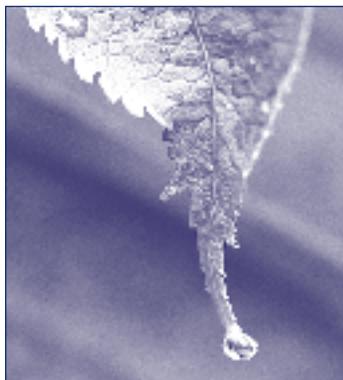


US EPA ARCHIVE DOCUMENT

Executive Summary



In 1995, the U.S. Environmental Protection Agency (EPA) launched an unprecedented new initiative known as Project XL to test innovative ideas that demonstrate environmental eXcellence and Leadership by those who must comply with Agency regulations and policies. Project XL is one of several high-priority initiatives that challenged EPA to think about new ways to fulfill America's environmental and human health protection goals, while simultaneously allowing businesses and other regulated entities to achieve those goals in a smarter, cleaner, and cheaper way.

Experimenting with Innovation

Project XL solicits ideas from private and public sector facilities, states, trade associations, and communities that propose solutions to difficult regulatory or technical problems and explore new approaches to protecting human health and the environment, usually at a lower cost or lessened regulatory burden for the sponsor. In opening the door to experimentation, EPA has sent the message that it values innovation and, above all, wants superior environmental results.

Innovation – An action that starts or introduces something new or creative.

The experiments being conducted under Project XL are in various stages: some are just getting started, others have been underway for several years. In the *1999 Comprehensive Report*, we identified 14 projects with signed Final Project Agreements; as of November 2000, there are 48. What we are learning from these experiments has grown dramatically in the past year. Last year, we identified 35 innovations within projects, this year more than 70 innovations have been identified. The *2000 Comprehensive Report*, Volumes 1 and 2 are intended to be a reference guide for those interested

Seven Agency Core Functions

- Regulations
- Permit Reform
- Environmental Information Management
- Enforcement and Compliance Assurance
- Environmental Stewardship
- Stakeholder Involvement
- Culture Change

in the details of Project XL. *Volume 1: Directory of Regulatory, Policy, and Technology Innovations* presents the innovations and lessons learned organized by how they relate to the seven core functions that the Agency typically performs to carry out its mission to protect human health and the environment. Specifically, it discusses the:

- *Experiment*—characterizing the innovation being tested and the regulatory flexibility being sought;
- *Results/anticipated outcomes*—outlining the expected advantage of the innovation over the current approach and the results to date; and
- *Transferability*—detailing the efficacy of the innovation and its suitability for application beyond the pilot scale.

Volume 2: Directory of Project Experiments and Results provides a status report of the more than 50 projects and proposals Project XL has supported to date. *Volume 2* highlights overall program accomplishments, such as cumulative environmental benefits as exhibited below.

Then each project is described including a discussion of the achieved and expected environmental performance, achieved or expected financial and other benefits to the businesses and communities sponsoring projects, achieved or expected benefits to the other stakeholders involved, legal flexibility that allows the project to work, and barriers confronted and lessons learned.

New Approaches to (Old and New) Environmental Problems

Today, EPA has experiments with a variety of partners: Fortune 500 companies and small businesses, state and local government agencies, and communities. Each project has been designed to produce important benefits for the sponsor and the environment. Companies are cutting costs, communities are addressing priority concerns, and regulatory agencies are targeting their resources more effectively. Each of these benefits must meet the standards of superior environmental performance and enhanced environmental protection.

But the intent of the program is not to serve only a select few. The goal of Project XL continues to be much broader—to find solutions that can be integrated into our environmental protection system for everyone’s benefit. This goal is being achieved in two ways: first, by creating more options for environmental management and second, by taking a more comprehensive approach to environmental management.

Creating More Options for Environmental Management. Through Project XL, EPA provides companies and other project sponsors with a forum to demonstrate their abilities to find innovative ap-

Selected Cumulative Environmental Benefits*

	1997-1999	1997-2000
emissions eliminated (criteria air pollutants - nitrogen oxides, sulfur dioxide, particulate matter, carbon monoxide)**	20,853 tons	31,775 tons
solid waste recycled	2,089 tons	10,855 tons
water reused	1,069 million gallons	1,846 million gallons

* This summary is based on results reported by Crompton Sisterville (formerly Witco), Intel, Molex, Vandenberg AFB, and Weyerhaeuser.

** Eliminations in emissions are calculated by subtracting reported actual emissions from established baselines for the environmental parameters for each project.

proaches to environmental protection. For example, Project XL provides a way to move state-of-the-art environmental technology from the fringes into the mainstream. It does so by providing companies with the incentives they need to make the requisite testing and evaluation worth their time and investment. We can see in the following examples how, over time, if a technology proves successful and others become more receptive to its use, better results will be achieved for a growing number of people.

- **Georgia-Pacific Corporation.** At its Big Island, Virginia, pulp and paper mill, Georgia-Pacific is testing a new “gasification” technology to control emissions of hazardous pollutants. One of the byproducts of their manufacturing is a “black liquor,” which contains a mix of chemicals used in pulp production. With conventional technology, these chemicals are recovered through combustion evaporation. Preliminary testing shows the new gasification technology uses less energy and significantly lowers emissions of hazardous pollutants. However, the Georgia-Pacific test is the first commercial-scale demonstration and there is some potential that the technology may not work as well as expected. In order for testing of this promising new technology can proceed, EPA will temporarily exempt the company from new hazardous waste emission requirements that are expected to become effective during the experiment.
- **Molex Incorporated.** At its electroplating facility in Lincoln, Nebraska, Molex is using new technology to reduce the metal loadings in its wastewater. The new technology separates the wastewater streams from individual metal plating processes, enabling the company to recover different metal contaminants, such as lead and copper, from its wastewater. Molex had expected this new technology to reduce metal loadings to the community’s wastewater treatment plant by 50 percent. Molex estimates that the new technology has resulted in an average 65 percent reduction in the concentration of copper, tin and lead, and nickel in the effluent discharged by the wastewater treatment plant in 1999 and 2000.

For the past decade, EPA has been building greater flexibility into regulatory programs through trading of emission “allowances” and other approaches. As the following examples show, in Project XL we continue to find that a little flexibility can go a long way toward getting better results.

- **Denton, Texas.** Rather than spend its resources monitoring and inspecting wastewater treatment facilities that have excellent performance histories, officials in Denton requested regulatory flexibility to redirect these resources to develop a comprehensive watershed protection program. This approach will support site-specific watershed protection activities, such as developing buffer zones along underdeveloped areas, that are expected to result in better water quality.
- **New England Universities Laboratories.** In the Northeast, a consortium of university laboratories proposed a new approach for managing hazardous wastes in laboratory settings. The project enables laboratories to integrate some EPA hazardous waste requirements with Occupational Safety and Health Administration (OSHA) standards for managing chemicals. This approach will potentially lead to better management of the chemicals, which should help prevent pollution and improve worker and student safety.

Taking a More Comprehensive Approach to Environmental Management. Despite strong environmental progress over the past three decades, gaps in environmental protection remain. Communities and facility operators are considering how to meet multiple environmental challenges and socioeconomic objectives. The examples below show how in using Project XL, communities and businesses alike are finding that taking a more comprehensive view often leads to better results.

- **Lead Safe Boston.** Local communities’ environmental priorities play an increasingly important role in decisions about environmental and human health protection. In Boston, Massachusetts, a federally funded program that removes lead from residential homes and apartments asked for approval to use a less

expensive method for handling and disposing of lead-based paint debris. Massachusetts and EPA regulations currently require extensive lead testing on architectural debris and disposal in costly hazardous waste landfills. Through Project XL, Lead Safe Boston identified a potentially more cost-effective option of using a household hazardous waste exception to allow such debris to be disposed of in a municipal solid waste landfill that meets certain performance criteria. With this project, Lead Safe Boston expects to substantially reduce disposal costs, remove lead from more homes, and protect up to 30 more children from lead exposure.

- **Atlantic Steel Redevelopment.** In Atlanta, Georgia, a unique public/private partnership has the potential to serve as a national model for creative problem-solving. This redevelopment project expects to demonstrate that the application of “smart growth” concepts can make a difference in addressing transportation and environmental issues. Real estate developers, neighborhood groups, the City of Atlanta, Georgia Department of Transportation, Georgia Environmental Protection Division, and other government agencies are working toward redevelopment of a 138-acre site formerly owned by Atlantic Steel. This project, proposed by Jacoby Development Corporation, includes a multimodal (automobile, pedestrian, bicycle, rail) bridge that would cross and provide access ramps to the adjacent highway as well as connect the site to a nearby MARTA (mass transit) station.
- **Intel Corporation.** With the advent of e-commerce and an increasingly global economy, businesses need to be more flexible to change product lines and processes than ever before. First to market is no longer measured in months but days. EPA and the Arizona Department of Environmental Quality approved a facility-wide emissions cap for Intel’s semiconductor manufacturing plant in Chandler, Arizona. The new limits allow Intel to make equipment and process changes and to expand production capacity, without regulatory reviews, as long as the total emissions stay below the specified cap.

Since the project began, the company has remained well under its emission limits for all applicable pollutants. Intel also has avoided millions of dollars in production delays by eliminating 30 to 50 new source permit reviews a year. The company has found the emission caps so successful that it will invest \$2 billion to build a new wafer fabrication facility (Fab 22) at the site. So long as it remains under the existing cap, Intel can proceed with expansion without first going through regulatory review.

Building a National Laboratory for Innovation

As a vehicle for testing new ideas in environmental protection, Project XL is unprecedented. Predictably for an experimental program, it has experienced some conflict and controversy. But it also has brought important discoveries and insights about ways to improve environmental results. Of the many lessons EPA has learned from this unique program, the following are some of the most important:

- It is possible to experiment with new approaches outside the traditional regulatory system as long as strong, reliable safeguards are in place.
- Some businesses and communities are not only willing, but eager, to take greater responsibility for environmental results if they are given flexibility in meeting the goals.
- If given an opportunity, citizens and other stakeholders can play an active, creative role in finding solutions to problems.
- The opportunities to improve become more visible, and the results potentially more significant, when you step back and look at communities or facilities as a whole, rather than as a set of separate, unrelated components.

With experiments now underway, we have begun cataloging and evaluating the results. This is an important step if we are to progress toward our ultimate goal: bringing successful concepts and approaches to broader application. To realize the true potential of these experiments, we must use what we learn to make improvements in our national programs. In some cases, existing policies and regulations may have to be adapted to reflect more up-to-date knowledge and technology. Already some Project XL innovations have been applied beyond their original experiment. For example, using information from projects that have included plant-wide applicability limits (PALs)—Intel, Merck, Weyerhaeuser, Imation, and Andersen—EPA expects to publish a rule in six months that establishes PALs as a way for facilities to establish emission caps on their total air emissions. This action will allow facilities to make process or manufacturing changes without the need for reoccurring permit modifications and will give greater certainty to community members of the emissions being discharged into the local air. In another example, the Lead Safe Boston project has resulted in a new policy issued by EPA this summer allowing residential lead-based paint debris to be disposed of in municipal landfills, thus enabling contractors across the country to perform lead abatement more quickly and cost-effectively.

We believe that the type of experimentation allowed under Project XL is fundamental to continued advances in environmental protection. Indeed, we believe that sustaining our strong national legacy of environmental progress depends on innovation—at EPA, in state and tribal environmental programs, in local governments, in businesses, in communities—in all parts of our society. That is why EPA launched Project XL, and it is why we will continue supporting and encouraging those that are willing to search for a better way of achieving environmental goals. ❁

