examples that demonstrate the viability and application of emerging technologies, and a commitment to technological and environmental leadership.

NONGOVERNMENTAL ORGANIZATIONS AND ACADEMIC INSTITUTIONS

Nongovernmental organizations (NGOs) and academic institutions are playing an important role in demonstrating sustainable practices "on the ground". NGOs are reaching out to their members, to businesses, and to the general public to create the broad-based foundation that is essential to long-term sustainability. This section describes just a few of the examples involving NGOs and academic institutions; but many more are underway across the country.

Working with America's Businesses

America's businesses face unprecedented challenges today as they compete in the global marketplace. Improved technologies, production processes, and management approaches are being developed every day; and businesses must incorporate these changes into their operations and products if they are to remain competitive. At the same time, they are faced with meeting environmental standards and with the need to provide the public with products and services that serve their needs and are affordable. Increasingly, businesses are finding that NGOs and communities can be important partners as they work to create a truly sustainable economy.

Great Printers Project

Small businesses provide most of the new jobs in the United States, and they are essential to the Nation's economy. Yet in order to stay in business, they must comply with a maze of environmental regulations. Unlike large and mid-size companies, they often lack the resources, staff, and training they need to ensure compliance or to remain competitive. NGOs are beginning to work with small businesses to meet these challenges. The printing industry provides a good example.

The printing industry is dominated by small businesses, and 80 percent of the print shops in the United States employ fewer than 20 people. The printing process involves a number of potentially toxic chemicals, and printers must comply with dozens of state and federal regulations that deal separately with air, water, and land pollution.

In 1993, the Environmental Defense Fund (EDF) and the Council of Great Lakes Governors joined with representatives from the printing industry to establish the Great Printers Project. The U.S. Environmental Protection Agency and state regulatory agencies also participated in the project. The main objective of project is to make pollution prevention a standard business practice for the printing industry. This is being accomplished by linking simplified compliance requirements to flexibility to pursue pollution prevention opportunities that can save raw materials and improve product quality.

In July 1994, the project released its recommendations, including recommended voluntary measures that printing companies could take to save money and reduce pollution. Guided by

these recommendations, General Litho Services, a Minneapolis printer, reduced its use of chemical solvents from 1595 gallons to 790 gallons, saving \$3,824; and reused or reformulated its printing ink, saving \$18,000 in annual hazardous waste handling and disposal costs. It also reduced its use of isopropyl alcohol from 506 gallons to 95 gallons, saving \$1,355 in air pollution costs.

The project also recommended that environmental reporting requirements be consolidated, and the proposal was endorsed by EPA Administrator Carol Browner. Now printers will be able to spend a greater proportion of their time on improving productivity and reducing photochemical smog, hazardous waste, and wastewater discharges.

The partnership among EDF, the Council of Great Lakes Governors, and the printing industry was essential in breaking down the traditional distrust between printers and regulators. As the project recommendations are implemented, printing businesses could reap substantial economic and environmental benefits.

Responsible Care Principles

Associations can play an important role in addressing the environmental concerns of citizens and communities and in fostering environmentally-sound policies, processes, and management approaches. In 1988, the Chemical Manufacturers Association (CMA) adopted the "Responsible Care" initiative which provides a framework for demonstrating corporate responsibility and environmental stewardship.

All CMA members and partners have pledged to abide by a common set of principles. Examples include the following:

- recognizing and responding to community concerns about chemicals and plant operations;
- developing and producing chemicals that can be manufactured, transported, and disposed of safely;
- making health, safety, and environmental considerations a planning priority;
- reporting promptly on health or environmental hazards and recommending protective measures;
- pursuing relevant research and communications activities;
- participating with government and others in creating responsible laws, regulations, and standards to safeguard the community, workplace, and environment.

Four times a year, a public advisory panel of individuals from the public and private sectors meets to help CMA identify and respond to public concerns and to evaluate Responsible Care

principles and management approaches. This CMA initiative has made significant strides in helping the chemical industry satisfy the public's desire for both useful products and a clean and healthy environment.

Alliance for Environmental Innovation

There are an increasing number of partnerships among industry and NGOs to improve environmental performance. In 1995, the Environmental Defense Fund (EDF) and The Pew Charitable Trusts jointly established the Alliance for Environmental Innovation with funding from Pew, other foundations, and individuals. The Alliance's mission is to work in partnership with major American corporations to reduce waste, prevent pollution, and conserve resources, while also enhancing business performance.

The production, distribution, use, and disposal of consumer goods can have significant environmental impacts, but there are many opportunities for improving environmental performance. Staff from the Alliance and its partner companies are conducting projects to identify key environmental issues, analyze the economic performance and functionality of potential solutions, refine new methodologies for reducing environmental impacts, and develop implementation options. The main objective is to develop innovations that significantly reduce environmental impacts and make good business sense (e.g., increasing market share and sales, improving a company's reputation, reducing costs, etc.). The Alliance is responsible for all of its expenses and receives no financial support from partner companies.

In August 1996, the Alliance and S.C. Johnson & Son, Inc. embarked on the Alliance's first project to help further integrate environmental considerations into the creation and production of the company's leading household brands. A key focus of the project will be to ensure that environmental considerations and eco-efficiency principles are systematically built into initial product concepts, even before product design and development begin.

Another Alliance project with Starbucks Coffee Company is focused on developing ways to serve coffee that are kinder to the environment. In particular, the project is exploring ways to encourage customers to use reusable cups and has challenged the cup industry to develop a new single-use cup that both lowers environmental impacts and enhances the customer's experience. New cups are expected to be in use later this year.

Alliance projects are already confirming the view that interdisciplinary, multi stakeholder partnerships can lead to innovative approaches for improving the environmental and economic performance of businesses.

Sustainable Management of Forested Wetlands

The Nature Conservancy and Georgia-Pacific have embarked on an unprecedented collaborative effort to manage forested wetlands along the lower Roanoke river in North Carolina. The area is inhabited by a rich diversity of wildlife, including deer, wild turkey, black bear, bald eagles,

bobcats, and over 210 bird species. In November 1994, The Nature Conservancy Chairman John Sawhill and Georgia-Pacific Chairman Pete Correll, agreed to implement a plan to manage the area's forests in a sustainable manner. Under this plan, "Georgia-Pacific will own the land, but all of the management activities, including timber harvesting on the seven tracts along the river, will be agreed upon by a joint ecosystem management committee." Representatives from the U.S. Fish and Wildlife Service and scientists from North Carolina State University are participating in the joint management team.

Georgia-Pacific has agreed to relinquish its harvesting rights on 21,000 acres of land that are of special ecosystem concern. It will continue to harvest timber on other tracks along the river, but it will follow methods agreed upon by the joint management team. The project represents a significant step toward the sustainable management of forested wetlands.

Working with Communities

Citizen's Guide to Achieving a Healthy Community, Economy, & Environment

NGOs can play an important role in supporting the sustainability efforts of local communities. The Nature Conservancy's Center for Compatible Economic Development has developed the Citizen's Guide to Achieving a Healthy Community, Economy, & Environment, with support from U.S. Environmental Protection Agency's Office of Sustainable Ecosystems and Communities. The document is designed to foster locally-based development that supports a strong economy, a healthy environment, and a high quality of life.

The guide presents two major case studies--the Clinch Valley of Virginia and the ACE Basin in South Carolina--and provides a series of outlines and questions to help communities assess and build on their unique strengths. By sharing information about some of the key elements of and strategies for success, the guide can serve as a starting point for communities as they take steps toward a sustainable future.

Architecture for the Future

The American Institute of Architects (AIA) is a professional organization that represents the interests of over 56,000 architects and allied members across the country. Its Committee on the Environment (COTE) provides a forum for compiling, exchanging, and disseminating the environmental information that is essential to creating sustainable buildings and communities. The AIA's Environmental Resource Guide provides a comprehensive compendium of information on environmentally responsive design with a life-cycle focus on the environmental effectiveness of building materials.

The COTE sponsors environmental design charrettes to address a variety sustainable design issues. These charrettes are short-term design workshops that are part of longer, multi-disciplinary project studies. They can help educate citizen groups about design alternatives;

provide information on available resources; foster linkages among the community, architectural professionals, and government agencies; and accelerate the adoption of sustainable development principles and practices.

On October 6-8, 1995, AIA sponsored a number of simultaneous design charrettes and linked them electronically to foster the exchange of ideas across the country. Local AIA chapters, schools of architecture, communities, and related professional organizations were encouraged to work together to propose specific charrette projects and sites. Fifteen sites were selected to participate in the national workshop, and they addressed issues such as energy efficiency, building materials, indoor air quality, landscaping and site design, waste management, and cultural and behavioral patterns. By the end of each successful charrette, participants had identified and discussed the key sustainability issues for their chosen design problems.

As additional design charrettes occur, AIA is successfully mobilizing individuals and organizations from across the country to improve the design of buildings and communities. This is one small step toward increasing the public's awareness of and support for environmentally-friendly architecture.

Educating Tomorrow's Leaders

Academic institutions represent the hopes of many societies as they train the next generation of leaders in business, government, and communities. As we have discovered, many of the challenges society faces can not be solved by one professional group or another. Academic institutions have begun to offer multi-disciplinary training about sustainable development.

Arizona International Campus

One example of university efforts is the Arizona International Campus (AIC) of the University of Arizona in Tucson. At this time, AIC is the only undergraduate fully-accredited institution that focuses on integrating sustainable development concepts into a liberal arts education. AIC opened its doors to a small freshman class in September 1996, and it is expected to serve approximately 5000 students by the year 2015.

AIC has a strong interest in international sustainability issues and is now in the process of establishing study sites abroad, particularly in Mexico and China. Each AIC student is required to become proficient in a second language and to become knowledgeable about the region where the language is spoken.

AIC is currently working with the Arizona-Mexico Commission to develop a binational regional sustainable development plan. The Commission was established more than 30 years ago and is directed by the Governors of Arizona and Sonora. AIC sponsored a series of seminars and presentations for the Commission and has been a driving force behind its increasing interest in developing a long-term regional sustainability plan.

AIC is also facilitating the development of a sustainable development plan for the city of Tucson. It will be working closely with Tucson's Civano project, an eco-development project, which is funded by both the state of Arizona and the City of Tucson. This effort represents the city's first attempt to develop a sustainable community within a residential development.

AIC is well on its way to developing a comprehensive academic program for sustainable development and to demonstrating sustainability concepts in the real world.

University of New Hampshire

At the University of New Hampshire (UNH), there has long been an interest in sustainability, but it is only recently that the concept has become the basis for a campus-wide initiative. In 1996, the University established the Oliver J. Hubbard Sustainable Living Education Endowment "to support integrated, multidisciplinary programs that teach sustainable living concepts." Faculty, students, and staff from across the campus were invited to submit proposals for projects that would incorporate the principles of sustainable development throughout the University's various curricula; these proposals were due by the end of January 1997 and are now under review. The University began publishing a newsletter on Sustainable Living Education in the fall of 1996 and plans to hire a Director of Sustainability Programs to coordinate all sustainability efforts, including those designed to "put into practice what we teach." In addition, it will be exploring the possibility of establishing a sustainability education, research, and demonstration center. William Mautz, Dean of the College of Life Sciences and Agriculture, has said, "We have a long way to go,...but we are making progress. It appears the momentum is with us."

Anoka High School

In the fall of 1994, students at Anoka High School in Anoka, Minnesota, formed the Anoka Great Lakes Environmental Action Mentors (GLEAM) Team under the leadership of social studies teacher Bill Mittlefehldt and a number of community partners. With support from the Anoka Chamber of Commerce and Norwest Bank, the GLEAM Team has worked with the Lake Superior Center in Duluth; the Sigurd Olson Environmental Institute in Ashland, Wisconsin; and the Center for Earth Systems Education at Ohio State University.

In collaboration with the Lake Superior Center, Anoka students created a hypertext-based computer program on the pollution threats to Lake Superior. This program is based on three years of water quality data provided by the Minnesota Pollution Control Agency, and it utilizes geographic information systems (GIS) capabilities provided by Anoka County. In the spring of 1995, students from Minnesota and Wisconsin participated in the Riverwatch Rivers Congress, and the GLEAM Team presented the computer program it had developed.

In 1995, the GLEAM Team delivered a presentation to the Youth Forum of the Great Lakes and produced a 60-minute interactive video entitled "Community Partners and Water Stewardship in

the Great Lakes Basin." This video was broadcast to all of North America via satellite uplink, and it provided information on a number of efforts to preserve and improve water quality.

Anoka students have shared their experiences with Mayor Peter Beberg of Anoka, as well as with communities in New York, Virginia, Florida, New Mexico, Louisiana, Australia, Germany, Egypt, and Norway. The GLEAM Team has developed a page on the World Wide Web and is currently producing a CD-ROM on the threats to water quality in the Great Lakes. This CD-ROM will allow users to compare data on Lake Superior, the cleanest of the Great Lakes, with data on Lake Erie, which has been most affected by human activities. This CD-ROM is being produced in coordination with the Lake Superior Center, and it will be shared with other students and community partners at the Great Lakes Symposium in Sault St. Marie, Canada, in May 1997.

The GLEAM Team is just one of many examples of how students in the Great Lakes region are taking action to address issues that are critical to the future sustainability of the area.

Bringing Sustainable Development to U.S. Business Schools

U.S. business schools educate approximately three million people each year, most of whom take jobs in the private sector. These graduates are the managerial fabric of the U.S. business community, yet many of them have had little or no training in managing environmental issues. The best opportunity for educating these managers about concepts of sustainability and environmental quality is during business school. In 1990, the World Resources Institute established the Management Institute for Environment and Business (MEB) to work with business schools to "green" their curricula.

MEB develops, publishes, and distributes business and environment case studies and teaching modules to business school faculty and conducts on-site faculty development seminars. It also researches business and environment topics and convenes annual conferences in North American and Latin America for faculty and others interest in business and environment education. MEB currently works with 25 U.S. business schools and 20 management institutions in Latin America, and MEB materials are used at over 250 management education institutions worldwide.

FEDERAL GOVERNMENT

A wide range of activities that support sustainable development are underway across the federal government. Federal agencies are beginning to adopt multi-disciplinary and integrated approaches in fulfilling their missions and developing new partnerships with other agencies (federal, state, and local), businesses, NGOs, academic institutions, and communities to make the most of available resources. There are many federal government programs and initiatives that support the simultaneous pursuit of economic development, environmental protection, and social equity, and we expect to see even more in the coming months and years. The following descriptions represent just a few examples.

White House Interagency Working Group on Sustainable Development

Following the release of the first PCSD report in March 1996, President Clinton asked Vice President Gore to oversee the implementation of the report's recommendations by federal agencies. In response, the Vice President asked Kathleen McGinty, Chair of the [Council on Environmental Quality \(CEQ\)](#), and Laura Tyson, then-Chair of the National Economic Council, to co-chair the Interagency Working Group on Sustainable Development. The Working Group has compiled an inventory of the many federal programs that support sustainable development, and it will continue to facilitate the sharing of information among the federal agencies.

Other Federal Interagency Working Groups

In March 1996, the federal agencies that participated in the first phase of the PCSD pledged to carry out specific activities to implement the Council's recommendations. Many of these pledges focused on single agency activities, but three pledges concerned the establishment of interagency working groups. These federal interagency working groups have focused on (1) education for sustainability, (2) materials and energy flows, and (3) sustainable development indicators.

Education for Sustainability Working Group

The Education for Sustainability Working Group provides a forum for federal agencies to work together in coordinating and implementing education programs that further sustainability concepts and approaches. In December 1996, the Working Group published *Education for Sustainability: An Agenda for Action*. This document reflects discussions which took place at the National Forum on Partnerships Supporting Education about the Environment (sponsored by the National Science and Technology Council in San Francisco, California, in the fall of 1994) and the PCSD's policy recommendations concerning education for sustainability. In the coming months, the Working Group will build on the framework described in the document and facilitate implementation activities.

Working Group on Sustainable Development Indicators

The Working Group on Sustainable Development Indicators has developed a conceptual framework for indicators of sustainable development, and it will publish an initial selection of important indicators in the spring of 1997. The framework and indicators are intended to reflect the intergenerational nature of sustainable development, as well as the integration of economic, environmental, and social issues. As recommended by the PCSD, this Working Group has held initial meetings with young people, major corporations, nongovernmental organizations, and community organizations to solicit their comments and ideas. The Group considers the framework and selection of indicators to be a work in progress, and the outreach process will continue in the coming months.

Working Group on Materials and Energy Flows

The Working Group on Materials and Energy Flows is co-chaired by the President's Council on Environmental Quality and the White House [Office of Science and Technology Policy](#). This Working Group is providing a forum for federal agencies to share information on the United States' use of materials and energy. The Working Group also provides a point-of-contact for industry, academia, NGOs, and state and local governments who are interested in collaborating with federal agencies to further the efficient use of energy and materials. The Working Group is developing a comprehensive inventory of federal databases on materials and energy flows and will publish a report in the spring of 1997. It is also developing case studies that will focus on local or sectoral efforts to improve efficiency, increase the recycling of raw materials, and/or reduce emissions. In addition, a series of non-technical educational articles will be developed to illustrate how consumer choices and consumption patterns affect material flows and waste streams.

Federal Offices of Sustainable Development

Several federal agencies have established new offices to further sustainability goals in the context of their respective agency missions. Examples include offices in the U.S. Departments of Commerce, Energy, and Agriculture.

Office of Sustainable Development and Intergovernmental Affairs, National Oceanic and Atmospheric Administration, U.S. Department of Commerce The Office of Sustainable Development and Intergovernmental Affairs of the National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce (DOC), was established in 1993 by the late Secretary of Commerce Ronald H. Brown. Secretary Brown believed that the Department's goal was "to develop policies that will simultaneously protect our environment, promote economic growth, and provide millions of new high-skill, high-wage jobs for American workers." The office has two primary functions: (1) to assist communities that have been affected by the collapse of certain fisheries by designing and implementing strategies to rebuild the fisheries and foster the communities' long-term economic prosperity (see below, Rebuilding

Fisheries); and (2) to further the development of government-wide sustainability approaches and policies by working with the PCSD and other organizations and agencies.

Center of Excellence for Sustainable Communities, U.S. Department of Energy

The U.S. Department of Energy (DOE) Center of Excellence for Sustainable Communities is a demonstration project operated by the Denver Regional Support Office, which is part of DOE's Office of Energy Efficiency and Renewable Energy. The Center's mission is to provide all types of communities--cities, villages, towns, neighborhoods, national parks, industrial parks, and others--with information and assistance in designing and implementing sustainable development strategies. The Center has developed a World Wide Web site (<http://www.sustainable.doe.gov>) to facilitate communication. The Center is uniquely suited to providing communities with information about energy efficiency and renewable energy programs that fit their specific needs, and it can help them identify the public and private sources of technical and financial assistance needed to implement their programs.

Director of Sustainable Development and the Council on Sustainable Development, U.S. Department of Agriculture

On September 13, 1996, Secretary of Agriculture Dan Glickman signed a departmental memorandum on sustainable development that committed the Department of Agriculture (USDA) to balancing the goals of improved production and profitability, stewardship of the natural resource base and ecological systems, and the enhancement of the vitality of rural communities. It directed offices throughout the Department to incorporate sustainability principles into all appropriate regulations, policies, programs, strategic plans, and performance appraisals.

The memorandum also established the position of Director of Sustainable Development to lead and coordinate efforts throughout the Department and to develop collaborative partnerships with outside agencies and organizations. The Director serves as Chair of the USDA Council on Sustainable Development, and this Council will serve as a forum for fostering and integrating sustainable development efforts across the Department. In the coming months, the Council will be working to review and examine the feasibility of implementing recommendations from the 1995 USDA Sustainable Agriculture Working Group (SAWG), the PCSD, and the PCSD Task Force on Sustainable Agriculture.

Educational Programs

Educators today face unprecedented challenges in preparing students for the 21st century. Our knowledge about the world is growing exponentially, as are the technologies for storing, analyzing, and disseminating information. Understanding the links among the environment, the economy, and society is critical to sustainable development, and students must be trained to adopt integrated, multi-disciplinary approaches to problems. A number of federal programs have

been initiated to provide students and communities with the knowledge they need to implement the principles of sustainable development.

Global Learning and Observations to Benefit the Environment

The Global Learning and Observations to Benefit the Environment (GLOBE) Program was initiated in 1994 by Vice President Al Gore. It is supported by several federal agencies, including the National Science Foundation (NSF), the U.S. Department of Education (ED), the National Aeronautics and Space Administration (NASA), DOC/NOAA, and U.S. Environmental Protection Agency (EPA). The GLOBE Program is designed to link students, teachers, and scientists around the world in a study of the global environment.

Through GLOBE, teachers are trained to help students conduct a variety of hands-on environmental experiments such as testing soil samples, measuring air and water temperatures, observing clouds and weather patterns, and examining plant species. The students post their data on the Internet, using the World Wide Web, making it available to other schools and scientists. The Program has already demonstrated success in enhancing the environmental awareness of young people throughout the world, in providing important environmental data for use by research scientists, and in fostering higher student achievement in science and mathematics.

The GLOBE Program currently includes over 100,000 students in over 3400 schools in 47 countries. The Program leverages the U.S. government investment through the creation of U.S. GLOBE Affiliates established on a no-exchange-of-funds basis by school districts, science centers, state departments of education, and universities across the country. GLOBE international partner countries each provide the resources needed to participate in the program. The program continues to receive enthusiastic support from communities and students around the world.

Technology Learning Challenge

In 1994, the U.S. Department of Education announced the availability of Technology Learning Challenge grants to support educators, parents, industry partners, and community leaders in preparing schools for the technological challenges of the next century. The Department awards \$9.5 million to 19 communities a year.

Sustainable Development Extension Network

Federal extension services provide a ready mechanism for disseminating and exchanging information about sustainable development. A national community Sustainable Development Extension Network is now being established to utilize existing federal extension services to address community needs concerning sustainability. The network is coordinated at the federal level, but implementation of sustainable practices occurs at the local level and depends on the resources, initiative, and commitment of the communities themselves. The network involves the USDA Cooperative Extension System, the DOC/NOAA Sea Grant Marine Advisory Service, the DOC/Technology Administration (TA) Manufacturing Extension Partnership, the NASA Space

Grant Program, the Small Business Administration (SBA) Small Business Development Centers, and EPA. This will be the first time all of these extension services have joined together to fulfill an overarching mission--educating communities about sustainable development.

Federal Technology Programs

President Clinton has said that "Technology is a powerful tool for making government more efficient and responsive, harmonizing our economic growth and environmental objectives, and making more efficient use of our energy resources." Several federal agencies are providing programmatic and funding support for technological research and development (R&D).

Industries of the Future

The DOE Industries of the Future Program is designed to leverage scarce R&D resources by investing in areas that have potentially high payoffs for the public or in areas that are too risky for individual companies to assume the risks alone. The program focuses on seven industries in which improvements in technology are expected to yield significant benefits for the environment and the economy: forest and paper, steel, aluminum, metal casting, glass, chemicals, and petroleum refining. These industries provide the basic materials that are needed by the entire U.S. manufacturing sector, but they also consume 81 percent of the energy used in manufacturing and generate 80 percent of the wastes. The program is designed to stimulate the development and use of technologies that will increase energy efficiency and lower the costs associated with environmental protection and regulatory compliance.

Under the program, industry participants develop a vision that reflects market, business, social, and regulatory considerations within their sector. DOE facilitates this visioning exercise and then draws from the vision plan to develop a portfolio of near-, medium-, and long-term technological research, development, and deployment activities. Almost all of the projects require industry cost-sharing to ensure the industry's commitment to the technologies being developed and to increase the likelihood of subsequent commercialization.

Manufacturing Extension Partnership

The DOC/TA Manufacturing Extension Partnership (MEP) helps small and medium-sized businesses adopt new technologies. These companies often lack the resources and expertise needed to incorporate new technologies into their production processes. The MEP provides technical assistance, financing, training, and other services to these companies. By adopting new technologies, MEP clients have often been able to meet environmental regulations in ways that lead to cost savings, reductions in wastes, and better utilization of waste products.

Rapid Commercialization Initiative

The Rapid Commercialization Initiative (RCI) was established by the U.S. Department of Commerce/Technology Administration in cooperation with the Departments of Defense and

Energy and EPA. It is designed to strengthen cooperation among the private sector, the states, and federal agencies to help bring environmental technologies to market more rapidly and efficiently. The program is focused on identifying and reducing barriers that impede market entry and on furthering the commercialization of four categories of environmental technologies: avoidance, control, monitoring and assessment, and remediation and restoration. RCI provides companies with assistance in finding appropriate sites for demonstrating and testing near-commercial environmental technologies. It also provides assistance in verifying the performance and associated costs of new technologies and in facilitating the issuance of permits. RCI should make a tangible difference in helping companies overcome several major hurdles in commercializing their newly developed technologies.

National Environmental Technology Strategy

In April 1995, the National Science and Technology Council (NSTC) released the *National Environmental Technology Strategy*. The NSTC is a cabinet-level council, chaired by the President, which is responsible for coordinating science, space, and technology policies throughout the government. The National Environmental Technology Strategy was developed over a two-year period, with input from Congress, the states, communities, industry, academia, NGOs, and interested citizens. It builds on an earlier document, *Technology for a Sustainable Future*, which outlined some of the challenges we face--from facilitating technological innovation, to encouraging new approaches to environmental management, to working with our partners around the world to develop and use environmentally-friendly technologies.

The strategy is designed to guide the development of technologies that will help us address the challenges of tomorrow. It focuses on five themes: performance, flexibility, and accountability; innovation for environmental results; commercialization; sustainable communities; and learning and working together. It presents a number of goals and federal initiatives, but emphasizes that achieving these goals will require the collective efforts of industry, labor, NGOs, state and federal agencies, communities, individuals, and nations around the world. The strategy is an important step toward ensuring the development of the technologies we are likely to need in the future.

Metropolitan Development Issues

Metropolitan regions have become the fundamental building blocks of the U.S. economy, and they are essential to the Nation's prosperity in the globally competitive marketplace. Over 80 percent of America's population lives and works in metropolitan regions, and over 90 percent of the new jobs created are located in metropolitan regions. These regions face immense challenges as they strive to generate and sustain economic prosperity, protect the environment, and improve the quality of life for all residents. The concerns of metropolitan regions cut across all races, economic levels, and professions, and can only be adequately addressed through innovative, multi-stakeholder, collaborative approaches.

Metropolitan Economic Strategy

In the fall of 1995, the U.S. Department of Housing and Urban Development (HUD) released a report entitled *America's New Economy and the Challenge of the Cities*. This report presents HUD's Metropolitan Economic Strategy and represents several years of work by Secretary Henry Cisneros and the Department to address the need for metropolitan cooperation. The report recognizes that vibrant metropolitan regions are essential to the nation's long-term prosperity.

The report identifies 18 major industry clusters that are now driving the American economy: entertainment and tourism, health services, housing and construction, business and professional services, financial services, transportation and trade services, agriculture and food processing, electronics and communications, industrial supplies, materials supplies, industrial machinery, apparel and textiles, transportation equipment, printing and publishing, medical products, consumer goods, natural resources, and aerospace and defense. These industry clusters tend to be regional and their markets cut across local governmental boundaries. They cover the spectrum from research and development to marketing and distribution, and they increasingly involve information-based services, advanced technologies, and global markets. The cities of metropolitan regions play an important role by providing centers of employment, consumer markets, research and innovation, education, health care, recreation and tourism, transportation, and trade.

HUD studied 114 regional centers nationwide and conducted detailed case studies of ten metropolitan regions--Akron, Ohio; Atlanta, Georgia; Austin, Texas; Detroit, Michigan; Jacksonville, Florida; Los Angeles, California; Nashville, Tennessee; Portland, Oregon; St. Louis, Missouri; and New York, New York. In each of these ten regions, civic leaders from across the region had jointly developed metropolitan economic strategies, linking the cities and suburbs and the public and private sectors. These strategies included elements such as transportation and infrastructure, education and workforce development, research and development, advanced technologies, trade promotion and market development, economic and community revitalization, and environmental restoration and preservation. Some of the most successful strategies included efforts to improve air and water quality, build regional transit systems, revitalize brownfields, maintain parks, and conserve natural habitat.

The experiences of these and other regions are confirming the conclusion that communities and regions can become more sustainable by engaging in coordinated efforts to develop and implement metropolitan-wide economic strategies. The communities themselves hold the keys to success, but federal and state governments can be important partners in supporting their efforts.

Intermodal Surface Transportation Efficiency Act

Transportation relates to many elements of sustainable development--from providing all citizens with equal access to economic and social opportunities to land use and air quality. In implementing the Intermodal Surface Transportation Efficiency Act (ISTEA), the U.S.

Department of Transportation (DOT) helps communities improve transportation services, while integrating economic development, land use, and social concerns into local planning processes. Under this program, state and local officials have received unprecedented flexibility in using the federal funds they receive to meet the unique needs of their communities. For example, over \$3 billion normally allocated to traditional highway uses has been transferred to local high-priority transit projects. Investments in bicycle/pedestrian facilities went up 1000 percent.

ISTEA has also strengthened regional partnerships--involving federal, state, and local governments; metropolitan planning organizations; and the private sector--and become a model for solving cross-jurisdictional problems such as sprawl, congestion, and air pollution. The Act has helped communities provide improved connections among different modes of transportation; and in fiscal year 1995, over \$6 billion was invested in mass transit--the most ever invested in a single year. Through ISTEA, communities throughout the United States are adopting integrated approaches to transportation and air quality issues. ISTEA expires this year, and a reauthorization proposal that builds on environmental elements of ISTEA is being developed by the Administration for submission to Congress.

Brownfields Economic Redevelopment Initiative

A number of cities across the United States are faced with deteriorating urban centers and pressures to develop surrounding Agreenfields@ and create jobs and homes. Inner cities are often burdened with abandoned, idled, or under-used industrial and commercial properties where redevelopment is hindered by real or perceived environmental contamination. Some of these sites, known as "brownfields," do not qualify for federal clean-up funding under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) because they do not pose serious public health risks. But the stigma of contamination and the legal barriers to redevelopment discourage businesses from buying the land.

EPA has developed the Brownfields Economic Redevelopment Initiative to help states, communities, and other interested parties work together to assess, clean up, and reuse brownfields. EPA has awarded 78 Brownfields Assessment Pilots to communities and states, and it will provide \$5 million to fund an additional 25 projects by the end of March 1997. This year, EPA will also spend \$10 million to capitalize revolving loan funds for cleanup activities, \$10 million to build and enhance state voluntary clean-up programs, and \$3 million for an expanded site assessment initiative. It will also expand its brownfields job training efforts.

The redevelopment of brownfields involves a number of federal agencies, and an interagency working group has been established to coordinate agency efforts. This interagency group has developed the Brownfields National Partnership Action Agenda which includes specific activities and the commitment of resources to support local brownfields activities. A formal announcement by the Clinton Administration regarding the Action Agenda is expected by the end of March 1997.

In March 1996, President Clinton proposed a brownfields tax incentive that would leverage up to \$10 billion in private investment and could return 30,000 brownfields to productive use. EPA is now working with the Treasury Department to support the congressional passage of this proposal. The Administration will continue to work with communities around the country to redevelop brownfields, restore the environment, and revitalize their economies.

Overall Economic Development Program

For over thirty years, the DOC Economic Development Administration (EDA) has supported community-driven, strategic planning processes through the Overall Economic Development Program (OEDP). This support has helped citizens identify key issues (economic, environmental, and social), develop a vision, set goals and benchmarks, determine actions to improve their communities, and evaluate their achievements. In order for EDA to provide assistance under the Public Works Programs, communities must have an approved OEDP. The multi-stakeholder process of developing an OEDP requires community input and involvement, and it is designed to ensure that the federal government works in partnership with communities to help them address their unique needs and priorities. EDA currently provides ongoing assistance to 315 multi-county Economic Development Districts and 65 Indian Tribes to maintain an OEDP process.

Empowerment Zones/Enterprise Communities

The Empowerment Zone/Enterprise Community (EC/EZ) Program is a federal program that fosters community-based partnerships with federal and state agencies to renew and revitalize urban and rural communities around the country. The EC/EZ application process is designed to encourage communities to plan for their future, and the funds provided through the program help communities carry out development projects that provide jobs, new infrastructure, housing, education and training, and/or a range of social services.

In 1994, HUD designated six urban Empowerment Zones, two Supplemental Empowerment Zones, four Enhanced Enterprise Communities, and 60 Enterprise Communities. USDA administers the rural aspects of the program and has designated three rural Empowerment Zones and 30 rural Enterprise Communities. For many neighborhoods in which financial and technical support from the public and private sectors have been sorely lacking, acceptance into the EC/EZ program has represented a critical turning point and a ray of hope.

Sustainable Development Challenge Grant Program

The Sustainable Development Challenge Grant (SDCG) program was announced by President Clinton in March 1995, as part of the National Performance Review's Reinventing Environmental Regulation initiative. Through this program, EPA provides competitive grants to local, state, or tribal governments; NGOs; community groups; and universities to catalyze local and regional projects that simultaneously promote economic prosperity, protect the environment, and provide equitable opportunities to all parts of society. The grants can be used to address

sustainability issues in local communities or in larger geographic areas such as watersheds. The grants are designed to leverage additional private and public sector investments and to increase a community's long-term capacity for realizing sustainable development.

Natural Resources Management

The management of natural resources in the United States presents a number of challenges as we strive to maximize productivity, while also conserving resources for the future. A number of efforts are underway to manage natural resources and natural habitat in ways that simultaneously achieve environmental, economic, and social objectives.

Northwest Forest Plan

For a number of years, the timber industry and environmentalists in the Pacific Northwest had been engaged in a battle over the management of the region's forests and the protection of the northern spotted owl and other wildlife. In early 1993, President Clinton held a senior-level summit in Portland, Oregon, to resolve the conflict. In July 1993, the Administration released the Northwest Forest Plan. The Plan protects most, but not all, of the region's old-growth forests. It also protects the habitat for the spotted owl, salmon, and other species that depend on the forests by establishing protected corridors along streams and reserves in which most logging is prohibited. The plan sets aside parcels of land that are to be managed as Adaptive Management Areas. These areas are being used by community participants--including environmental organizations and timber groups--to develop and test new management approaches to achieve the region's economic, environmental, and social objectives. The President's Northwest Forest Plan has already significantly reduced the number of forestry-related court injunctions in northern California, Oregon, and Washington.

Mojave Desert Ecosystem Initiative

In 1994, DOD and the U.S. Department of the Interior (DOI) initiated a major ecosystem management planning initiative in the Mojave Desert. The Mojave Desert is under increasing pressure from a variety of conflicting uses, and its population is expected to triple in the next 25 years, further magnifying the conflicts. DOD conducts most of its large-scale unit training exercises and major weapons systems tests in the Mojave, and Fort Irwin will be expanded to support future joint military training. At the same time, DOI is expanding its activities in the Mojave due to the creation or expansion of parks and wilderness study areas.

The Mojave Desert Initiative provides a framework for DOD and DOI to implement a regional approach to conservation. This initiative provides a mechanism for DOD land managers and trainers to assess the quality of their lands, determine the environmental impacts of military exercises, and conserve areas that are ecologically unique or that provide habitat for threatened and endangered species.

DOD invested approximately \$2.5 million in fiscal years 1994 and 1995 to support the first phases of the Mojave Desert Ecosystem Initiative. These phases included purchasing a geographic information system (GIS), developing an annotated bibliography of available data, entering validated data in the database, and collecting additional data on soils and stratigraphy. Fiscal year 1996 funding of \$2.1 million is being used to complete the remaining phases of the project which focus on collecting geophysical, vegetation, and cultural data at scales sufficient to support land management decisions. An additional \$500,000 has been provided to manage the database in fiscal years 1997 and 1998.

The initiative has already shown significant progress. For example, a prototype database has been created through the cooperative efforts of the U.S. Geological Survey and Utah State University. This prototype database provides links to other major data systems. As the database is further developed, access will be provided to all those--both public and private--who make decisions that affect the Mojave Desert ecosystem.

Conservation Provisions of the 1996 Farm Bill

In April 1996, President Clinton signed into law the Federal Agriculture Improvement and Reform Act of 1996 (the Farm Bill). Many provisions of the Farm Bill help to implement the recommendations of the PCSD and further the coordination of economic, environmental, and social goals. A few of these are highlighted here.

The *Environmental Quality Incentives Program* (EQIP) is a voluntary program that provides cost-sharing, incentive payments, technical assistance, and educational assistance to producers for adopting conservation systems designed to protect and improve environmental quality. Implementation of EQIP is being carried out through a partnership between the USDA Natural Resources Conservation Service (NRCS) and the USDA Farm Service Agency and others with relevant roles and responsibilities, such as producers.

EQIP will help maximize environmental benefits per dollar expended by providing flexible technical and financial assistance to agricultural producers who face serious natural resource management challenges. EQIP is also intended to assist producers in complying with environmental laws and in encouraging environmental enhancement. In addition, it was designed to help producers make beneficial, cost-effective changes in cropping and grazing systems and in nutrient and pest management approaches to conserve and improve soil, water, and other natural resources.

The *Wildlife Habitat Incentives Program* (WHIP) authorizes \$50 million over the next seven years to provide cost-shared assistance to local landowners and users who create or restore wildlife habitat. Conserving wildlife habitat is also one of the three primary environmental objectives for the Conservation Reserve Program (CRP). Over the next seven years, the Secretary of Agriculture will seek to enroll environmentally sensitive cropland into the CRP

under ten-year contracts. Participants will receive an annual rental payment and will be given cost-shared assistance to enroll the land in "conservation crops" such as wildlife habitat.

The *Wetland Reserve Program* is a voluntary program to restore and protect wetlands on private property. It is operated by USDA/NRCS, in consultation with other federal agencies, and it provides an opportunity for landowners to retire marginal agricultural lands in exchange for financial incentives to enhance wetlands. Under the Program, land owners may sell a conservation easement or enter into a shared-cost contract with USDA to restore and maintain the wetlands, while retaining private ownership. As of September 1, 1996, 324,000 acres had been enrolled in the program, and USDA has received funding to enroll an additional 130,000 acres in fiscal year 1997.

The *Farmland Protection Program* is a new USDA program that is designed to conserve agricultural lands. Under the program, USDA joins with state, tribal, and local governments to acquire conservation easements for land which farmers want to preserve in agriculture, thereby limiting the conversion of farmland for non-agricultural purposes. Farmers who choose to participate in the program voluntarily convey the title and all interests in a parcel of land, while retaining the right to use the property for purposes outlined in the easement deed. To participate in the Program, farmers must agree to limit the use of their lands for non-agricultural purposes and must have pending offers of agricultural conservation easements from state, tribal, or local entities. In addition, all lands that are enrolled in the Program must have a conservation plan that has been developed in coordination with the USDA/NRCS. In 1996, the Secretary of Agriculture authorized the use of \$15 million to initiate the program, and an additional \$2 million has been authorized by Congress for the program in 1998.

Southern Appalachian Assessment

The Southern Appalachian Assessment (SAA) is a cooperative, interagency analysis program that is designed to provide better information about the biological, physical, and socio-economic resources in the Southern Appalachian region. The project involves a number of partners including the USDA Forest Service; the DOI Fish and Wildlife Service, National Park Service, and National Biological Service; the Tennessee Valley Authority; the DOE Oak Ridge National Laboratory; the DOC Economic Development Administration; the Army Corps of Engineers; and the states of Georgia, North Carolina, and Tennessee. It is organized around four themes--terrestrial, aquatic, air quality, and social/cultural/economic. The partners have formed teams to address technical issues, policy concerns, public involvement, and database management.

The SAA is providing information on Southern Appalachian lands, resources, people, and management approaches which can be used for comprehensive planning, research, and information purposes. The project is expected to improve the consistency of information collection and use across administrative boundaries and to increase the efficiency of government agencies through the pooling of resources. In addition, the SAA's extensive data set and efforts to

involve the general public will provide a basis for identifying and testing draft indicators of sustainable development.

Rebuilding Fisheries

Building sustainable fisheries means that the status of the resource must be carefully balanced with the desire to maximize the economic profitability of the industry. In recent years, groundfish stocks (e.g., cod, haddock, and flounder) in the Northeast have collapsed, primarily due to overcapitalization of the fishery. Communities throughout the region have faced severe economic hardships. In March 1994, the late Secretary of Commerce Ron Brown declared a fishery resource disaster, and Congress appropriated \$30 million for relief. The Administration and Congress understood that the affected communities would need economic assistance if the regulatory measures to limit fishing and restore the fisheries were to be effective.

NOAA and EDA coordinated a response which included technical assistance and planning grants for communities adversely affected by the fisheries collapse, as well as capital grants for local revolving loan funds. NOAA and the Department of Labor worked together to establish six Fishing Family Assistance Centers throughout the Northeast. NOAA also provided guaranteed loans to fishermen through the Fishing Vessel Obligation Guarantee Program and established the Fishing Industry Grants Program, which provided grants to fishermen for the development of aquaculture, the pursuit of alternative economic opportunities, and the exploration of underutilized species.

It soon became clear that even more needed to be done to help fishermen in the Northeast, and in August 1995, Secretary Brown announced that additional funding would be made available for a large-scale fishing capacity reduction program. The \$23 million Fishing Capacity Reduction Initiative modified a \$2 million demonstration capacity reduction program that had been implemented in 1995. Ultimately, nearly 25 percent of the active groundfish fishing capacity will be retired due to these two programs. With the money from the sale of their vessels, participants will have additional resources to pursue opportunities other than fishing.

While Northeast fishermen were facing major declines in groundfish stocks, fishermen in the Pacific Northwest were facing problems of their own with the collapse of certain salmon stocks. Declines in these stocks were due in part to natural causes--such as a persistent El Niño condition (characterized by unusually warm Pacific Ocean waters), prolonged drought, and low volume snowpack--and in part to the degradation of habitat from activities such as agriculture, irrigation, grazing, logging, and the generation of hydropower. In May 1994, Secretary Brown announced that NOAA would provide \$12 million to institute a Northwest Emergency Assistance Program to help those communities affected by the collapse of the salmon stocks, and an additional \$13 million was provided in August 1995. This Program has three components: a permit reduction program in the state of Washington; a habitat restoration jobs program in Washington, Oregon, and California; and a data collection jobs program in all three states. The permit buyout program has permanently retired 440 salmon fishing permits in the state of

Washington, and the habitat restoration and data collection jobs programs are expected to provide nearly 850 jobs to needy fishermen.

The integration of environmental stewardship and economic assistance is essential in addressing the fishing crises in the Northeast and the Pacific Northwest. These assistance programs are an important step toward restoring the natural resources and the economic prosperity of these communities.

Eco-Efficiency Initiatives

The Greening of the White House

On Earth Day 1993, President Clinton announced the beginning of the Greening of the White House, a comprehensive, multi-year project to improve energy efficiency and cut wastes throughout the complex. The President said "For as long as I live the White House, I want Americans to see it as a symbol of clean government, but also a clean environment. We're going to identify what it takes to make the White House a model for efficiency and waste reduction, and then we're going to get the job done. I want to make the White House a model for other federal agencies, for state and local governments, for business, and for families in their homes. Before I ask you to do the best you can in your house, I ought to make sure I'm doing the best I can in my house."

The project is being carried out by the DOE Federal Energy Management Program and the DOI National Park Service. In the three years since the project was initiated, major progress has been made in reducing energy and water consumption, in minimizing and recycling the materials consumed, in reducing air pollution, and in improving internal management procedures to protect the environment. Nearly all of the goals identified at the beginning of the project have been met or steps are being taken to meet them.

For example, the White House has upgraded most of the overhead lighting with energy-efficient fluorescent fixtures and replaced exterior facade lighting with more energy-efficient halogen-based fixtures. It has also replaced 98 percent of the windows in the Old Executive Office Building (OEOB) with energy-efficient, double-glazed film units. The electrical energy savings from these and other actions add up to over \$150,000 year, and the lighting upgrades in the OEOB alone have reduced the total building load by over 12 percent.

A state-of-the-art heating, ventilation, and air conditioning system is being installed in the Executive Residence, which uses no chlorofluorocarbons and contains a computerized control system to maximize the efficiency of the unit. A condensation heat recovery system will be used to capture waste heat, and this heat will be used to preheat domestic hot water. This part of the project is due to be completed in October 1997 and is expected to save more than 400,000 kilowatts of electricity annually, resulting in savings of \$32,000 per year. In addition, it will use approximately 24,000 gallons less water than the current system.

Low-flow faucets and flush valves were installed where possible throughout OEOP, and overall, 15,000 fewer gallons of water were used throughout the White House last year than during the previous year. Changes have also been made to reduce the release of volatile organic compounds (e.g., from paints), to compost organic landscape waste material, and to prevent chemicals in surface runoff from entering the storm water sewer system.

The Greening of the White House is continuing to produce measurable results, and it will serve as a model that others--both public and private--can build on as they strive to improve the efficiency and cost-effectiveness of their own facilities.

Recycling Undeliverable Junk Mail

Some government agencies are beginning to implement the principles of Extended Product Responsibility. In January 1997, the U.S. Postal Service awarded a five-year contract to Southeast Paper Recycling in Atlanta, Georgia, to collect and recycle undeliverable junk mail. The company is collecting the junk mail from approximately 200 post offices and two mail processing plants in northern Georgia. The district's post offices are expected to generate about 500 tons of paper for recycling each month, and the recycling program should reduce disposal costs by 50 percent. In addition, the recycling program will generate over \$150,000 in annual revenues.

Through similar efforts across the Nation, the U.S. Postal Service recycled one million tons of wastepaper, cardboard, plastic, cans, and other materials in 1996. These recycling efforts contributed \$6.6 million to the Nation's economy.

New Approaches to Environmental Management

Over the past 25 years, the United States has made significant progress in improving environmental quality and in controlling and cleaning up contamination of its air, water, and land. Much of this progress is due to the enactment of environmental laws and regulations since the early 1970s. The American public has strongly rejected proposals to abandon environmental standards; but there is a growing feeling among industry, government agencies, and communities that greater flexibility in achieving environmental standards could improve environmental performance and reduce costs. A variety of pilot programs are now underway to test this hypothesis.

Project XL

EPA has traditionally used strict command-and-control regulatory approaches to protect and improve environmental quality. As part of the government-wide reinvention initiative, it is now beginning to focus on allowing greater flexibility in achieving equal or better environmental results.

One of several EPA programs designed to test flexibility is the excellence and Leadership program, known as Project XL. Project XL was designed to respond to industries, communities, and government agencies that had found that the routine application of federal environmental regulations did not always provide the best solutions to environmental problems.

Project XL provides support for pilot projects that can demonstrate that alternative environmental management strategies can achieve better environmental results than required under existing law. It gives environmental leaders more flexibility to test creative, common-sense ways of achieving superior environmental performance at their facilities and in their communities.

Thus far, EPA has received XL applications from over 41 facilities and 6 communities. Of these, 14 facility project sponsors and 1 community sponsor are negotiating agreements with the Agency. Several final project agreements have been signed, and the Agency hopes to sign agreements with at least 50 XL project sponsors in the coming months. EPA will use the experience and results from all XL pilot projects to improve environmental regulations and management approaches. The benefits could be significant and could include greater flexibility to address environmental problems, an increasing use of innovative technologies, improved environmental performance and compliance, and greater cooperation between EPA and the private sector.

Common Sense Initiative

The Common Sense Initiative (CSI) is an EPA-sponsored effort that is being used to test innovative, flexible solutions to environmental problems and to improve the cost-effectiveness of the existing regulatory system, while continuing to protect and restore the environment. Under the Federal Advisory Committee Act (FACA), CSI brings representatives of government, industry, environmental organizations, and community groups together to design "cleaner, cheaper, smarter" approaches to environmental protection on an industry-by-industry basis. The initiative currently focuses on six industries: automobile manufacturing, computers and electronics, iron and steel, metal finishing, petroleum refining, and printing. The ultimate goal is to provide a cleaner environment for America's communities at a lower cost to industry and taxpayers.

Improving Environmental Performance at Military Installations

DOD and EPA have launched a pilot program to demonstrate that alternative environmental management strategies can be used at DOD installations to provide a cleaner, healthier environment, while reducing costs. Under this program, known as ENVVEST, military installations can propose a combination of actions (e.g., pollution prevention and/or end-of-pipe controls) that can achieve greater overall environmental performance with equal or lower costs than the actions required under current regulations. The proposed projects are ranked according

to their return on environmental and economic investments, and priority is given to projects that provide the greatest payback over a period of years.

REGIONAL, STATE, AND COMMUNITY EFFORTS

Some of the most exciting sustainability efforts are happening at the regional, state, and local levels. These efforts reflect the hopes and dreams of communities and individuals across the country and their commitment to protecting the environment, ensuring a prosperous future, and increasing opportunities for all.

Pacific Northwest Regional Council

Following the release of the PCSD's initial report, community leaders in the Pacific Northwest established the Pacific Northwest Regional Council to implement the PCSD's recommendations at the regional level. In recent years, the region has experienced significant population growth, conflicts over the use of natural resources, a changing economic base, and emerging economic partnerships with Canada and Pacific Rim countries. In response to these changes, a number of states, tribes, communities, businesses, and organizations in the region have demonstrated extraordinary leadership in fostering sustainable approaches to development. For example, the state of Oregon has developed and is using indicators and benchmarks to measure and further its progress toward sustainable development; and Portland's metropolitan government has implemented effective policies to minimize sprawl and encourage the use of public transportation.

The role of the 28-member Regional Council is to foster regional cooperation among federal and state agencies, tribal governments, businesses, NGOs, and communities as they work to promote sustainable development. The Regional Council will work in partnership with national-level organizations such as the Joint Center for Sustainable Communities and the National Education Association. In the coming months, the Regional Council will initiate outreach efforts to increase public awareness of the PCSD's report and the concepts of sustainable development. It will also recognize and publicize exemplary efforts and facilitate coordination among local programs and organizations. As a first step, the Regional Council is currently compiling an inventory of the many activities underway across the region, and this information will be made available to both local and national groups.

The establishment of the Pacific Northwest Regional Council has generated a great deal of interest in the region, and if it proves to be useful, similar councils could be established in other regions of the country.

Statewide Efforts

Several U.S. states have initiated statewide efforts to ensure long-term sustainability and notable examples include Minnesota and Oregon.

Minnesota

In 1993, the governor of Minnesota and the state Environmental Quality Board appointed 105 individuals to develop a long-range vision for Minnesota that would incorporate the principles of sustainable development. This group of citizens focused on seven issue areas--settlement, manufacturing, agriculture, energy, forestry, minerals, and recreation--and its findings were summarized in the document *Challenges for Sustainable Minnesota*. Through this effort, those who had traditionally been adversaries with very different views about environmental, economic, and equity issues began to work together.

The effort led to a much broader process of public education and to a number of changes in state legislation. In 1995, the state passed the Sustainable Forest Resources Act, which calls for the formation of public-private partnerships to protect and manage Minnesota's forest ecosystems. The same year, the state passed the Metropolitan Livable Communities Act which established a multi-million dollar program to redevelop brownfields and set metropolitan-wide goals for affordable housing. And in 1996, the state passed sustainable development legislation that encourages state agencies to incorporate sustainability into their activities, based on principles developed by the Minnesota Governor's Roundtable and accepted by the state Environmental Quality Board. This legislation also directs the state Office of Strategic and Long-Range Planning to develop a sustainability guide for local communities, including model ordinances, to encourage local governments to take a broader-than-usual view of problems and potential solutions. In addition, the 1996 Environmental Regulatory Innovations Act provides industries, government agencies, and even entire communities with greater flexibility in meeting regulatory requirements, in exchange for improved environmental performance.

The Minnesota Sustainable Development Initiative oversees a government-wide assessment of how well each state agency or program is doing in implementing the sustainability principles developed by the Governor's Roundtable. Among these principles is the belief that no entity has the right to shift the costs of its behavior to other individuals, communities, states, nations, or future generations. To help assess its progress toward sustainability, Minnesota has developed Minnesota Milestones, a series of social, economic, and environmental goals that the state is striving to achieve.

Minnesota is the first state to implement sweeping sustainability legislation and to embark on a statewide effort to ensure that sustainable development becomes a reality. It is likely that Minnesota's efforts will serve as a model for other states in the years to come.

Oregon

In recent years, Oregon has faced unprecedented challenges due to population growth, changing economic markets, and resource crises in both the timber and salmon industries. Citizens from across Oregon wanted to ensure that their communities would thrive in the coming years, and the state legislature responded by forming the Oregon Progress Board. This group, chaired by the

governor, is charged with developing a vision for the future of Oregon and assessing progress in realizing this vision.

The Board selected a set of 259 benchmarks that could serve as indicators of the state's well-being. Each year, the Board solicits public comments, updates the data, and refines the benchmarks. The indicators are categorized as "core indicators" or "urgent indicators". The core indicators address major long-term issues the state is facing such as family stability, its capacity to support a growing population, quality of life and the environment, and the promotion of a strong and diverse economy. The urgent indicators address immediate, critical issues such as declines in endangered wild salmon stocks and rising teen pregnancy rates. Emphasizing the intergenerational nature of sustainability, the Oregon Progress Board has said that "Failure to reach urgent benchmarks in the near term threatens our ability to achieve other, more fundamental benchmarks years down the road."

Oregon's benchmarks have fostered a new spirit of collaboration across the state and been an effective tool for measuring the state's progress toward sustainable development. These benchmarks will continue to provide insights into which programs and policies best serve the needs of communities across the state.

Local Communities

Some of the most inspiring examples of sustainable development are at the local level. Communities across the country are taking the initiative to improve the quality of life of their citizens by identifying unique local strengths, utilizing local resources to strengthen their economies, preventing pollution and reducing wastes, and creating opportunities for local residents to excel and prosper. The PCSD's Sustainable Communities Task Force Report presents a number of case studies and provides examples of efforts that are underway in all 50 states and the District of Columbia. The following are just a few of the many ongoing efforts in U.S. communities.

Sarasota, Florida

Sarasota, Florida, was once a small fishing village, but in the 1920s and then following World War II, it experienced booms in development that have continued to this day. As urban sprawl and the effects of dredging and filling the area's waterways became evident, residents began to express concerns about the impacts of further growth. Citizens organized planning groups, such as the Community Goals Council in the mid-1960s and the American Assembly in the 1970s, to address both economic and environmental concerns related to the city's development. In 1989, a prolonged drought and a decrease in the city's water supplied by the local aquifer led to the creation of several water conservation projects and public discussions about environment and development.

These discussions led to a public-private partnership with the Sarasota County Cooperative Extension Service to establish the nonprofit Florida House Foundation and the Florida House Learning Center. The Foundation demonstrates energy and natural resource conservation approaches that Sarasota residents can implement in their own homes, as well as environmentally sound landscaping activities. It also offers low-cost mortgages for new homes that incorporate environmentally-sound technologies. The Learning Center provides a forum for residents to discuss sustainability issues and serves as a catalyst for economic redevelopment. The Foundation and Learning Center have stimulated the interest of citizens in sustainable development and have motivated many companies to begin manufacturing, installing, and exporting solar collectors, water-saving devices and irrigation systems, and other conservation technologies.

Since 1990, the city of Sarasota has conducted three conferences on community sustainability to address the issues associated with urban growth. As a result, city residents have become more aware of the principles and practices of sustainability. With the help of many volunteers and consultants, the city has developed the Sarasota Vision Plan, which will guide development through the year 2040. The city's Economic Development Board is using the proceeds of an occupational license tax to help implement the plan, and the private sector is providing matching funds. The City and County of Sarasota worked with Mote Marine Laboratory to be included in the U.S. Environmental Protection Agency's National Estuarine Program. This has led to assessments of pollution in Sarasota Bay, recommendations on how to restore the Bay, and specific remedial actions.

Sarasota continues to face a number of important and interrelated issues such as continuing economic development, the availability of water, the protection of environmentally sensitive lands and agricultural lands, downtown infrastructure, and the balance of workers to retirees. But the city's residents are continuing to make important strides in improving the quality of their lives and in ensuring that the region is healthy and prosperous in the years to come.

Pattonsburg, Missouri

The Midwest floods of 1993 nearly destroyed the small town of Pattonsburg, Missouri. When the waters subsided, residents joined together to consider strategies for preventing such disasters in the future. Working with a federally supported design team, the community decided that the best option was to move the entire town to higher ground.

In an extraordinary demonstration of fortitude and vision, the community seized the opportunity of relocation to design a completely new town that would incorporate the principles and technologies of sustainable development. The community adopted a Charter of Sustainability--a set of principles to guide its development--and building codes to ensure the efficient use of energy and resources. In addition, the Sustainable Economic Development Council was established with private funds to recruit environmentally-responsible industries to the town. The town has been designed to be pedestrian-friendly and to maximize the southern exposures to

each home, making it possible for residents to use passive solar heating. A system of artificial wetlands will be used to collect and treat polluted urban runoff, reducing the costs of sewer construction, and a methane recovery system will be used to convert the wastes from swine farms into energy. Pattonsburg is a notable example of how a rural community pulled together in the face of tragedy to create a more sustainable future for themselves and their children.

St. Louis, Missouri

In the St. Louis area, a bi-state metropolitan planning organization known as the East-West Gateway Coordinating Council has developed a 20-year regional transportation plan and is now working to implement it. The plan, known as Transportation Redefined, provides a framework for linking the region's transportation investments with the economic, environmental, and social needs of the community. Since adopting the plan, the Council has launched a variety of transportation-related projects. One project is designed to improve inner city workers' access to jobs, health care, and social opportunities. Another project is conducting an assessment of community conditions and opportunities within the 18-mile Metrolink rail line corridor and identifying investment priorities. This coordinated metropolitan transportation strategy will help the region provide Access to opportunity@ for all of its residents.

Cleveland, Ohio

The city of Cleveland is located on the southern edge of Lake Erie in Cuyahoga County, Ohio. Its economy has traditionally been based on heavy industry and manufacturing, but in recent years most new jobs have been white-collar service jobs in the suburbs. The inner city's population has steadily declined, while the population of surrounding counties has continued to grow. Suburban Cuyahoga County grew 96 percent in land area from 1950 to 1970, and the city now extends into portions of six additional counties.

In 1970, the Cuyahoga River caught on fire due to uncontrolled pollution. Then in 1978, the government fell into default. It was clear that major changes would be needed to reverse the city's decline. Cleveland advocates were determined to rescue the city and they adopted the term "the comeback city".

In 1982, chief executives from over 50 of the region's largest companies formed a committee known as Cleveland Tomorrow to develop initiatives to improve the region's economy. Committee members believe that "social and community strength grow only through creating economic strength" and that "over the long run, [the] quality of life determines much about a region's ability to compete." The Committee's Technology Leadership Council developed a strategy to provide management and technology assistance to the region's manufacturing companies, with special emphasis on biomedical research and emerging environmental technologies. The strategy calls for establishing a manufacturing learning center to train workers and provide assistance in pollution prevention and advanced manufacturing technologies, in coordination with the Cleveland Advanced Manufacturing Campaign. The Neighborhood

Economy Initiative is being launched to create jobs by transforming a million square feet of industrial buildings in Cleveland neighborhoods into economic incubators. In addition, Cleveland Tomorrow is working with Neighborhood Progress Inc.--a partnership organization involving neighborhood organizations, corporations, banks, foundations, and government--to involve all residents in the revitalization of the city.

One of the major challenges the city has faced is brownfields--contaminated or abandoned industrial sites. City leaders have envisioned a completely revitalized downtown, but brownfields have posed a significant barrier to redevelopment. These unused parcels of land present uncertain liability costs for owners and potential buyers; and when faced with other pressing needs, cities and firms have often been reluctant to address the problem. According to the Center for Urban Poverty and Social Change, the percent of vacant parcels of land in Cleveland increased from 9.8 percent in 1977 to 12.5 percent in 1987. It was clear that the brownfields issue would have to be addressed before Cleveland could complete its redevelopment.

In October 1992, the Cuyahoga County Planning Commission convened a symposium to discuss brownfield redevelopment strategies as part of an overall effort to minimize sprawl. This symposium led to the formation of a multi-stakeholder Brownfields Working Group, which examined brownfields issues in depth and made recommendations to the Planning Commission in July 1993. Since then, Ohio has enacted a voluntary cleanup law, and Cleveland has received funding from the U.S. Environmental Protection Agency (EPA) to implement two demonstration projects. The Planning Commission has received a \$198,000 grant from EPA to streamline the remediation and redevelopment of at least three brownfields sites. As part of this project, the Commission will recommend strategies for overcoming the common financial and regulatory barriers associated with brownfields redevelopment. This effort should help not only the city of Cleveland, but also other cities across the United States that are struggling to deal with brownfields.

The city of Cleveland and Cuyahoga County have embarked on an aggressive development effort in downtown Cleveland which will result in a new baseball park, a new arena for basketball and hockey, and the redevelopment of the inner harbor. In addition, it is drawing residents back to the city and reducing the incentives for suburban development. The new development is quickly becoming a source of community pride and a sign that the city is indeed on the path to recovery.

Chattanooga, Tennessee

The story of Chattanooga, Tennessee, is one of the greatest "turn-around" stories of sustainable development. In 1969, Chattanooga was designated as having the worst air pollution of any city in the United States, and it was facing economic decline, unemployment, crumbling infrastructure, racial conflicts, and poor schools. As time went on, citizens, community organizations, businesses, and government agencies became increasingly concerned about the city's future and began to discuss how to reverse the decline.

Beginning in 1984, the city invited all members of the community to participate in a series of planning projects to develop a common vision and plan for meeting Chattanooga's economic, environmental, and social needs. These projects led to a shared vision for the city and to an unprecedented level of community involvement and collaboration among civic leaders, government agencies, industry, nongovernmental organizations and individuals. Today, public-private partnerships are tackling a wide range of issues such as redeveloping the downtown and the riverfront, revitalizing neighborhoods, providing education and job training, preventing air and water pollution, and conserving natural habitat.

In 1990, the U.S. Environmental Protection Agency recognized the city for meeting clean air requirements, and on Earth Day, it was designated as the Nation's best "environmental turnaround story." By working together, Chattanooga residents have accomplished more than would ever have been possible by government or the private sector alone. This is just the beginning, and city residents know that sustainable development is a process, not an end in itself. The city's slogan has become "It takes all of us . . . It takes forever."

Seattle, Washington

Seattle, Washington, is located on a narrow strip of land between Puget Sound and Lake Washington. The city has reached its geographic limits of growth, but its population continues to grow, as does its influence as an economic center. Seattle has a history of economic vitality, social tolerance, responsive government, environmental stewardship, and civic pride. It is frequently ranked as one of the most livable cities in the country, but like other major U.S. cities, Seattle will face significant challenges in the years to come.

One of the key concerns for Seattle's long-term quality of life is population growth. The population in King County is expected to grow by more than 20,000 people each year between 1995 and 2010. Planning is underway to address the issues often associated with a growing population--such as air and water quality, transportation and congestion, education, job creation, and social inequities.

Many of Seattle's elected leaders and citizens have actively embraced the concepts of sustainable development and are integrating these concepts into city planning and implementation activities. Since 1990, Sustainable Seattle, a volunteer network and civic forum, has held open public meetings to examine key issues of sustainable development and to develop a set of indicators that can be used to assess progress. In general, these Sustainable Seattle indicators suggest that the area's economic and cultural resources are strong, but that environmental quality and social conditions may be worsening.

A number of Seattle citizens are joining together to implement sustainable development "on the ground." For example, the Seattle Commons, a citizen-led project is working to redevelop the South Lake Union area, with support from the city government. The goal of this project is to

create a neighborhood that includes parks, high-wage jobs, low-income housing, and pedestrian-friendly streets--a neighborhood that can thrive and sustain itself for the long term.

The city government has initiated three major efforts to promote sustainability: the Mayor's Environmental Action Agenda, the Seattle Comprehensive Plan, and the Neighborhood Planning Project. The Environmental Action Agenda was developed with input from a citizen advisory board and provides a framework for addressing key environmental priorities in the context of other community needs. The Seattle Comprehensive Plan, "Toward a Sustainable Seattle," is designed to create "urban village" centers within Seattle, while reducing sprawl in the surrounding rural areas. The initial draft plan was heavily criticized by local residents who feared that it would lead to unwanted development in their communities and that incentives for reducing the use of personal automobiles would ultimately hurt area businesses. The City Council ultimately passed a plan that retains a commitment to sustainable development and encourages the development of "urban centers", but it was much less prescriptive in its approach than the original proposal.

In follow-up to the Seattle Comprehensive Plan, the city has initiated the Neighborhood Planning Project. This Project will involve more than 30 Seattle neighborhoods in a two- to four-year planning process. It will provide a mechanism for individual neighborhoods to develop plans that respond to their unique needs, while also supporting the city's overall sustainability goals.

Seattle citizens continue to demonstrate their commitment to environmental stewardship, social equity, and economic prosperity--the core elements of sustainable development. Yet if the Seattle Indicators are to be believed, the city will need to devote greater attention to education, promoting environmentally-sound development, and redesigning economic incentives to encourage sustainable development in the years to come.

Racine, Wisconsin

In 1996, S.C. Johnson & Son, Inc., and the Chamber of Commerce in Racine, Wisconsin, commissioned a poll of Racine residents to determine their attitudes and interests in the economic, environmental, and social principles of sustainable development. In July 1996, S.C. Johnson & Son, Inc., sponsored a public forum to share the results of the poll with community leaders and to raise public awareness of sustainability concepts. The forum was attended by approximately 400 people and was followed by 25 breakout sessions for attendees to examine the issues of greatest interest. The forum resulted in a white paper which reflects the community's consensus on opportunities, barriers, and actions that could be taken as part of a "Sustainable Racine Initiative." Following the forum, Samuel C. Johnson, Chairman of S.C. Johnson & Son, Inc., asked a diverse group of twelve community representatives to form an Interim Planning Group (IPG) and to identify the organizational structure needed to launch the Sustainable Racine Initiative. The IPG released its report in early February 1997, which included the following recommendations:

1. appoint an advisory committee comprised of community leaders by February 15, 1997;
2. establish a Sustainable Racine office and hire an Executive Director;
3. initiate a community visioning process by March 15, 1997, and solicit the help of 30 to 40 volunteers to stimulate public interest and involvement and oversee the process; and
4. by November 1997, decide on community visions, goals, action plans to meet these goals, and benchmarks to measure the community's progress toward achieving these goals.

S.C. Johnson & Son, Inc., will underwrite the staff and operational costs of the Initiative for the first three years. The community visioning process will be open to all Racine citizens, from every walk of life; and public gatherings will be held at places such as schools, government buildings, churches, community centers, and homes. Mr. Johnson has said that the process must be grassroots-oriented to ensure "that everybody in the community feels they've been listened to by the people who will make things happen." The initiative will provide a vehicle for the community to reach broad consensus and to take concerted steps to address the issues of most concern to Racine.

Sustainable Communities Network

The Sustainable Communities Network (SCN)--a partnership of fifteen nonprofit organizations--was created to connect citizens across the country with the resources they need to implement local sustainable development programs and approaches. It is co-directed by CONCERN, Inc., in Washington, D.C., and by the Community Sustainability Resource Institute in Arden, North Carolina. The SCN provides information through its World Wide Web site (<http://www.sustainable.org>) and its overall objectives are to (1) increase the visibility of community sustainability efforts, (2) facilitate access to timely information, (3) provide a forum for participants to exchange ideas and information, (4) mobilize citizen participation, and (5) foster collaborative partnerships. SCN programs focus on six policy areas: Living Sustainably, Creating Community, Growing a Sustainable Economy, Smart Growth, Protecting Natural Resources, and Governing Community. The SCN is providing a valuable mechanism for citizens and communities to share their experiences and to gain access to a wide range of sustainable development resources, libraries, databases, and networks worldwide.

Joint Center for Sustainable Communities

The Joint Center for Sustainable Communities (JCSC) was proposed by the National Association of Counties (NACO) and the U.S. Conference of Mayors (USCM) to address the unique needs of local officials in promoting sustainable development. Upon receiving the PCSD's initial report, President Clinton strongly endorsed the idea of the Center, and it was subsequently established

with funding from NACO, the USCM, the U.S. Environmental Protection Agency, and the U.S. Departments of Commerce and Energy.

Many local officials are anxious to leverage scarce public resources to establish collaborative, multi-stakeholder partnerships to address their communities' pressing economic, environmental, and social needs. The JCSC will help them address the problems facing their communities by providing a range of technical assistance, training, sustainable development information, and funding for community visioning and collaborative planning activities. It will also conduct a series of public meetings to explore policies that contribute to building healthy communities; based on these meetings, it will develop and present policy alternatives to interested government leaders, industries, and nongovernmental organizations. Building on the strengths of NACO and the USCM, the JCSC will help communities develop compacts between cities and counties to create multi-jurisdictional partnerships and to break down the barriers that impede the efficient delivery of services.

The establishment of the JCSC is an important signal that mayors and county commissioners across the nation will be joining together to address the challenges of sustainable development. Their continuing commitment will be a key to the future well-being of communities across the United States.

WHERE DO WE GO FROM HERE?

Many sustainable development activities are underway across the United States, and in this document, we have presented a snapshot of just a few of these. As we travel around the country and hear of new efforts, we continue to be inspired by the energy, creativity, and commitment we have seen for sustainable practices. Our success in realizing sustainable development in the United States depends on the joint efforts of many actors--industry, NGOs, academic institutions, federal and state agencies, communities, and individuals. Each sector is important, but we must all work together.

How can we best encourage the efforts that are underway and foster new initiatives? The Council believes that part of the answer lies in leadership from the private sector, governments, NGOs, and citizens. It will require new institutions, such as the Joint Center for Sustainable Communities and the Northwest Regional Council, that can translate the abstract concepts of sustainable development into tangible results at local, state, and regional levels. Another part of the answer may be to establish a focus for sustainable development at the highest levels of government, and the Council has encouraged President Clinton "to assign clear responsibility for sustainable development to an entity within the White House."

Still another part of the answer is to continue the Council's examination of specific policies and approaches. As mentioned in the Introduction, Vice President Gore has asked the Council to continue its efforts, and we soon expect to receive a Presidential Directive for the Council's work through 1998. The Council's next meeting will be on April 29, 1997.

The United States must implement strategies to realize sustainable development within its own borders, but its efforts must not stop there. Many sustainability issues--such as population growth, deforestation, pollution, climate change, and biodiversity--are global and can only be addressed by working closely with our partners around the world. The Council has recognized the need to look beyond U.S. borders, participate fully in international discussions, and implement global strategies for sustainable development. As we approach the fifth anniversary of UNCED, we have an opportunity to renew our commitment to sustainable development. The Council looks forward to working with the world community to develop sustainable approaches for the next millennium.

APPENDICES

LIST OF ACRONYMS

AIA	American Institute of Architects
AIC	Arizona International Campus, University of Arizona
BTU	British Thermal Unit
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CMA	Chemical Manufacturers Association
COTE	Committee on the Environment, American Institute of Architects
CRP	Conservation Reserve Program
CSI	Common Sense Initiative
CSMA	Chemical Specialties Manufacturers Association
DOC	U.S. Department of Commerce
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOI	U.S. Department of the Interior
DOT	U.S. Department of Transportation
EC/EZ	Empowerment Zone/Enterprise Community
ED	U.S. Department of Education
EDF	Environmental Defense Fund
EPA	U.S. Environmental Protection Agency
EPR	Extended Product Responsibility
EQIP	Environmental Quality Incentives Program
GIS	Geographic Information System
GLEAM	Great Lakes Environmental Action Mentors Team

HUD	U.S. Department of Housing and Urban Development
ISTEA	Intermodal Surface Transportation Efficiency Act
JCSC	Joint Center for Sustainable Communities
NACO	National Association of Counties
NGO	Nongovernmental organization
NOAA	National Oceanic and Atmospheric Administration, U.S. Department of Commerce
NRCS	Natural Resources Conservation Service, U.S. Department of Agriculture
NSTC	National Science and Technology Council
OEOB	Old Executive Office Building
PCSD	President's Council on Sustainable Development
PNGV	Partnership for a New Generation of Vehicles
RBRC	Rechargeable Battery Recycling Corporation
RCI	Rapid Commercialization Initiative
R&D	Research and development
SAA	Southern Appalachian Assessment
SAWG	Sustainable Agriculture Working Group, U.S. Department of Agriculture
SBA	Small Business Administration
SCN	Sustainable Communities Network
SDCG	Sustainable Development Challenge Grant program
SRI	Steel Recycling Institute
SWANA	Solid Waste Association of North America
TA	Technology Administration, U.S. Department of Commerce
UNCED	United Nations Conference on Environment and Development
UNCSD	United Nations Commission on Sustainable Development
UNH	University of New Hampshire

USCM	U.S. Conference of Mayors
USCAR	U.S. Council of Automotive Research
USDA	U.S. Department of Agriculture
VRP	Vehicle Recycling Partnership
WHIP	Wildlife Habitat Incentives Program

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