

New EPA Focus on Sustainability

The U.S. Environmental Protection Agency (EPA) is at its best when it views its role as not just custodial but as cutting edge, providing leadership and prescribing answers to key environmental problems (1). EPA Administrator Michael Leavitt is challenging the agency to find creative ways to accelerate efforts to protect human health and the environment, and to prepare for the future. This challenge can only become more daunting if projected increases in world population (50%), global economic activity (500%), and global energy consumption and manufacturing activity (300%) occur in the next 50 years (2).

EPA's research and technology programs can be an effective force in the design and measurement of our progress toward sustainable systems. To demonstrate EPA's role, I have launched a new Collaborative Science and Technology Network for Sustainability (3). Through this network, EPA will fund regional-scale sustainability projects that are systems-oriented, forward-looking, and preventative. Two pilot projects that illustrate the potential for this approach have been developed in EPA's Region 3 (Pennsylvania, West Virginia, Virginia, Delaware, Maryland, and the District of Columbia). In one project, EPA and many stakeholders are designing a sustainable watershed in the Delaware River Basin (4). They will evaluate the effects of growth and land use on ground water, surface water, and ecology in Pocono Creek. A second pilot project in the Mid-Atlantic Highlands will develop and evaluate several approaches to sustainable stream restoration (5).

To encourage the integration of sustainability into higher education and training, EPA has launched the P3 Award competition to protect people, prosperity, and the planet (6). The P3 Award competition solicited scientific and technological designs from teams of college students to address sustainability challenges in areas such as agriculture, the built environment, ecosystems, materials and chemicals, energy resources, and water (7). Winners of the P3 Award will be eligible for additional funds from EPA that match contributions from industry or nongovernmental organizations to help in further developing their designs and in marketing and implementing the projects in the field.

A second phase of our education initiative is to benchmark the integration of sustainability into curricula of engineering departments at U.S. colleges and universities. A future solicitation for partners to work with EPA will focus on developing key metrics for this integration. This activity will be enhanced by awards to exceptional faculty, departments, or administrators who have demonstrated leadership in integrating green chemistry and engineering throughout their school and beyond their campuses (8).

These initiatives build on EPA's extensive intramural and extramural research on industrial ecology; material flows; green chemistry and engineering; emerging technologies (9); and the dozens of EPA policy tools and incentives to encourage and

practice sustainable resource management. The integration of these many programs into everyday decision-making can be a powerful tool for assisting states and local governments to design and measure progress toward sustainability (10).

Being on the cutting edge demands the best scientific tools and application of new and innovative technology to achieve a sustainable future. EPA's research agenda is aiming to do just that.

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References and Notes

1. William K. Reilly, U.S. EPA Oral History Interview 4, September 1995 (EPA, Washington, DC, 1995).
2. *The Weight of Nations: Material Outflow from Industrial Economies* (World Resources Institute, Washington, DC, 2000).
3. Developed with EPA's Offices of Policy, Economics, and Innovation (OPEI) and Regional Operations (ORO). A call for proposals was issued on 22 March; see es.epa.gov/ncer/rfa/2004/2004_collab_science.html.
4. Developed in partnership with the Delaware River Basin Commission (DRBC), the United States Geological Survey (USGS), the Commonwealth of Pennsylvania, local municipalities, and the Brodhead Watershed Association.
5. Developed in collaboration with the Canaan Valley Institute, local communities, state and local governments of the Mid-Atlantic Highlands area (portions of Maryland, Pennsylvania, Virginia and West Virginia), West Virginia University, and other stakeholders.
6. Launched in December 2003. See www.epa.gov/P3.
7. The P3 Award program will provide up to 50 grants of \$10,000 each to interdisciplinary teams of college students to design solutions to environmental, economic, and societal challenges.
8. Upcoming EPA Request for Applications: "Benchmarking the Integration of Sustainability into Engineering Curricula at U.S. Institutions of Higher Education" (will be available in early June at www.epa.gov/ncer/rfa).
9. Testimony of Paul Gilman to the House Science Committee, 17 March 2004 (available at www.epa.gov/ocir/hearings/testimony/2004_0317_pg.pdf).
10. EPA has established a new Web portal (www.epa.gov/sustainability) for easy access to EPA tools and programs that can help individuals, communities, and institutions achieve their sustainability goals.